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NRL Industrial Chemical Assessment for Hazard, Probability, and Biomarker Prioritization

THOMAS E. SUTTO

Materials and Sensors Branch
Materials Science and Technology Division

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This report has been prepared for the Environmental Health Program U.S. Army Center for Environmental Health Research to document the development of a database for prioritizing industrial chemicals in terms of probability, hazard, and biomarker effects. Sources of information include the general scientific literature, on-line MSDS datasheets, the RTECS database, and the Directory of World Chemical Producers 2014 data set.

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ACRONYMS AND ABBREVIATIONS

AEGL	Acute Exposure Guideline Levels
C	Degrees Centigrade
CAMEO	Computer-Aided Management of Emergency Operations (EPA and NOAA computer program available online)
CAS	Chemical Abstracts Service
CBRN	Chemical, Biological, Radiological, and Nuclear
CHPPM	(U.S. Army) Center for Health Promotion and Preventative Medicine
DTRA	Defense Threat Reduction Agency
DWCP	Directory of World Chemical Producers
EPA	Environmental Protection Agency
F	Degrees Fahrenheit
ICA	Industrial Chemical Assessment
ITF	International Task Force
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
NOAA	National Oceanic and Atmospheric Administration
NRL	Naval Research Laboratory
R&D	Research and Development
T&E	Test and Evaluation
TIC	Toxic Industrial Chemical

EXECUTIVE SUMMARY

This report has been prepared for the Environmental Health Program US Army Center for Environmental Health Research to document the development of a database for prioritizing industrial chemicals in terms of probability, hazard and biomarker effects. Sources of information include the general scientific literature, on-line MSDS datasheets, the RTECS database and the Directory of World Chemical Producers 2014 data set. There were three main goals of this effort: 1. Develop an assessment and prioritization of the acute toxic effects for exposure to industrial chemicals in order to highlight specific biomarkers which can be then used to rapidly triage the warfighter in the event of a chemical incident. 2. Attempt to use the global data available regarding the manufacturing and distribution of chemicals to determine what priority chemicals would or should be of concern in an of the designated Megacities. 3. Include an assessment of potential explosive hazards of industrial chemicals, since 80-90% of chemicals transported globally are petroleum products, which primarily pose an explosive hazard rather than a toxic hazard.

The Naval Research Laboratory (NRL) originally developed this database and scoring system using an algorithm they derived and tested and the Industrial Chemical Assessment (ICA) database they created in 2008 and 2011.[1,2,3,4,5] For the present database effort, the NRL expanded this short list of chemicals (570) to include all chemicals listed in the CAMEO database developed by NOAA, the EPA and the US Coast Guard of 4685 chemicals. Probability data was collected and scored for all 4685 chemicals. Prioritization of biomarker indicators was based on an assessment of acute toxicological effects, and simple probability. A second prioritization, which took into account toxicity, stability in the operational environment, physical properties and probability was also used to assess the priority biomarker effects as well as to develop a high priority chemical list for assessing the global hazard of industrial chemicals based on the current definition of Megacities.

For the biomarker assessment, hazard analysis was carried out based on two datasets. The first lists all 4685 chemicals, which are then ranked based solely on probability. These 4685 chemicals were then assessed for acute toxic effects, such as inhalation effects, kidney effects, central nervous system effects, liver effects, pulmonary effects and gastro-intestinal effects. These were then scored and totaled based upon their priority ranking and the total number of chemicals which manifest the assigned acute toxic effects. As second database, comprised of the 472 chemicals of the larger database that scored 5 or higher in their probability assessment were then assessed in a more comprehensive manner by prioritizing them based on their toxicity, stability in the operational environment, physical state and probability. Note that the total database and the shorter database are available as oversized PDF files (2586 pages and 123 pages, respectively).

These effects were then prioritized based both on the number of chemicals that exhibited a symptom matching the specific biological effect, as well as a weighted priority score based which also took into

[1] "Toxic Industrial Chemicals: Global Assessment and Scientific Analysis," NRL\FR\6364--09-1,182, 2009, Naval Research Laboratory, Author, Thomas E. Sutto, Ph.D.

[2] "Prioritization and Sensitivity Analysis of Inhalation/Ocular Hazard of Industrial Chemicals," NRL\FR\636411-10211, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[3] "Prioritization of the Oral (Ingestive) Hazard of Industrial Chemicals," NRL\FR\6364-11-102123, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[4] "Prioritization of the Percutaneous Hazard of Industrial Chemicals," NRL\FR\6364-11-10213, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[5] Industrial Chemicals as Improvised Chemical Explosives (ICEs)," NRL/FR/6364--10-10,188, Naval Research Laboratory, Author; Thomas E. Sutto, Ph.D.

account the ranking of the chemical. Data complied indicates that the six primary biomarkers indicating exposure, in descending order of the number of chemicals which caused the symptoms are inhalation (anaerobic induced cellular processes), gastro-intestinal effects, central nervous system effects (similar to those observed for chemical warfare agents), pulmonary effects, liver function effects and then kidney function effects. Table E.1 lists the tallied results of the target organ assessment for both the database of 4685 chemicals and the 472 chemical database, both with the rank of the chemical considered and not considered. As shown, inhalation effect, or reduced ability of the lungs to absorb oxygen is one of the major early indicators of a chemical exposure for many chemicals, including chlorine, phosgene, formaldehyde, any of the acid forming gases such as HF, HCl, HBr, PCl_3, PCl_5, and $POCl_3$.

Table E.1 — Biomarker Acute Symptom Assessment

	Scored Based on Total Number of Chemicals with these Effects (out of 4685 chemicals)	Based on the Total Number and the Probability Ranking (out of 4685 chemicals)	Scored Based on Total Number of Chemicals with these Effects (out of 472 chemicals)	Based on the Total Number and the Toxic Hazard Rank (out of 472 chemicals)
Total Lung Effects	3,171.0	8,085.0	347.0	2,364.0
Total CNS Effects	890.0	2,200.0	93.0	1,966.0
Total Heart Effects	226.0	573.0	24.0	146.0
Total Liver Effects	225.0	578.0	36.0	796.0
Total Kidney Effects	220.0	124.0	29.0	167.5
Total Gastro-intestinal Effects	803.0	885.0	92.0	1,969.5
Totals	5,535.0	NA	621.0	NA

Results are presented in graphic form in Figure E.1A and 1B. As can be seen, because many industrial chemicals fall into three distinct chemical classes, oxidizing compounds, reducing compounds or self-polymerizing compounds which can react as either an oxidizer or reducer, and because these chemicals initial will affect lung function, that the primary organ affected by industrial chemicals are the lungs, which would result in the reduction of oxygen available to the cells. This would then result in biomarkers of anaerobic respiration occurring. It is important to note that, especially for the shorter database, although the total number of chemicals for CNS effects, liver effects and renal effects are very similar. When one takes into consideration the rank of each chemical, which is based on toxicity, physical state and probability, then CNS and liver effects surge in terms of their overall score.

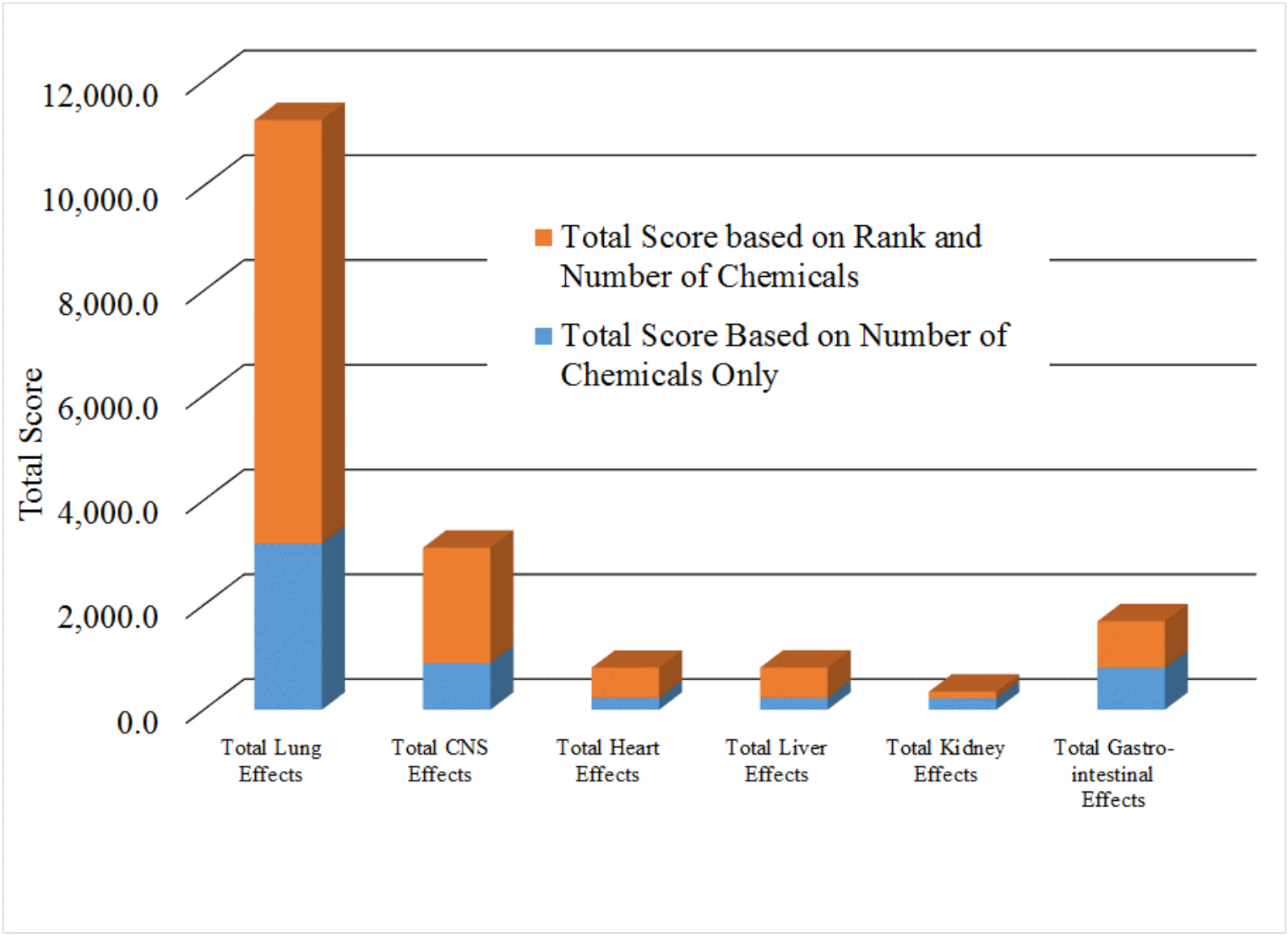


Figure E.1A Graphical Representation of Target Organ Assessment Based on Probability (4685 Chemicals)

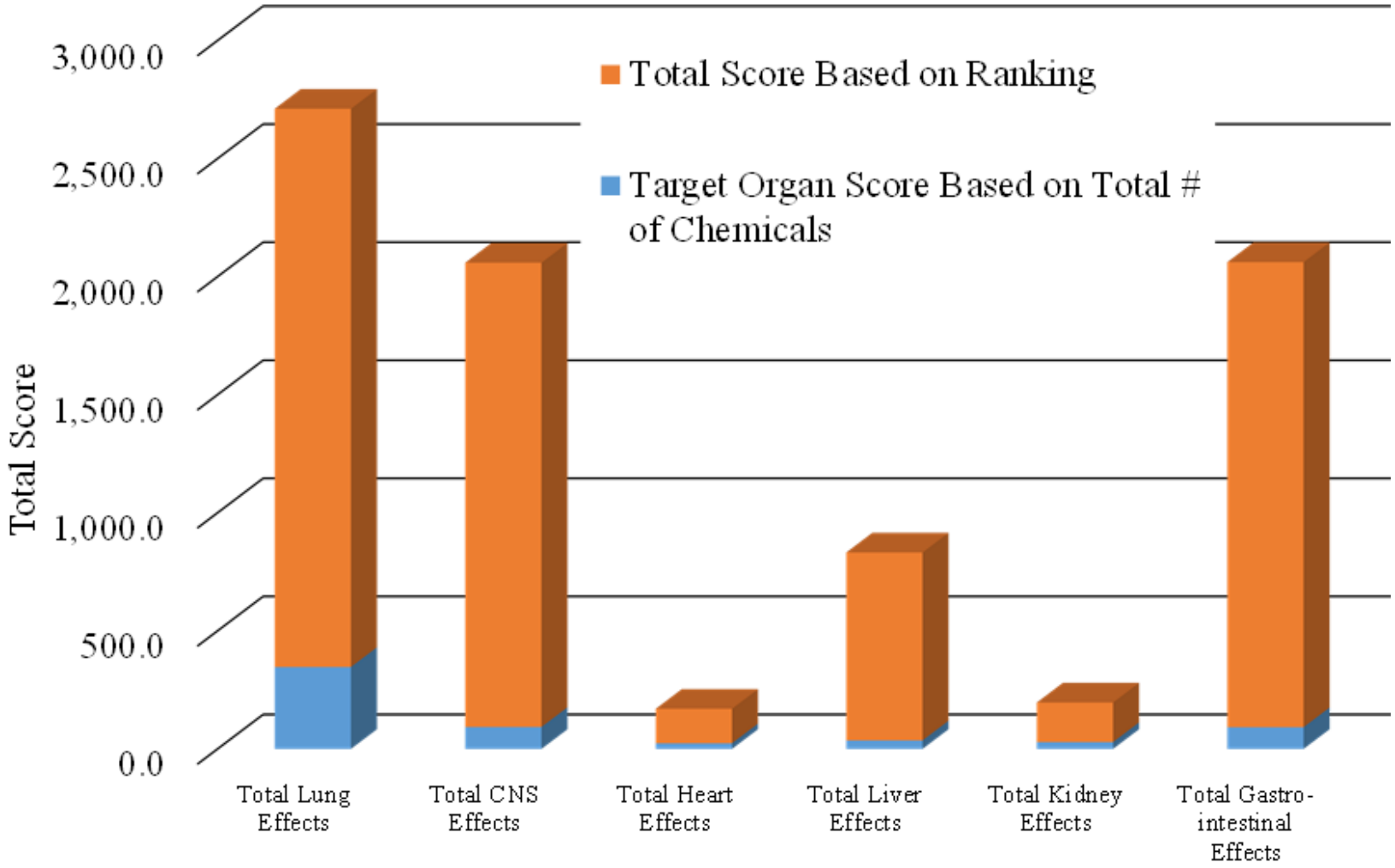


Figure E.1B Graphical Representation of Target Organ Effect Scoring Based on Toxicity, Physical State and Probability. (472 Chemicals)

In terms of probability assessment, the greatest challenge is how to account for the over 5000 chemical production and distribution centers that exist globally. There is no one single source listing tonnage of the more than 5000 chemicals listed in the database. Therefore, probability is based on the commercial advertisement of which nations produce a chemical, and the number of distribution sites for that chemical found in the Directory of World Chemical Producers. Unfortunately, this data does not include the location of where the chemicals are being shipped to, which severely limits our ability to determine which chemical will be found in a specific global area. Rather than use the CAMEO database, the NRL-ICA database which has comprehensive toxicity, stability, production and distribution data for 572 chemicals. Prioritizing the potential chemicals of interest based on the above scores, the list below lists the top 25 industrial chemicals of concern, in order of their importance, which should be considered in any intelligence analysis prior to military involvement in any global arena. Note that explosive hazards are not included.

Table E.2 — High Priority Chemical List for Megacity Chemical Hazard Analysis.

Rank	Global Ranking	Rank	Global Ranking
1	Chlorine	16	Phosphoryl Trichloride
2	Ammonia	17	Chlorine dioxide
3	Hydrogen chloride	18	Bromine
4	Sulfuric acid	19	Nitrogen dioxide
5	Hydrogen fluoride	20	Phosphorus trichloride
6	Formaldehyde	21	Fluorotrichloromethane
7	Mercury	22	Hydrogen sulfide
8	Nitric acid	23	Molybdophosphoric acid
9	Sulfur dioxide	24	Toluene-2,4-diisocyanate
10	Phosgene	25	Fluorine
11	Hydrogen bromide	26	Malathion
12	Nitric oxide	27	Parathion
13	OMPA	28	Acetylene tetrabromide
14	Boron trifluoride	29	o-Anisidine
15	Methyl bromide	30	Phosphine

Chemical Warfare Agent Precursor Analysis for a regional or Mega-city analysis was also undertaken to rank a select number of CWA precursor chemical based on toxicity, probability indications of illegal chemical weapons manufacturing and other physical and chemical properties. These are listed in order of importance (indicating possible manufacturing or research into CWA's).

Table E.3 Ranked List of CWA Precursors

Rank	Precursor Chemical	CAS#	Rank	Precursor Chemical	CAS#	Rank	Precursor Chemical	CAS#
1	Methylphosphonous difluoride	753-59-3	22.00	Ethylphosphonyl dichloride	1066-50-8	**43**	Diisopropylamine	108-18-9
2	N,N-diisopropyl-(beta)- aminoethyl chloride	96-79-7	23.00	Dichloroethylphosphine	1498-40-4	**44**	Triethanolamine hydrochloride	637-39-8
3	Ethylphosphonous difluoride	430-78-4	24.00	Phosphorus trichloride	7719-12-2	**45**	Ammonium bifluoride	1341-49-7
4	O-ethyl,2-diisopropyl aminoethyl methyl-phosphonate (QL)	57856-11-8	25.00	Methylphosphonous dichloride	676-83-5	**46**	3-Quinuclidone	1619-34-7
5	Ethylphosphonous dichloride	1498-40-4	26.00	N,N-diisopropyl-(beta)-aminoethanol	96-80-0	**47**	Pinacolone	75-97-8
6	Thionyl chloride	7719-09-7	27.00	Dimethyl phosphite	868-85-9	**48**	Sodium cyanide	143-33-9
7	Ethylphosphonyl difluoride	753-98-0	28.00	Diphenylamine	122-39-4	**49**	Phosphorus oxychloride	10025-87-3
8	N,N-diisopropyl- aminoethanethiol	5842-07-9	29.00	Pinacolyl alcohol	464-07-3	**50**	Diethylaminoethanol	100-37-8
9	Diethyl N,N-dimethyl phosphoramidate	2404-03-7	30.00	Dimethyl methylphosphonate	756-79-6	**51**	Benzilic acid	76-93-7
10	Arsenic trichloride	7784-34-1	31.00	Hydrogen fluoride	7664-39-3	**52**	Sodium fluoride	7681-49-4
11	Diethyl methylphosphonite	15715-41-0	32.00	Methyl parathion	298-00-0	**53**	Methyl benzilate	76-89-1
12	Sulfur dichloride	10545-99-0	33.00	Phosphorous pentachloride	10026-13-8	**54**	Phosphorus pentasulfide	1314-80-3
13	Methylphosphonyl difluoride	676-99-3	34.00	Methylphosphonyl dichloride	676-97-1	**55**	Potassium fluoride	7789-23-3
14	Sulfur monochloride sulfur chloride	10025-67-9	35.00	Triphenylarsine	603-32-7	**56**	Dimethylamine	124-40-3
15	Dimethyl ethylphosphonate	6163-75-3	36.00	2-Chloroethanol	107-07-3	**57**	Potassium cyanide	151-50-8
16	Diethyl ethylphosphonate	78-38-6	37.00	N,N-diisopropyl-2-aminoethyl chloride hydrochloride	4261-68-1	**58**	2-diethylaminoethanol-HCl	4.00
17	Sodium bifluoride	1333-83-1	38.00	Triethyl phosphite	122-52-1	**59**	3-Quinuclidinol	1619-34-7
18	Trimethyl phosphite	121-45-9	39.00	Dichloromethylphosphine	676-83-5	**60**	Sodium sulfide	1313-82-2
19	Diethyl phosphite	762-04-9	40.00	3-Hydroxy-1-methylpiperidine	3554-74-3	**61**	Propylene chlorohydrin	78-89-7
20	Potassium bifluoride	7789-29-9	41.00	Neopentane	463-82-1	**62**	Triethanolamine	102-71-6
21	Thiodiglygol	111-48-8	42.00	Dimethylamine HCl	506-59-2	**63**	Sulfur	7704-34-9

1 SCORING AND ASSESSMENT OF INDUSTRIAL CHEMICALS

1.1 INTRODUCTION

This report has been prepared for the Environmental Health Program US Army Center for Environmental Health Research to document the development of a database for prioritizing industrial chemicals in terms of probability, hazard and biomarker effects. Sources of information include the general scientific literature, on-line MSDS datasheets, the RTECS database and the Directory of World Chemical Producers 2014 data set. There were three main goals of this effort: 1. Develop an assessment and prioritization of the acute toxic effects for exposure to industrial chemicals in order to highlight specific biomarkers which can be then used to rapidly triage the warfighter in the event of a chemical incident. 2. Attempt to use the global data available regarding the manufacturing and distribution of chemicals to determine what priority chemicals would or should be of concern in an of the designated Megacities. 3. Include an assessment of potential explosive hazards of industrial chemicals, since 80-90% of chemicals transported globally are petroleum products, which primarily pose an explosive hazard rather than a toxic hazard.

The Naval Research Laboratory (NRL) originally developed this database and scoring system using an algorithm they derived and tested and the Industrial Chemical Assessment (ICA) database they created in 2008 and 2011.[6,7,8,9,10] For the present database effort, the NRL expanded this short list of chemicals (570) to include all chemicals listed in the CAMEO database developed by NOAA, the EPA and the US Coast Guard of 4685 chemicals. Probability data was collected and scored for all 4685 chemicals. Prioritization of biomarker indicators was based on an assessment of acute toxicological effects, and simple probability. A second prioritization using the 472 chemicals which scored 5 or higher on their probability score, which took into account toxicity, stability in the operational environment, physical properties and probability was also used to assess the priority biomarker effects as well as to develop a high priority chemical list for assessing the global hazard of industrial chemicals based on the current definition of Megacities.

For the biomarker assessment, hazard analysis was carried out based on two datasets. The first lists all 4685 chemicals, which are then ranked based solely on probability. These 4686 chemicals were then assessed for acute toxic effects, such as inhalation effects, kidney or renal effects, central nervous system effects, liver effects, and pulmonary effect. These were then scored and totaled based upon their priority ranking and the total number of chemicals which manifest the assigned acute toxic effects. Data complied indicates that the six primary biomarkers indicating exposure , in descending order of the number of chemicals which caused the symptoms are inhalation (anaerobic induced cellular processes), gastrointestinal effects, central nervous system effects (similar to those observed for chemical warfare agents), pulmonary effects, liver function effects and then renal or kidney function effects. This database will be discussed in Chapter 2.

[6] "Toxic Industrial Chemicals: Global Assessment and Scientific Analysis," NRL\FR\6364--09-1,182, 2009, Naval Research Laboratory, Author, Thomas E. Sutto, Ph.D.

[7] "Prioritization and Sensitivity Analysis of Inhalation/Ocular Hazard of Industrial Chemicals," NRL\FR\636411-10211, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[8] "Prioritization of the Oral (Ingestive) Hazard of Industrial Chemicals," NRL\FR\6364-11-102123, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[9] "Prioritization of the Percutaneous Hazard of Industrial Chemicals," NRL\FR\6364-11-10213, Author, Naval Research Laboratory, Thomas E. Sutto, Ph.D.

[10] Industrial Chemicals as Improvised Chemical Explosives (ICEs)," NRL/FR/6364--10-10,188, Naval Research Laboratory, Author; Thomas E. Sutto, Ph.D.

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A second database was also assessed for the biomarkers effort. Because only approximately 900 chemicals of the CAMEO database actually had a given health score on the NFPA ranking system, a shorter database was developed so that the biomarkers could also be ranked according to not just probability, but the possible severity of the health effect. Using the probability data for the larger database of 4685 chemicals, a shorter database of 472 chemicals was developed based on all chemicals with an overall probability score of 5 or higher. This database will be described in Chapter 3.

Note that the entire database was too large a file to be compacted into a single PDF file. As such, the excel file is available with this report.

2 TARGET ORGAN ASSESSMENT OF THE CAMEO DATABASE (4685 CHEMICALS)

Working with, as a starting point, the datasets provided by the NOAA/EPA of the CAMEO program, the first step was to combine the database of chemical properties and chemical names with the database containing only the CAS numbers. After this was accomplished, the next step in the process was to use the Directory of World Chemical Producers (DWCP) database lists over 115,000 specific chemicals and incorporates production and distribution data for over 102 countries to determine a probability score for each specific chemical.

2.1 Challenges in Working with the CAMEO Database

Two of the most significant challenges were found in either discrepancies between the database value of the CAS number, and what was the actual CAS number. The second challenge was that in the database, only about 900 chemicals had assigned NFPA values for health, flammability and reactivity (or instability). And of those chemicals for which an NFPA score was given, many errors were found in the database, which at times did not even agree with the CAMEO program that is available on the web. For some high use and high threat compounds, such as chlorine, no NFPA data was given. On the other hand, as shown in Table 2.1, there was little agreement between the actual NFPA data, the data given in the CAMEO database, and that given by the online version of the CAMEO program. It is important to note that for both talc and zinc carbonate, to non-flammable low toxicity compounds were rated as highly toxic and highly flammable.

Table 2.1 — NFAP Discrepancies in the CAMEO Database and Program

Chemical	**CAS #**	**CAMEO Database NFPA H**	**CAMEO Database NFPA F**	**CAMEO Database NFPA R**
TALC	14807-96-6	3	3	2
Chemical	**CAS #**	**Actual NFPA H**	**Actual NFPA F**	**Actual NFPA R**
TALC	14807-96-6	1	0	0
Chemical	**CAS #**	**Web Based Cameo Program**		
TALC	14807-96-6	NFPA Unknown		
Chemical	**CAS #**	**CAMEO Database NFPA H**	**CAMEODatabase NFPA F**	**CAMEO Database NFPA R**
ZINC CARBONATE	3486-35-9	3	3	0
Chemical	**CAS #**	**Actual NFPA H**	**Actual NFPA F**	**Actual NFPA R**
ZINC CARBONATE	3486-35-9	1	0	0
Chemical	**CAS #**	**Web Based Cameo Program**		
ZINC CARBONATE	3486-35-9	NFPA Unknown		

2.2 Physical State Assessments

It should be noted that a physical state score was given to each chemical. This score was created using the excel search function to scan the physical description of a chemical. For solids, the search terms

were “crystal”, “powder” and solid. For liquids, the search term was ‘liquid” and for gases the search term was “gas”. For approximately 100 chemicals, the search failed to assign a score. For these chemicals, the score was assigned based on research of that specific chemical. As such, all 4685 chemicals received a scoring for their physical state as shown in table 2.2

Table 2.2 — Physical State Scoring

Physical State	Physical State Score for Inhalation Scoring	Physical State Score for Contact Scoring	Physical State Score for Inhalation Scoring
Gas	5	2.5	1
Liquid	2.5	5	2.5
Solid	1	1	5

2.3 Relative Probability Score

One of the most problematic aspects of assessing the potential hazard of industrial chemicals in the operational environment lies in the great uncertainty surrounding the global chemical industry. Although there are several databases that allow an estimation of how much of a certain chemical is manufactured, these consist of only voluntarily submitted data with no follow-on inspections to verify the data. With over 5000 chemical manufacturing and distribution sites globally, thorough inspection of each chemical plant is not feasible As such, there remains a significant degree of uncertainty in determining the exact probability of encountering any one chemical. Overall, a pseudo-probability function based on the production amount and distribution of a chemical is used to determine a total probability score. To represent global production amounts of a chemical, the total number of countries producing a chemical is used. To estimate the global distribution of a chemical, the total number of reported distribution sites for a chemical is used.

Data from the DWCP is used to determine both production and distribution scores. These two scores are then added to form the Relative Probability Score, which ranges from 0 to 10.

2.3.1 Global Production Score

The global production score is used to account for the bulk quantities of TICs being produced. The data regarding the number of countries involved in the production of a specific TIC is maintained in the DWCP. The number of countries producing a TIC is used to assign a production score from 0 to 5, as shown in 2.3.

Table 2.3 — Global Production Scoring

Numbers of Producing Countries	Production Score
# of Countries $\geq$ 50	5
40 $\leq$ # of Countries < 50	4
30 $\leq$ # of Countries < 40	3
20 $\leq$ # of Countries < 30	2
# of Countries $\leq$ 20	1
# of Countries $\leq$ 10	0

2.3.

Table 2.3 — Global Production Scoring

Numbers of Producing Countries	Production Score
# of Countries $\geq$ 50	5
40 $\leq$ # of Countries < 50	4
30 $\leq$ # of Countries < 40	3
20 $\leq$ # of Countries < 30	2
# of Countries $\leq$ 20	1
# of Countries $\leq$ 10	0

2.3.2 Global Distribution Score

The global distribution score is based on the number of global distribution sites appearing in the DWCP. This approach ensures accountability for the higher availability of certain chemicals regardless of the quantity produced. The scoring criteria are shown in 2.4.

Table 2.4 — Global Distribution Scoring

Numbers of Sites Chemical is Available	Distribution Score
# of Sites $\geq$ 100	5
50 < # of Sites < 100	4
10 < # of Sites $\leq$ 50	3
5 < # of Sites $\leq$ 10	2
0 < # of Sites $\leq$ 5	1
# of Sites = 0	0

These two scores are then added together to give each chemical a specific probability score ranging from 0 to 10.

It is important to note that there is not an even distribution for probability, since many of the chemicals are low production or specialty chemicals. Figure 2.1 illustrates this point by showing, in increasing value for all 4685 chemicals, the total number of nations producing that chemical. As shown on a logarithmic scale, there are very few chemicals where more than 50 or so nations produce that chemical. As such, probability is scored based on this logarithmic distribution, which is why for the smaller database, only 472 chemicals are listed as having a probability score of 5 or greater.

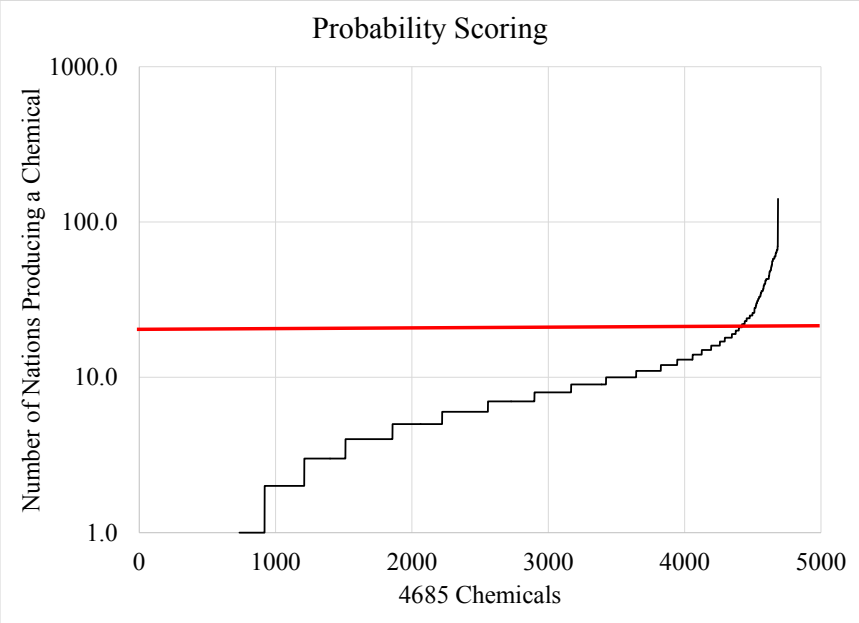


Figure 2.1 — Number of nations producing a chemicals vs. all 4685 chemicals. The red line indicates the over 50% line for high probability chemicals.

2.4 Ranking of Biomarkers based on Probability Only

For the larger database of 4685 chemical, the chemicals were then ranked from those with the highest probability to the lowest. In order to determine the specific symptoms, the health hazard verbal assessment from the database was scanned using the excel search function for certain words. Table 2.5 lists the six primary acute health effect target organs and the key words scanned for in the description of acute toxic effects. The search function used to assess each hazard assessment was in the general form: IF(ISERROR(SEARCH("search phrase",H2,1)), 0, 1), note that H2 is the column in the database with the toxic hazard assessment.

Table 2.5 — Acute Effects Search Terms

Numbers of Sites Chemical is Available	Distribution Score
Inhalation	inhal, respire, throat, fume
Central Nervous System	dizz, central nervous
Kidney	kidney, renal
Pulmonary	heart, cardio, pulmo, edema, vascul
Liver	liver
Gastro-intestinal	gastro, stomach, vomit

The ranking of each health effect was then done two different ways. First, each time a specific chemical had the related symptoms in its verbal hazard description, a score of 1 was given to that chemical and then a running summation of each symptom area was kept in the column labeled for each symptom. This gave specific numbers for each of the five main toxic effects. The second ranking of the different health effects multiplied the 1 given for a specific symptom by the probability score. Thus, the scoring

assigned to each symptom was weighted by the probability for a chemical. Thus, the symptoms found for higher ranking chemicals would score higher.

Results are presented both in table form (Table 2.6) and in graphic form (Figure 2.2). As can be seen, because many industrial chemicals fall into three distinct chemical classes, oxidizing compounds, reducing compounds or self-polymerizing compounds which can react as either an oxidizer or reducer, and because these chemicals initial will affect lung function, that the primary organ affected by industrial chemicals are the lungs, which would result in the reduction of oxygen available to the cells. This would then result in biomarkers of anaerobic respiration occurring.

Another common target organ is the central nervous system. This is because many organic compounds, including many of the fuels have effects on the nervous system similar to both CWAs and common chemicals such as diethyl ether (frequently called ether, previously used to be a common anesthetic). Symptoms of exposure to these types of industrial chemicals are, headache, nausea, vomiting, and loss of consciousness.

It should be noted that 4185 chemicals had specific acute toxicity hazard statements, and of those, 3456 chemicals exhibited at least one symptom for the 6 assigned target organs. Although this is only 82%, this is primarily due to incomplete toxicological assessments for many of the low probability chemicals or because many chemicals do not manifest acute toxicity.

Table 2.6 Summation of Target Organ Assessment Based on Probability

	Scored Based on Total Number of Chemicals with these Effects (out of 4685 chemicals)	Based on the Total Number and the Probability Ranking (out of 4685 chemicals)
Total Lung Effects	3,171.0	8,085.0
Total CNS Effects	890.0	2,200.0
Total Heart Effects	226.0	573.0
Total Liver Effects	225.0	578.0
Total Kidney Effects	220.0	124.0
Total Gastro-intestinal Effects	803.0	885.0
Totals	5,535.0	NA

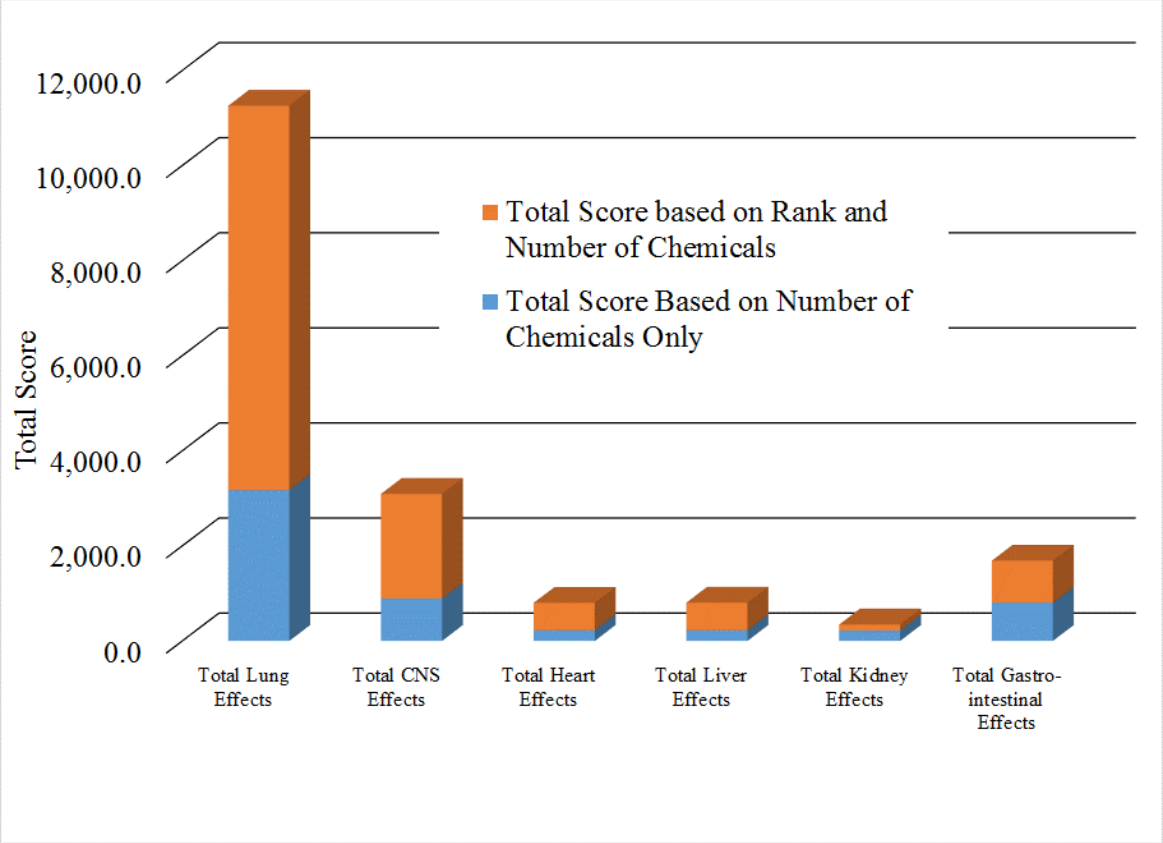


Figure 2.2 Graphical Scoring of Target Organ Assessment Based on Probability

3 SECONDARY RANKING OF BIOMARKER SYMPTOMS

A second database was also assessed for the biomarkers effort. Because only approximately 900 chemicals of the CAMEO database actually had a given health score on the NFPA ranking system, a shorter database was developed so that the biomarkers could also be ranked according to not just probability, but the possible severity of the health effect. Using the probability data for the larger database of 4685 chemicals, a shorter database of 472 chemicals was developed based on all chemicals with an overall probability score of 5 or higher. For this shorter list of chemicals, NFPA scores were assigned to all 472 chemicals. The source was primarily the NFPA dataset itself. For chemicals not directly listed by the NFPA, scores are assigned based upon individual MSDS sheets provided by manufacturers. Whenever possible, data from several different sources were used to confirm the NFPA values for health, flammability and instability or reactivity. In addition, of the 472 chemical, no verbiage was found in the CAMEO database regarding acute toxic effects. Therefore, again using MSDS sheets from chemical manufacturers, the acute toxic effects verbiage was included for each chemical in this shorter database so that a comprehensive assessment could be made for each chemical.

3.1.1 Toxic Hazard Score

A toxic hazard score was assigned to each chemical based on the toxicity, flammability and reactivity score. Note that in order to work on a 5 point scale, a factor of 1.25 is applied to the NFPA score. The toxic hazard score is not based solely on the NFPA value for health. Instead, because some compounds are highly flammable and reactive and present more of an explosive hazard than a toxic hazard, the toxic hazard score is based on reducing the overall score for a chemical based on its flammability and reactivity. Thus, highly stable, no-flammable and toxic chemicals would score higher than those that might decompose, react or burn when released. The equation below is used to calculate the toxic hazard score for each chemical.

Toxic Hazard Score = 2*(NFPA H Score*1.25) + (4-NFPA F score)*1.25+(4-NFPA I score)*1.25

It should be noted that this is similar to the same prioritization scoring used in previous technical reports, except that rather than a specific toxicity value for inhalation, percutaneous or oral values, only the general NFPA H value was used to estimate toxicity. Additionally, in order to emphasize the toxic hazards, the health score is multiplied by 2. As such, the maximum score would be 20.

3.1.2 Oral and Percutaneous Hazard Score.

Each chemical was also given an Oral and Percutaneous hazard score, this is based on the addition of the physical state, toxic hazard score and probability score, respectively. Although final assessment of the prioritization of this database is focused on the inhalation hazard due to the fact that inhalation routes of chemical exposures would predominately be the most likely to cause wide spread exposures.

3.1.3 Final Total Score

The total score for a chemical was then determined by the sum of the physical state score for inhalation, the toxic hazard score and the probability score. Chemicals were then ranked from highest to lowest using this score.

3.1.4 Ranking of Biomarker Symptoms for 2nd Database.

For this shorter list of 472 chemical, the health hazard verbal assessment was done as before for the larger database. Similarly, the ranking of each health effect was then done two different ways. First, each time a specific chemical had the related symptoms in its verbal hazard description, a score of 1 was given to that chemical and then a running summation of each symptom area was kept in the column labeled for each symptom. This gave specific numbers for each of the six main toxic effects. The second ranking of the different health effects multiplied the one given for a specific symptom by the total score. Thus, the scoring assigned to each symptom was weighted by the toxicity, physical state and probability for each chemical. Chemicals that represented the highest stable toxic threat with high probability would score the highest. It should be noted that of the 472 chemicals, 373 chemicals affected at least 1 of these 6 target organs (≈80%), although it should be noted that this is because some of the high probability chemicals, such as glycols or solids such as sodium carbonate or calcium chloride do not manifest acute toxic effects.

Results are presented both in table form (Table 3.1) and in graphic form (Figure 3.1). Similar to the larger database, because many industrial chemicals fall into three distinct chemical classes, oxidizing compounds, reducing compounds or self-polymerizing compounds which can react as either an oxidizer or reducer, and because these chemicals initial will affect lung function, that the primary organ affected by industrial chemicals are the lungs, which would result in the reduction of oxygen available to the cells. This would then result in biomarkers of anaerobic respiration occurring.

Another common target organ is the central nervous system. This is because many organic compounds, including many of the fuels have effects on the nervous system similar to both CWAs and common chemicals such as diethyl ether (frequently called ether, previously used to be a common anesthetic). Symptoms of exposure to these types of industrial chemicals are, headache, nausea, vomiting, and loss of consciousness.

Table 3.1 Scoring of the Target Organ Assessment based on Toxicity, Physical State and Probability

	Scored Based on Total Number of Chemicals with these Effects (out of 4685 chemicals)	Based on the Total Number and the Probability Ranking (out of 4685 chemicals)
Total Lung Effects	347.0	2,364.0
Total CNS Effects	93.0	1,966.0
Total Heart Effects	24.0	146.0
Total Liver Effects	36.0	796.0
Total Kidney Effects	29.0	167.5
Total Gastro-intestinal Effects	92.0	1,969.5
Totals	621.0	NA

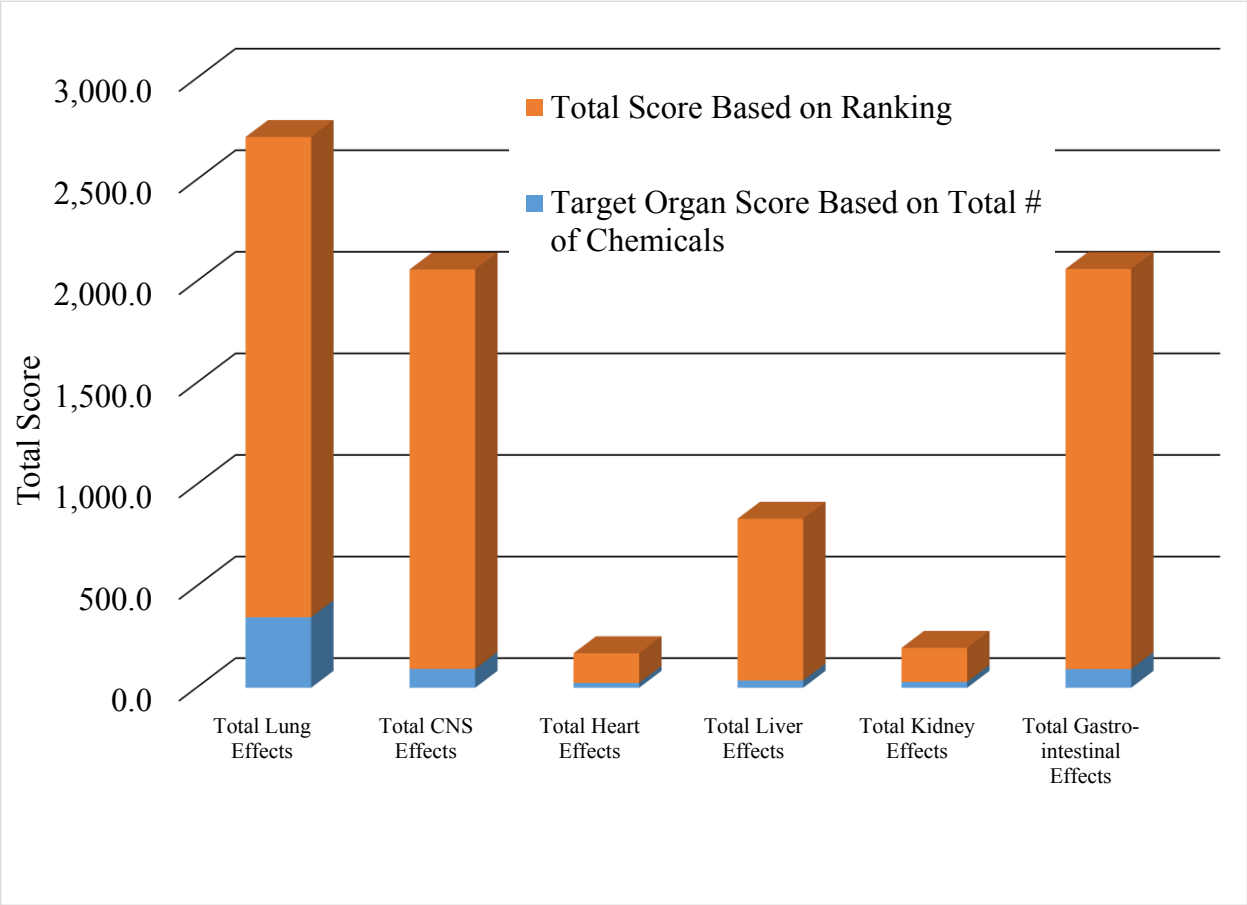


Figure 3.1 Graphical Representation of Target Organ Effect Scoring Based on Toxicity, Physical State and Probability.

4 MEGA-CITY OR REGIONAL ASSESSMENTS

One of the next areas of consideration is how to do a regional, or even a national assessment of the potential hazard of industrial chemicals. Perhaps the greatest challenge to this is that although we have now amassed a significant amount of data regarding global production and distribution of chemicals, the unknown part of assessing this on a regional scale is there is little comprehensive data regarding where the chemicals are distributed. Previously, a nation-by-nation assessment was done looking at the global production, and national production of top 36 inhalation hazard chemicals. These are shown in table 4.1 to 4.4. Table 4.5 shows the ranking results for these chemicals both globally, and for the U.S., or OCONUS vs. CONUS. As can be seen, there is little variation between individual nations based solely on production and distribution data. Instead, any regional specific analysis would likely need to examine the specific regional economies in order to determine relevant region-specific chemicals. Prior to this analysis, a review of the class-based analysis developed to produce an all-encompassing classification scheme for the toxic hazard of industrial chemicals will be introduced, since the national analysis which follows is color coded based upon this classification scheme. It should be noted that this classification scheme is the same adopted by the Joint Program Executive Office for Chemical and Biological Defense Programs (JPEO-CBD).

4.1 NRL Class-based Approach for Inhalation/Ocular and Contact

To mitigate the uncertainty in the probability section of the database, a class-based analysis is used to group the chemicals in the critical list. Part of the downselection process is to then select the highest scoring chemical within each class. The purpose is to ensure that representatives of all of the main chemical classes are selected for the high priority list; although a chemical may score low due to a low Toxic (Operational) Hazard Score or low Probability Score, it is still represented in the final list. The class-based analysis is crucial to ensure that the risk management aspects of the prioritization approach select a high-priority list of chemicals that can be used to represent the vast diversity of chemicals found in the global chemical industry.[11]

The class-based analysis developed by NRL is based on fundamental chemical reactivity principles. Since any chemical reaction is based upon the flow of electrons to form or break bonds, using terms based on the following definitions provides definitive, chemistry-based classes. The five principal classes of chemicals are described below.

- Oxidizers: An oxidizer is a chemical that readily accepts electrons in a chemical reaction. This class contains compounds typically considered as “acid-gas forming,” such as hydrogen chloride, and also chlorine, fluorine, hydrogen peroxide, and ozone.

- Reducers: This class of compounds consists of chemicals that readily donate electrons in a chemical reaction. This class includes the “hydride family,” such as ammonia, phosphine, and arsine, as well as hydrazines and amines. Additionally, compounds that fall into this class include many reactive metals, such as sodium, arsenic, thallium, and mercury.

- Simple Organics: These are simple organic compounds addressed separately as specific types of both inhalation hazards and contact hazards (certain compounds of this class are strongly degrading to plastics and coatings). They are widely produced and used in the production industry and have a high vapor density. This class includes compounds such as methylene chloride, benzene, carbon disulfide, and carbon tetrachloride.

[11] “Toxic Industrial Chemicals: Global Assessment and Scientific Analysis,” NRL\FR\6364--09-1,182, 2009, Naval Research Laboratory, Author, Thomas E. Sutto, Ph.D.

- Self-polymerizers: Polymerizable compounds are capable of undergoing self-reactions that release energy. Some polymerization reactions generate a great deal of heat. The products of polymerization reactions are generally less reactive than the starting materials. The reaction tendency of these compounds makes them behave differently in the environment and with other materials when compared to simple organic compounds such as carbon tetrachloride or carbon disulfide. Typically, these compounds are flammable and react with both oxidizers and reducers. This class includes phosgene, cyanogen chloride, formaldehyde, acrylonitrile, and methyl isocyanate.

- "Any"icides: This class of compounds includes pesticides, herbicides, and poisons developed for various agricultural or industrial uses. Through decades of undocumented production and transport of these compounds, the hazard posed by these compounds globally is difficult to quantify. Many of them are among the most toxic compounds listed in the NIOSH Pocket Guide, and they are stable and readily dispersed. Therefore, this class of compounds is addressed separately.

The color coding for these different classes are as shown below:

Oxidizer→ 

Reducer→ 

Self-Polymerizer→

Simple Organic→ 

Any-icide→ 

Table 4.1 Probability Assessments for Azerbaijan, Brazil, Bulgaria, China and Columbia

Rank	Global Ranking	Azerbaijan	Brazil	Bulgaria	China	Columbia
1	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine
2	Ammonia	Hydrogen chloride	Sulfuric acid	Hydrogen chloride	Ammonia	Ammonia
3	Hydrogen chloride	Ammonia	Ammonia	Ammonia	Hydrogen chloride	Sulfuric acid
4	Sulfuric acid	Sulfuric acid	Hydrogen chloride	Sulfuric acid	Sulfuric acid	Hydrogen chloride
5	Hydrogen fluoride	Mercury	Formaldehyde E3	Mercury	Hydrogen fluoride	Nitric acid
6	Formaldehyde E3	Hydrogen fluoride	Hydrogen fluoride	Hydrogen fluoride	Mercury	Mercury
7	Mercury	Sulfur dioxide	Mercury	Formaldehyde E3	Formaldehyde E3	Formaldehyde E3
8	Nitric acid	Phosgene	Nitric acid	Phosgene	Nitric acid	Hydrogen fluoride
9	Sulfur dioxide	Formaldehyde E3	Phosgene	Nitric acid	Phosgene	Phosgene
10	Phosgene	Nitric acid	Sulfur dioxide	Sulfur dioxide	Sulfur dioxide	Sulfur dioxide
11	Hydrogen bromide	Nitric oxide #(I)	Chlorine dioxide	Nitric oxide #(I)	Hydrogen bromide	OMPA
12	Nitric oxide #(I)	OMPA	Nitric oxide #(I)	OMPA	OMPA	Nitric oxide #(I)
13	OMPA	Hydrogen bromide	OMPA	Hydrogen bromide	Nitric oxide #(I)	Hydrogen bromide
14	Boron trifluoride *	Nitrogen dioxide	Hydrogen bromide	Nitrogen dioxide	Nitrogen dioxide	Nitrogen dioxide
15	Methyl bromide	Boron trifluoride *	Nitrogen dioxide	Boron trifluoride *	1,1,2,2-Tetrachloroethane #(T3)	Boron trifluoride *
16	Phosphoryl Trichloride	Methyl bromide	Boron trifluoride *	Methyl bromide	Boron trifluoride *	Methyl bromide
17	Chlorine dioxide	Phosphoryl Trichloride	Phosphoryl Trichloride	Phosphoryl Trichloride	Phosphoryl Trichloride	Phosphoryl Trichloride
18	Bromine	Chlorine dioxide	Methyl bromide	o-Anisidine * #(T3)	Methyl bromide	Bromine
19	Nitrogen dioxide	Bromine	Phosphorus trichloride	Chlorine dioxide	Bromine	Chlorine dioxide
20	Phosphorus trichloride	Fluorotrichloromethane #(T3)	Bromine	Bromine	Phosphorus trichloride	Fluorotrichloromethane #(T3)
21	Fluorotrichloromethane #(T3)	Hydrogen sulfide	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Chlorine dioxide	Molybdophosphoric acid
22	Hydrogen sulfide	Molybdophosphoric acid	Molybdophosphoric acid	Molybdophosphoric acid	Fluorotrichloromethane #(T3)	Hydrogen sulfide
23	Molybdophosphoric acid	Phosphorus trichloride	Toluene-2,4-diisocyanate	Hydrogen sulfide	Molybdophosphoric acid	Phosphorus trichloride
24	Toluene-2,4-diisocyanate	Arsine	Hydrogen sulfide	Phosphorus trichloride	Hydrogen sulfide	Arsine
25	Fluorine	Toluene-2,4-diisocyanate	Arsine	Arsine	Parathion *	Parathion *
26	Malathion * #(T3)	Parathion *	Parathion *	Toluene-2,4-diisocyanate	Malathion * #(T3)	Toluene-2,4-diisocyanate
27	Parathion *	Fluorine	Fluorine	Parathion *	Arsine	Malathion * #(T3)
28	Acetylene tetrabromide #(T3)	Malathion * #(T3)	Malathion * #(T3)	Fluorine	o-Anisidine * #(T3)	Fluorine
29	o-Anisidine * #(T3)	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Malathion * #(T3)	Toluene-2,4-diisocyanate	o-Anisidine * #(T3)
30	Sulfur trioxide	o-Anisidine * #(T3)	o-Anisidine * #(T3)	Acetylene tetrabromide #(T3)	Fluorine	Acetylene tetrabromide #(T3)
31	Phosphine	Sulfur trioxide	Sulfur trioxide	Sulfur trioxide	Acetylene tetrabromide #(T3)	Sulfur trioxide
32	Arsine	Phosphine	Phosphine	Phosphine	Ethylene dibromide	Phosphine
33	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Sulfur trioxide	Ethylene dibromide
34	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Phosphine	Pentachlorophenol * #(T3)
35	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Pentachlorophenol * #(T3)	Azinphosmethyl * #(T3)
36	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	Azinphosmethyl * #(T3)	1,1,2,2-Tetrachloroethane #(T3)

Table 4.2 Probability Assessments for Egypt, Georgia, India, Iran and the Korean Peninsula

Rank	Global Ranking	Egypt	Georgia	India	Iran	Korea
1	Chlorine	Ammonia	Ammonia	Chlorine	Chlorine	Chlorine
2	Ammonia	Chlorine	Chlorine	Hydrogen chloride	Hydrogen chloride	Hydrogen chloride
3	Hydrogen chloride	Sulfuric acid	Nitric acid	Sulfuric acid	Ammonia	Ammonia
4	Sulfuric acid	Nitric acid	Mercury	Ammonia	Formaldehyde E3	Sulfuric acid
5	Hydrogen fluoride	Hydrogen chloride	Hydrogen fluoride	Hydrogen fluoride	Hydrogen fluoride	Hydrogen fluoride
6	Formaldehyde E3	Mercury	Hydrogen chloride	Mercury	Sulfuric acid	Mercury
7	Mercury	Hydrogen fluoride	Sulfuric acid	Formaldehyde E3	Mercury	Formaldehyde E3
8	Nitric acid	Formaldehyde E3	Phosgene	Phosgene	Phosgene	Nitric acid
9	Sulfur dioxide	Phosgene	Formaldehyde E3	Nitric acid	Nitric acid	Phosgene
10	Phosgene	OMPA	Sulfur dioxide	Sulfur dioxide	Sulfur dioxide	Sulfur dioxide
11	Hydrogen bromide	Sulfur dioxide	OMPA	Hydrogen bromide	OMPA	Boron trifluoride *
12	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	OMPA	Nitric oxide #(I)	OMPA
13	OMPA	Phosphoryl Trichloride	Hydrogen bromide	Nitric oxide #(I)	Hydrogen bromide	Nitric oxide #(I)
14	Boron trifluoride *	Malathion * #(T3)	Nitrogen dioxide	Phosphoryl Trichloride	Nitrogen dioxide	Hydrogen bromide
15	Methyl bromide	Hydrogen bromide	Boron trifluoride *	Boron trifluoride *	Boron trifluoride *	Nitrogen dioxide
16	Phosphoryl Trichloride	Nitrogen dioxide	Methyl bromide	Nitrogen dioxide	Methyl bromide	Chlorine dioxide
17	Chlorine dioxide	Boron trifluoride *	Phosphoryl Trichloride	Bromine	Phosphoryl Trichloride	Methyl bromide
18	Bromine	Phosphorus trichloride	Bromine	Molybdophosphoric acid	Bromine	Phosphoryl Trichloride
19	Nitrogen dioxide	Methyl bromide	Chlorine dioxide	Methyl bromide	Chlorine dioxide	Arsine
20	Phosphorus trichloride	Bromine	Fluorotrichloromethane #(T3)	o-Anisidine * #(T3)	Fluorine	Phosphine
21	Fluorotrichloromethane #(T3)	Chlorine dioxide	Molybdophosphoric acid	Chlorine dioxide	Molybdophosphoric acid	Bromine
22	Hydrogen sulfide	Fluorotrichloromethane #(T3)	Hydrogen sulfide	Phosphorus trichloride	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)
23	Molybdophosphoric acid	Molybdophosphoric acid	Phosphorus trichloride	Malathion * #(T3)	Hydrogen sulfide	Sulfur trioxide
24	Toluene-2,4-diisocyanate	Hydrogen sulfide	Arsine	Fluorotrichloromethane #(T3)	Phosphorus trichloride	Fluorine
25	Fluorine	Arsine	Parathion *	Hydrogen sulfide	Arsine	Molybdophosphoric acid
26	Malathion * #(T3)	Parathion *	Toluene-2,4-diisocyanate	Arsine	Parathion *	Hydrogen sulfide
27	Parathion *	Toluene-2,4-diisocyanate	Malathion * #(T3)	Ethylene dibromide	Toluene-2,4-diisocyanate	Phosphorus trichloride
28	Acetylene tetrabromide #(T3)	Fluorine	Fluorine	Sulfur trioxide	Malathion * #(T3)	Parathion *
29	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	Fluorine	o-Anisidine * #(T3)	Toluene-2,4-diisocyanate
30	Sulfur trioxide	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Parathion *	Acetylene tetrabromide #(T3)	Malathion * #(T3)
31	Phosphine	Sulfur trioxide	Sulfur trioxide	Toluene-2,4-diisocyanate	Sulfur trioxide	o-Anisidine * #(T3)
32	Arsine	Phosphine	Phosphine	Acetylene tetrabromide #(T3)	Phosphine	Acetylene tetrabromide #(T3)
33	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Phosphine	Ethylene dibromide	Ethylene dibromide
34	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)
35	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)
36	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)

Table 4.3 Probability Assessments for Pakistan, Philippines, Qatar, Russia and Saudi Arabia

Rank	Global Ranking	Pakistan	Phillipines	Qatar	Russia	Saudi Arabia
1	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine
2	Ammonia	Ammonia	Hydrogen chloride	Ammonia	Ammonia	Ammonia
3	Hydrogen chloride	Sulfuric acid	Ammonia	Mercury	Sulfuric acid	Hydrogen chloride
4	Sulfuric acid	Hydrogen chloride	Sulfuric acid	Hydrogen fluoride	Hydrogen chloride	Sulfuric acid
5	Hydrogen fluoride	Hydrogen fluoride	Mercury	Hydrogen chloride	Hydrogen fluoride	Mercury
6	Formaldehyde E3	Mercury	Sulfur dioxide	Sulfuric acid	Mercury	Hydrogen fluoride
7	Mercury	Phosgene	Hydrogen fluoride	Phosgene	Formaldehyde E3	Formaldehyde E3
8	Nitric acid	Formaldehyde E3	Nitric acid	Sulfur dioxide	Nitric acid	Phosgene
9	Sulfur dioxide	Nitric acid	Phosgene	Formaldehyde E3	Phosgene	Sulfur dioxide
10	Phosgene	Sulfur dioxide	Formaldehyde E3	Nitric acid	Sulfur dioxide	Nitric acid
11	Hydrogen bromide	OMPA	OMPA	OMPA	OMPA	OMPA
12	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)
13	OMPA	Hydrogen bromide	Hydrogen bromide	Hydrogen bromide	Hydrogen bromide	Hydrogen bromide
14	Boron trifluoride *	Nitrogen dioxide	Nitrogen dioxide	Nitrogen dioxide	Boron trifluoride *	Nitrogen dioxide
15	Methyl bromide	Boron trifluoride *	Boron trifluoride *	Boron trifluoride *	Nitrogen dioxide	Boron trifluoride *
16	Phosphoryl Trichloride	Methyl bromide	Methyl bromide	Methyl bromide	Phosphoryl Trichloride	Methyl bromide
17	Chlorine dioxide	Phosphoryl Trichloride	Phosphoryl Trichloride	Phosphoryl Trichloride	Methyl bromide	Phosphoryl Trichloride
18	Bromine	Chlorine dioxide	Chlorine dioxide	Chlorine dioxide	Chlorine dioxide	Chlorine dioxide
19	Nitrogen dioxide	Bromine	Bromine	Bromine	Bromine	Bromine
20	Phosphorus trichloride	Fluorine	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Hydrogen sulfide	Hydrogen sulfide
21	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Molybdophosphoric acid	Molybdophosphoric acid	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)
22	Hydrogen sulfide	Molybdophosphoric acid	Hydrogen sulfide	Hydrogen sulfide	Phosphorus trichloride	Molybdophosphoric acid
23	Molybdophosphoric acid	Hydrogen sulfide	Arsine	Arsine	Molybdophosphoric acid	Phosphorus trichloride
24	Toluene-2,4-diisocyanate	Arsine	Phosphorus trichloride	Phosphorus trichloride	Toluene-2,4-diisocyanate	Arsine
25	Fluorine	Phosphorus trichloride	Parathion *	Parathion *	Arsine	Toluene-2,4-diisocyanate
26	Malathion * #(T3)	Parathion *	Toluene-2,4-diisocyanate	Toluene-2,4-diisocyanate	Fluorine	Parathion *
27	Parathion *	Toluene-2,4-diisocyanate	Fluorine	Fluorine	Parathion *	Fluorine
28	Acetylene tetrabromide #(T3)	Malathion * #(T3)	Malathion * #(T3)	Malathion * #(T3)	Malathion * #(T3)	Malathion * #(T3)
29	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	1,1,2,2-Tetrachloroethane #(T3)	o-Anisidine * #(T3)
30	Sulfur trioxide	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	o-Anisidine * #(T3)	Acetylene tetrabromide #(T3)
31	Phosphine	Phosphine	Phosphine	Phosphine	Acetylene tetrabromide #(T3)	Phosphine
32	Arsine	Sulfur trioxide	Sulfur trioxide	Sulfur trioxide	Phosphine	Sulfur trioxide
33	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Sulfur trioxide	Ethylene dibromide
34	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Ethylene dibromide	Pentachlorophenol * #(T3)
35	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Pentachlorophenol * #(T3)	Azinphosmethyl * #(T3)
36	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	Azinphosmethyl * #(T3)	1,1,2,2-Tetrachloroethane #(T3)

Table 4.4 Probability Assessments for Serbia, Taiwan, Turkey, Ukraine and Venezuela

Rank	Global Ranking	Serbia	Taiwan	Turkey	Ukraine	Venezuela
1	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine	Chlorine
2	Ammonia	Ammonia	Hydrogen chloride	Sulfuric acid	Ammonia	Sulfuric acid
3	Hydrogen chloride	Formaldehyde E3	Sulfuric acid	Ammonia	Sulfuric acid	Ammonia
4	Sulfuric acid	Hydrogen chloride	Ammonia	Hydrogen chloride	Hydrogen chloride	Hydrogen chloride
5	Hydrogen fluoride	Sulfuric acid	Hydrogen fluoride	Mercury	Mercury	Formaldehyde E3
6	Formaldehyde E3	Mercury	Nitric acid	Hydrogen fluoride	Hydrogen fluoride	Mercury
7	Mercury	Hydrogen fluoride	Mercury	Formaldehyde E3	Nitric acid	Hydrogen fluoride
8	Nitric acid	Phosgene	Formaldehyde E3	Phosgene	Formaldehyde E3	Phosgene
9	Sulfur dioxide	Sulfur dioxide	Phosgene	Nitric acid	Sulfur dioxide	Sulfur dioxide
10	Phosgene	Nitric acid	Sulfur dioxide	Sulfur dioxide	Phosgene	o-Anisidine * #(T3)
11	Hydrogen bromide	OMPA	OMPA	OMPA	OMPA	Nitric acid
12	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	Nitric oxide #(I)	OMPA
13	OMPA	Hydrogen bromide	Hydrogen bromide	Hydrogen bromide	Hydrogen bromide	Nitric oxide #(I)
14	Boron trifluoride *	Nitrogen dioxide	Nitrogen dioxide	Nitrogen dioxide	Nitrogen dioxide	Hydrogen bromide
15	Methyl bromide	Boron trifluoride *	Boron trifluoride *	Boron trifluoride *	Boron trifluoride *	Nitrogen dioxide
16	Phosphoryl Trichloride	Methyl bromide	Chlorine dioxide	Methyl bromide	Bromine	Boron trifluoride *
17	Chlorine dioxide	Phosphoryl Trichloride	Methyl bromide	Phosphoryl Trichloride	Methyl bromide	Methyl bromide
18	Bromine	Chlorine dioxide	Phosphoryl Trichloride	Chlorine dioxide	Phosphoryl Trichloride	Phosphoryl Trichloride
19	Nitrogen dioxide	Bromine	Bromine	Bromine	Hydrogen sulfide	Bromine
20	Phosphorus trichloride	Hydrogen sulfide	Molybdophosphoric acid	Molybdophosphoric acid	Chlorine dioxide	Chlorine dioxide
21	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Hydrogen sulfide	Hydrogen sulfide	Molybdophosphoric acid	Hydrogen sulfide
22	Hydrogen sulfide	Molybdophosphoric acid	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Fluorotrichloromethane #(T3)	Molybdophosphoric acid
23	Molybdophosphoric acid	Phosphorus trichloride	Toluene-2,4-diisocyanate	Phosphorus trichloride	Phosphorus trichloride	Fluorotrichloromethane #(T3)
24	Toluene-2,4-diisocyanate	Arsine	Parathion *	Arsine	Arsine	Phosphorus trichloride
25	Fluorine	Toluene-2,4-diisocyanate	Malathion * #(T3)	Toluene-2,4-diisocyanate	Toluene-2,4-diisocyanate	Arsine
26	Malathion * #(T3)	Parathion *	Phosphorus trichloride	Parathion *	Parathion *	Toluene-2,4-diisocyanate
27	Parathion *	Fluorine	Arsine	Malathion * #(T3)	Malathion * #(T3)	Parathion *
28	Acetylene tetrabromide #(T3)	Malathion * #(T3)	Fluorine	Fluorine	Fluorine	Malathion * #(T3)
29	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	o-Anisidine * #(T3)	Fluorine
30	Sulfur trioxide	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)	Acetylene tetrabromide #(T3)
31	Phosphine	Phosphine	Phosphine	Phosphine	Phosphine	Phosphine
32	Arsine	Sulfur trioxide	Sulfur trioxide	Sulfur trioxide	Sulfur trioxide	Sulfur trioxide
33	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide	Ethylene dibromide
34	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)	Pentachlorophenol * #(T3)
35	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)	Azinphosmethyl * #(T3)
36	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)

Table 4.5 Probability Assessment for OCONUS (Global) and CONUS (USA).

Rank	Global Ranking	U.S.A.
1	Chlorine	Chlorine
2	Ammonia	Ammonia
3	Hydrogen chloride	Sulfuric acid
4	Sulfuric acid	Hydrogen chloride
5	Hydrogen fluoride	Sulfur dioxide
6	Formaldehyde E3	Hydrogen fluoride
7	Mercury	Mercury
8	Nitric acid	Nitric acid
9	Sulfur dioxide	Phosgene
10	Phosgene	Formaldehyde E3
11	Hydrogen bromide	Boron trifluoride *
12	Nitric oxide #(I)	Nitric oxide #(I)
13	OMPA	Hydrogen bromide
14	Boron trifluoride *	OMPA
15	Methyl bromide	Nitrogen dioxide
16	Phosphoryl Trichloride	Phosphoryl Trichloride
17	Chlorine dioxide	Methyl bromide
18	Bromine	Chlorine dioxide
19	Nitrogen dioxide	Bromine
20	Phosphorus trichloride	Hydrogen sulfide
21	Fluorotrichloromethane #(T3)	Molybdophosphoric acid
22	Hydrogen sulfide	Phosphorus trichloride
23	Molybdophosphoric acid	Fluorotrichloromethane #(T3)
24	Toluene-2,4-diisocyanate	Toluene-2,4-diisocyanate
25	Fluorine	Arsine
26	Malathion * #(T3)	Fluorine
27	Parathion *	Acetylene tetrabromide #(T3)
28	Acetylene tetrabromide #(T3)	Parathion *
29	o-Anisidine * #(T3)	Malathion * #(T3)
30	Sulfur trioxide	Phosphine
31	Phosphine	Sulfur trioxide
32	Arsine	o-Anisidine * #(T3)
33	Ethylene dibromide	Ethylene dibromide
34	Pentachlorophenol * #(T3)	Azinphosmethyl * #(T3)
35	Azinphosmethyl * #(T3)	Pentachlorophenol * #(T3)
36	1,1,2,2-Tetrachloroethane #(T3)	1,1,2,2-Tetrachloroethane #(T3)

4.2 Legal and Illegal Chemical Considerations.

Perhaps one of the greatest challenges in assessing the potential chemical hazard of a country is that for some 2nd and 3rd world countries, a great deal of criminal activity can be associated with industrial chemicals. A classic example of this is Afghanistan, where for the most part, there is no chemical production capabilities. However, there is a great need for the use of large scale chemical processing of poppy seeds into useful opium derivatives. As such, a regional hazard assessment of Afghanistan should take this into account. According to the DEA, chemicals used in processing poppy are: CaO, $CaCl_2$, $CaCO_3$, $Ca(OH)_2$, NH4Cl,Na_2CO_3, Charcoal, Acetic Anhydride, chloroform, ethanol, ethyl ether, HCl, Quinine-HCl or Strychnine-HCl.

Interestingly, two of these chemicals, chloroform and ethyl ether are two rapidly volatile simple organics that give off a sweet-like odor that in a high enough concentrations would give rise to classic CWA exposure symptoms: dizziness, confusion, nausea, vomiting and even unconsciousness. In several attacks at girl's schools in Afghanistan, the initial reports indicate, "to a strong, sweet smell in one of the classrooms". Shortly afterwards, "several girls began complaining of headaches and sore throats, both in that classroom and an adjacent one. Within minutes, they began fainting."[12] As such, it is likely that a regional analysis of both legal and illegal sources of would likely attribute these attacks to chemicals readily available in Afghanistan, rather than a new type of rapidly volatile organo-phosphorus based CWA.

4.3 Food and Water Hazard Classification Scheme

Although the previously discussed class based method was developed and used to assess the hazard of the inhalation ocular and contact hazard lists, it was determined that an alternate class system was required to assess the potential ingestive hazard of industrial chemical. The class-based analysis developed by the NRL-DC is based on fundamental oral hazard and chemical principles. Note that for many of these the initial primary effects are either CNS effects, inhalation effects or cardiovascular effects. The classification scheme used for oral hazard are shown below.

- Poisonous cyanide-based compounds: These are compounds which when placed in food or water would generate poisonous cyanide. Examples of these types of compounds would be sodium or potassium cyanide.
- Poisonous arsenic-based compounds: These are compounds that would result in arsenic contamination of food or water.
- Poisonous metal salts and mercury compounds: These are compounds such as mercuric chloride or cobalt chloride, which would result in food or water being contaminated with mercury or cobalt. It is important to note that pure mercury is not considered a high priority oral hazard due to the body's limited ability to convert it to a reactive, mercury +1 or +2 compound.
- Organophosphorus types of pesticides: These are pesticides that are similar in many ways to chemical warfare agents, such as parathion or malathion.
- Carbamate types of pesticides: These are pesticides which use a carbamate ester as their principle toxicity group.
- Carboxylic acid/ester based pesticides: These are compounds which use a carboxylic acid or ketone as their principle toxicity group.

[12] http://www.nytimes.com/2010/09/01/world/asia/01gasattack.html?_r=0

- Organohalide based pesticides: These are compounds that are primarily organic compounds, such as lindane, which is 1,2,3,4,5,6-hexachlorochyclohexane.
- High scoring poisonous elements.
- Poisonous oxidizing or reducing compounds: These are compounds which can drastically alter the pH of water or food. Examples of this are phenolic compounds, which lower the pH and sodium hydroxide, which raise the pH.

5 REGIONAL ANALYSIS_CHEMICALS FOR SPECIAL CONSIDERATION: CHEMICAL WARFARE AGENT PRECURSOR DATABASE AND PRIORITIZATION

5.1 Introduction

One final aspect of a regional analysis is an assessment as to whether or not research or production of Chemical Warfare Agents is occurring. In order to achieve this, a separate database for potential chemical warfare agent precursors was developed. This list is based in part on those chemicals listed as potential precursors in the Chemical Weapons Convention, and a previous version of Field Manual (FM) 3-11, as well as the additional of other relevant chemical precursors. It should be noted that not all chemicals are listed, since many of them are very prevalent in industry for a wide variety of other applications, and are therefore assessed in the primary industrial database. The entire database is listed in Appendix B.

5.2 Scoring and Assessment

5.2.1 Toxicity Scoring

For many of the precursors listed in this database, toxicity data such as AEGL values, or LD50 data was unavailable. Therefore, unlike the previous database, toxicity scoring is based on the NFPA health values (H), but multiplied by 1.25 to put them on a five point scale.

5.2.2 Stability Scoring

Stability scoring is based upon the same scoring protocol used for the industrial chemical analysis database, and as such is also based on the average of the NFP F and R values, placed on a five point scale and averaged.

5.2.3 Physical State Scoring

Physical state scoring is based upon the same criteria as used for industrial chemical analysis database.

5.2.4 Toxic Hazard and Verbal Assessment Scoring

Toxic hazard assessments are then based on the physical state score for each type of hazard, the NFPA health score and the stability score. This sum is then divided by 3 to place it on a five point scale.

5.3 Probability Scoring

5.3.1 Global Production and Distribution Scoring

For the precursor database, probability scoring is not based on how much a chemical is used in industry, but rather is intended to indicate the probability of the chemical indicating development or manufacturing of chemical warfare agents. This is achieved by several factors being combined into the probability scoring. The first is using an inverse of the scoring used for the industrial analysis database. High production and high distribution indicates a chemical is largely prevalent in chemical industry, and as such would score the lowest, while a rare, specialized chemical with no known industrial applications would score high, indicating increased probability that chemical warfare agents may be being developed.

One other additional score is used to assess probability. This is based on the number of different chemical warfare agents can be prepared from a specific chemical. Since the largest number in this category

is five, this is placed on a five point scale. Thus, the overall probability scoring is based on the average of the inverted global production and distribution data added to the precursor scoring, divided by 2, to place it on a five point scale.

These final results result in a ranked listing of chemicals, where the highest scoring chemicals would be most likely to indicate in a regional assessment that research into or the actual manufacturing of Chemical Warfare Agents is occurring. The ranked list is shown in table 4.6.

Table 4.6 Ranked List of CWA Precursors

Rank	Precursor Chemical	CAS#	Rank	Precursor Chemical	CAS#	Rank	Precursor Chemical	CAS#
1	Methylphosphonous difluoride	753-59-3	22.00	Ethylphosphonyl dichloride	1066-50-8	**43**	Diisopropylamine	108-18-9
2	N,N-diisopropyl-(beta)- aminoethyl chloride	96-79-7	23.00	Dichloroethylphosphine	1498-40-4	**44**	Triethanolamine hydrochloride	637-39-8
3	Ethylphosphonous difluoride	430-78-4	24.00	Phosphorus trichloride	7719-12-2	**45**	Ammonium bifluoride	1341-49-7
4	O-ethyl,2-diisopropyl aminoethyl methyl-phosphonate (QL)	57856-11-8	25.00	Methylphosphonous dichloride	676-83-5	**46**	3-Quinuclidone	1619-34-7
5	Ethylphosphonous dichloride	1498-40-4	26.00	N,N-diisopropyl-(beta)-aminoethanol	96-80-0	**47**	Pinacolone	75-97-8
6	Thionyl chloride	7719-09-7	27.00	Dimethyl phosphite	868-85-9	**48**	Sodium cyanide	143-33-9
7	Ethylphosphonyl difluoride	753-98-0	28.00	Diphenylamine	122-39-4	**49**	Phosphorus oxychloride	10025-87-3
8	N,N-diisopropyl- aminoethanethiol	5842-07-9	29.00	Pinacolyl alcohol	464-07-3	**50**	Diethylaminoethanol	100-37-8
9	Diethyl N,N-dimethyl phosphoramidate	2404-03-7	30.00	Dimethyl methylphosphonate	756-79-6	**51**	Benzilic acid	76-93-7
10	Arsenic trichloride	7784-34-1	31.00	Hydrogen fluoride	7664-39-3	**52**	Sodium fluoride	7681-49-4
11	Diethyl methylphosphonite	15715-41-0	32.00	Methyl parathion	298-00-0	**53**	Methyl benzilate	76-89-1
12	Sulfur dichloride	10545-99-0	33.00	Phosphorous pentachloride	10026-13-8	**54**	Phosphorus pentasulfide	1314-80-3
13	Methylphosphonyl difluoride	676-99-3	34.00	Methylphosphonyl dichloride	676-97-1	**55**	Potassium fluoride	7789-23-3
14	Sulfur monochloride sulfur chloride	10025-67-9	35.00	Triphenylarsine	603-32-7	**56**	Dimethylamine	124-40-3
15	Dimethyl ethylphosphonate	6163-75-3	36.00	2-Chloroethanol	107-07-3	**57**	Potassium cyanide	151-50-8
16	Diethyl ethylphosphonate	78-38-6	37.00	N,N-diisopropyl-2-aminoethyl chloride hydrochloride	4261-68-1	**58**	2-diethylaminoethanol-HCl	4.00
17	Sodium bifluoride	1333-83-1	38.00	Triethyl phosphite	122-52-1	**59**	3-Quinuclidinol	1619-34-7
18	Trimethyl phosphite	121-45-9	39.00	Dichloromethylphosphine	676-83-5	**60**	Sodium sulfide	1313-82-2
19	Diethyl phosphite	762-04-9	40.00	3-Hydroxy-1-methylpiperidine	3554-74-3	**61**	Propylene chlorohydrin	78-89-7
20	Potassium bifluoride	7789-29-9	41.00	Neopentane	463-82-1	**62**	Triethanolamine	102-71-6
21	Thiodiglygol	111-48-8	42.00	Dimethylamine HCl	506-59-2	**63**	Sulfur	7704-34-9

6 CONCLUSIONS

This report has been prepared for the Defense Threat Reduction Agency (DTRA) to develop a searchable database with relevant information for the warfighter. The goal is to produce either a computer program or hand held application that the warfighter can access in the field and be provided with a relative assessment of the potential hazards of a chemical.

The algorithm and data in this database is used to assess and score the potential inhalation/ocular, contact (previously called percutaneous), oral or ingestive, and explosive hazard of each chemical. Based upon a numbering system to be detailed later, each chemical has received a verbal assessment designated as negligible, low, moderate, high and severe. The designations will be given for each of the above four hazard concerns, as well as an overall score based on the hazards noted above as well as on industrial production and distribution data for each chemical.

Additionally, a separate database has been prepared assessing and prioritizing chemicals that could be used as indicators of chemical warfare agent development or manufacturing. Verbal assessments are also given regarding the inhalation, contact, oral or explosive hazard of these chemicals. An inverse global production/distribution scoring system was used to determine likelihood that the presence of a chemical indicates chemical warfare agent efforts.

APPENDIX A: SCIENTIFIC ANALYSIS OF THE INTERNATIONAL TASK FORCE–40 REPORT

Previous efforts to assess the threat of industrial chemicals, such as the ITF-40 and its predecessor, the ITF-25, did not consider fully enough the reactive nature of chemicals and how this behavior might affect the actual hazard a particular chemical can present. This failure to consider how flammability and reactivity with moisture and air can alter a potential chemical threat led NRL/JMP-IP to develop their new assessment. This section considers the ITF-40 assessment in detail.

A.1 Overview of ITF-40

International Task Force–40 was one of several International Task Force groups established under the provisions of the 1994 Canadian, United Kingdom, and United States (CANUKUS) Memorandum of Understanding on Chemical and Biological Defense. The objective of the ITF-40 group was to develop appropriate tools for military commanders to identify, assess, and control risks from exposures caused by the release of industrial chemicals in a military situation, and to review, update, and enhance the methodology used by a previous group to prepare a prioritized list of industrial chemicals. The report published by the task force in 2003 is referred to here as the ITF-40 report, or simply ITF-40.

The ITF-40 database lists 1756 chemicals and uses National Fire Protection Association (NFPA) ratings for health (H), flammability (F), and instability (I) (formerly called reactivity, R)[13] as factors for assessing the degree of hazard a chemical poses. However, the chemicals are not adequately assessed, both because of gaps in information in the database and because the ranking algorithm used does fully not take into account what is known about the behavior of a chemical in the operational environment. Because flammability and reactivity information is missing for many entries, or is present but not evaluated in an operational context, ITF-40 becomes primarily a toxicological ranking of chemicals. The quotations below from the ITF-40 report highlight these points.

Flammability and Instability (F and I) scores are used directly from US NFPA/USFA [NFPA-704, 2001; NFPA-325, 2001; USFA, 2001] which provides a 0-4 ranking scale (4 = greatest hazard). Where ‘F’ ranks were not available, information from published data was evaluated using the US NFPA criteria for ranking the parameter of flammability. (p. II-10)

Because the criteria used by the US NFPA for instability (formerly reactivity) were more subjective, when no ranking for instability had been allocated, this parameter was not included. (p. II-11)

Many thousands of chemicals cannot be adequately assessed because there is not adequate data available – this includes (acute) toxicity data, but the data gaps appear to be even more significant regarding the physical and chemical properties. (p. ES-v)

The ITF-40 report did not make use of the large amount of data regarding flammability and reactivity that is readily available in 150+ years of published scientific literature. The following sections look more closely at the ITF-40 database and algorithm.

[13] NFPA 704 now uses the term Instability; older versions called this value Reactivity (NFPA 704 = Standard System for the Identification of the Hazards of Materials for Emergency Response).

A.2 Analysis of the ITF-40 Database

The ITF-40 data set contains numerous omissions and disagreements with current NFPA ratings for many of the higher-ranking chemicals. TableA. shows some of these discrepancies. The chemicals listed in the table represent the Threshold and Objective chemicals for one of the more recent Joint Service General Purpose Mask (JSGPM) filter systems. Columns T, U, and V are values compiled from Appendix A of the ITF-40 report. Columns X, Y, and Z show the corrected NFPA values from CAMEO version 1.2.2. The values in red indicate corrections or missing values as compared to the ITF-40 database. A simple tally of NFPA differences and omissions reveals that the ITF-40 database is only 42% accurate for these high-ranking chemicals: 54 of 93 entries are different or missing. Only 15 of the 31 chemicals have all three NFPA values listed. Although some change in NFPA values is to be expected, this high number of errors and omissions in the ITF-40 report provided strong impetus to compile a more accurate and complete database.

These errors result in the omission or erroneous evaluation of several hazardous chemicals in the ITF-40 assessment. For instance, hydrogen sulfide was not originally listed as a high priority chemical, since the health score in the ITF-40 database is given as 2, while the correct health score is 4. It was added to the high priority list, but only due to the erroneous assumption that "sulfur fires" generate hydrogen sulfide. (Combustion of sulfur results in the formation of sulfur dioxide, just as combustion of carbon results in the generation of carbon dioxide.[14]) Similarly, the ITF-40 report points out that hydrogen bromide is not selected as a priority inhalation hazard due to its low scores, except that again the health score is incorrectly given as 1, when in fact it is 3. In the case of arsine, the health factor listed is again incorrect (3 instead of 4) and there are no flammability or instability ratings, even though the high flammability and reactivity of arsine have long been known.[15] In another example, the data for diborane in the ITF-40 database is correct, but the high flammability and reactivity scores do not affect its being listed as a high priority inhalation hazard, even though it has long been known to explosively decompose upon exposure to air.[16] The peer-reviewed scientific literature documents decades of research that went into developing and working with industrial chemicals, but this information does not appear to have been fully used in the ITF-40 database.

[14] S.A. Carn and A.J. Krueger, "Fire at Iraqi sulfur plant emits SO2 clouds detected by Earth Probe TOMS," *Geophysical Research Letters* 31 (2004) L19105, doi:10.1029/2004GL020719.

[15] A. Hantzsch and H. Hibbert, "Concerning addition products of trialkyl-phosphine, -arsine and -stibene," *Berichte der Deutschen Chemischen Gesellschaft* 40 (1907) 1508-1519.

[16] E.L. Poling and H.P. Simons, "Explosive reaction of diborane in dry and water-saturated air," *Industrial and Engineering Chemistry* 50:11 (1958) 1695-1698.

TableA.1 — Inaccuracies and Missing Data in the ITF-40 Database

	T	U	V		X	Y	Z
The Threshold and Objective Chemicals of the JSGPM System	**NFPA VALUES FROM USACHPPM 47-EM-6154-03**			**ITF-40 HAZARD SCORE**	**ACTUAL CURRENT NFPA VALUES- CORRECTIONS IN RED**		
COMPOUND	**H**	**F**	**I**		**H**	**F**	**I**
Acrolein	4	3	3	**4**	4	3	3
Acrylonitrile	4	3	2	**4**	4	3	2
Allyl alcohol	4	3	1	**4**	4	3	1
Ammonia (anhydrous)	1	1	0	**1**	**3**	1	0
Arsine	3			**3**	**4**	**4**	**2**
Boron trichloride*	4	2	1	**4**	**3**	**0**	**2**
Boron trifluoride*	3			**3**	**4**	**0**	**1**
Carbon disuldfide	2	4	0	**4**	**3**	4	0
Chlorine	2			**2**	**4**	**0**	**0**
Diborane	4	4	3	**4**	4	4	3
Ethylene oxide	3	4	3	**4**	3	4	3
Fluorine	3			**3**	**4**	**0**	**4**
Formaldehyde	3			**3**	3	**4**	**0**
Hydrazine, annhydrous	4	4	3	**4**	4	4	3
Hydrogen bromide (anhyd.)	1			**1**	**3**	**0**	**0**
Hydrogen chloride (anhyd.)	4			**4**	**3**	**0**	**1**
Hydrogen cyanide (anhyd.)	4	4	1	**4**	4	4	**2**
Hydrogen fluoride (anhyd.)	4			**4**	4	**0**	**1**
Hydrogen sulphide	2	4	0	**4**	**4**	4	0
Methyl isocyanate	4	3	2	**4**	4	3	2
Methyl mercaptan	4	4	1	**4**	**4**	**4**	**1**
Nitric acid	3	0		**3**	**4**	0	**1**
Nitrogen dioxide	3			**3**	3	**0**	**0**
Phosgene	3			**3**	**4**	**0**	**1**
Phosphine	2	4	2	**4**	**4**	4	2
Phosphorus trichloride	4	0	0	**4**	4	0	**2**
Sulphur dioxide	2			**2**	**3**	**0**	**0**
Sulphur trioxide*	4			**4**	**3**	**0**	**2**
Sulphuric acid	4			**4**	**3**	**0**	**2**
Toluene diisocyanate				**0**	**3**	**1**	**3**
Tungsten hexafluoride*	2			**2**	**4**	**0**	**1**

A.3 Analysis of the ITF-40 Algorithm

The algorithm used by ITF-40 ranks health, flammability, and instability in the following manner to assess the hazard severity of a chemical:

The final hazard severity rank given to a chemical represents the highest score it receives amongst the three hazard categories: Health (toxicity) 1-4, Flammability 0-4, or Instability 0-4.

For the purposes of designing and evaluating filter masks or other individual protection equipment, this simple ranking system does not provide enough discrimination between the different types of operational hazards to the warfighter and does not account for the effects of chemical behavior.

This ranking system also results in a bias toward toxicity data. For example, for almost half of the chemicals listed in TableA. (14 out of 31), only the health value is available — flammability and instability data are missing entirely. For many of the other chemicals listed, only the health factor affects the score, as displayed in the small sample in Table A.. For a high-toxicity chemical, the flammability and instability, whether high or low, do not factor into the score, even though these properties may affect the true operational hazard of a toxic chemical. For a lower-toxicity chemical, a high flammability or instability score gives the chemical a high total score, but this score might not be relevant to the evaluation of filter masks, for example, if the main danger is explosive rather than toxic. A few examples of this insufficient ranking system are provided below.

Table A.2 — ITF-40 Algorithm: Toxicity Bias

2	The Threshold and Objective Chemicals of the JSGPM System	NFPA VALUES USED FROM CHPPM 47-EM-6154-03			
3	COMPOUND	H	F	I	ITF-40 HAZARD SCORE
4	Acrolein	4	3	3	**4**
5	Acrylonitrile	4	3	2	**4**
6	Allyl alcohol	4	3	1	**4**
7	Ammonia (anhydrous)	1	1	0	**1**
8	Arsine	3			**3**
9	Boron trichloride*	4	2	1	**4**

A chemical that rapidly explodes on contact with oxygen gets a very high ITF-40 score, as it is an explosive hazard to the warfighter, but an equally toxic chemical with lower flammability or instability ratings gets a lower score even though it may pose an even greater hazard via inhalation. For example, carbon tetrachloride and carbon disulfide are both classified as simple, volatile organics, and both have a health factor of 3 (see Table A. and note again the errors in the ITF-40 database). Carbon disulfide is highly flammable (NFPA: “Ignition temperature dangerously low: 212 °F. Vapors may be ignited by contact with ordinary light bulb.”), while carbon tetrachloride is non-flammable. Therefore, carbon disulfide receives a higher hazard ranking (“catastrophic”) than carbon tetrachloride (“critical”). However, because carbon tetrachloride is stable and non-flammable, it is more likely to create a significant inhalation hazard in the

operational environment. The ITF-40 algorithm does not take into account this physical behavior in its hazard ranking, so does not select carbon tetrachloride as a priority hazard chemical.

Table A.3 — ITF-40 Algorithm: Flammability

		ITF-40 NFPA Values					ACTUAL NFPA VALUES-CORRECTIONS IN RED		
3	**COMPOUND**	**H**	**F**	**I**	**ITF-40 HAZARD SCORE**	**HAZARD CATEGORY Formula**	**H**	**F**	**I**
4	Carbon tetrachloride	3			3	Critical	3	**0**	**0**
5	Carbon Disulfide	2	4	0	4	Catastrophic	**3**	4	0

In another example, compounds with the highest ITF-40 hazard category rating of catastrophic include chemicals that are explosive hazards but not toxicological hazards. Two examples are shown in Table A.. Hydrogen is rated as catastrophic due to its highly flammable nature — and indeed this poses a significant threat — but such an assessment is not applicable for CBRN (chemical, biological, radiological, and nuclear) systems designed to provide protection against toxic, not explosive, hazards. The same high hazard assessment would be true for TNT, except that the ITF-40 database is again incorrect. The correct NFPA values, shown in red, indicate that TNT should also be listed as catastrophic by ITF-40; however, due to errors in the database, this chemical is incorrectly assessed as negligible.

Table A.4 — ITF-40 Algorithm: Explosive Hazards

	ITF-40 NFPA Values					Actual NFPA Values Red= Errors			Corrected	
COMPOUND	H	F	I	ITF-40	Hazard Category	H	F	I	ITF-40 HAZARD	Hazard Category
TNT	1			1	Negligible	**2**	**4**	**4**	4	Catastrophic
Hydrogen	0	4	0	4	Catastrophic	0	4	0	4	Catastrophic

A.4 Conclusions Regarding ITF-40

Analysis of the ITF-40 report led to the following conclusions:

1. The data set is incomplete and therefore cannot be used to adequately analyze the global threat of TICs in the operational environment. Although over 1700 chemicals are listed in the database, complete data (scores for health, flammability, reactivity, physical state, and number of countries producing the chemical) are given for only 420 chemicals.
2. Data regarding health, flammability, and reactivity is incorrect for many of the highest ranked chemicals.
3. The algorithm used to rank each chemical results in a primarily toxicological assessment of TICs, without considering the ability of the chemical to manifest a threat in the operational environment.

It does not differentiate between high toxicity, high flammability, and high reactivity, or consider how the combination of chemical properties affects their hazard potential.

4. The lack of a class-based analysis founded on basic chemical properties results in a prioritization that cannot be said to comprehensively address the global threat of industrial chemicals. Because there are thousands of chemicals produced and distributed globally, a class-based assessment is a required part of the prioritization process to ensure that the priority list also represents those millions of other chemicals.

APPENDIX B: COMPREHENSIVE BIOMARKERS DATABASE

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1	ACETYLENE	ACETYLENE|ACETYLENE, DISSOLVED|ETHINE|ETHYNE|NARCYLEN|VINYLENE	74-86-2	A colorless gas with a faint garlic-like odor. Easily ignited and burns with a sooty flame. Gas is lighter than air. Flame may flash back to the source of a leak very easily. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(BLOB)	(Non-specific -- Methyl Trichlorosilane) Flammable/Combustible material; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire or explosion hazard. May react violently with water. (EPA, 1998)	(Non-specific -- Methyl Trichlorosilane) Move container from fire area if you can do it without risk. Do not get water inside container. Cool containers that are exposed to flames with water from the side until well after fire is out. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (Non-Specific -- Methyl Trichlorosilane) Small fires: Dry chemical, CO2, halon, water spray, or standard foam. Large fires: Water spray, fog, or standard foam is recommended. (EPA, 1998)
2	ACETYLENE, ETHYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE.	ACETYLENE, ETHYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE|ACETYLENE, ETHYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE,|ETHYLENE, ACETYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE,|ETHYLENE, ACETYLENE AND PROPYLENE MIXTURE,	74-86-2	A colorless gas with a slight odor. Shipped as a cryogenic liquid. Vaporizes and forms an extremely flammable cloud of gas if released. Contact with water may result in vigorous boiling and extremely rapid vaporization. If the water is hot, a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if a cryogenic liquid gas contacts water in a closed container. Prolonged exposure to heat can cause closed containers to rupture violently and rocket.	5.0	1.0	1.0	10.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	Get medical attention after all exposures to this compound. INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Many have cardboard outer packaging; content (physically large or small) can be of many different physical forms. Radioactivity does not change flammability or other properties of materials. (ERG, 2012)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). (ERG, 2012)
3	ALUMINUM NITRATE	ALUMINUM NITRATE|ALUMINUM NITRATE (AL(NO3)3)|ALUMINUM NITRATE NONAHYDRATE|ALUMINUM TRINITRATE|ALUMINUM(III) NITRATE|NITRIC ACID, ALUMINUM SALT	13473-90-0	A white, crystalline solid. Noncombustible but can accelerate the burning of combustible materials. If large quantities are involved or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Fires that involve this material, produce oxides of nitrogen. Uses include, petroleum refining, dyeing, and leather tanning.	1.0	2.5	5.0	20.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	(BLOB)	Special Hazards of Combustion Products: Toxic phenol vapors may form from hot material. Behavior in Fire: May decompose violently when heated. Burning rate becomes more rapids as fire burns. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
4	AMMONIA SOLUTIONS (CONTAINING MORE THAN 35% BUT NOT MORE THAN 50% AMMONIA)	AMMONIA SOLUTION, [WITH > 44% AMMONIA]|AMMONIA SOLUTIONS (CONTAINING MORE THAN 35% BUT NOT MORE THAN 50% AMMONIA)|AMMONIA, SOLUTION, WITH MORE THAN 35% BUT NOT MORE THAN 50% AMMONIA|R 717|R717	7664-41-7	A clear colorless liquid consisting of ammonia dissolved in water. Corrosive to tissue and metals. Although ammonia is lighter than air, the vapors from a leak will initially hug the ground. Long term exposure to low concentrations or short term exposure to high concentrations may result in adverse health conditions from inhalation. Prolonged exposure of containers to fire or heat may result in their violent rupturing and rocketing.	2.5	5.0	2.5	20.0	0.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
5	AMMONIA, ANHYDROUS	AM-FOL|AMMONIA|AMMONIA (ANHYDROUS)|AMMONIA (ANHYDROUS) (LIQUEFIED)|AMMONIA GAS|AMMONIA SOLUTION, WITH MORE THAN 50% AMMONIA|AMMONIA, ANHYDROUS|AMMONIA, ANHYDROUS, LIQUEFIED|AMMONIA, [ANHYDROUS]|AMMONIA-14N|ANHYDROUS AMMONIA|ANHYDROUS AMMONIA, LIQUEFIED|AQUA AMMONIA|AQUEOUS AMMONIA|LIQUID AMMONIA|NITRO-SIL|R 717|REFRIGERENT R717|SPIRIT OF HARTSHORN	7664-41-7	A clear colorless gas with a strong odor. Shipped as a liquid under its own vapor pressure. Density (liquid) 6 lb / gal. Contact with the unconfined liquid can cause frostbite. Gas generally regarded as nonflammable but does burn within certain vapor concentration limits and with strong ignition. Fire hazard increases in the presence of oil or other combustible materials. Although gas is lighter than air, vapors from a leak initially hug the ground. Prolonged exposure of containers to fire or heat may cause violent rupturing and rocketing. Long-term inhalation of low concentrations of the vapors or short-term inhalation of high concentrations has adverse health effects. Used as a fertilizer, as a refrigerant, and in the manufacture of other chemicals. Rate of onset: Immediate Persistence: Minutes Odor threshold: 17 ppm Source/use/other hazard: Explosives manufacture; pesticides; detergents industry.	5.0	1.0	1.0	30.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	Get medical attention after all exposures to this compound. INGESTION: give large amounts of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Many have cardboard outer packaging; content (physically large or small) can be of many different physical forms. Radioactivity does not change flammability or other properties of materials. (ERG, 2012)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). (ERG, 2012)
6	AMMONIA, SOLUTION, WITH MORE THAN 10% BUT NOT MORE THAN 35% AMMONIA	AMMONIA, SOLUTION, WITH MORE THAN 10% BUT NOT MORE THAN 35% AMMONIA|AMMONIUM HYDROXIDE, WITH MORE THAN 10% BUT NOT MORE THAN 35% AMMONIA	7664-41-7	A colorless aqueous liquid solution with a strong odor of ammonia. Both liquid and vapors extremely irritating, especially to the eyes.	2.5	5.0	2.5	30.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	(BLOB)	When heated to decomposition, this compound emits toxic fumes of chlorine, hydrochloric acid, and phosgene. (EPA, 1998)	Isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering. Wear positive pressure breathing apparatus and special protective clothing. Fight fire from maximum distance, dike fire control water for later disposal. Use dry chemical, carbon dioxide, water spray, or foam for small fires. Use water spray, fog, or foam for large fires. Move container from fire area if this can be done without risk. Use water to keep fire-exposed containers cool. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1	ACETYLENE	Caution : Extremely flammable; may spontaneously ignite. Avoid sources of extreme heat or ignition including sparks or fire. Trichloro (chloromethyl) silane will liberate hydrochloric acid upon contact with water. (Non-Specific -- Methyl Trichlorosilane) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. If water pollution occurs, notify appropriate authorities. Shut off ignition sources; no flares, smoking or flames in hazard area. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors; do not get water inside container. Small spills: flush area with flooding amounts of water. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Reacts vigorously with water to form hydrogen chloride (hydrochloric acid)	Chlorosilanes, such as TRICHLORO(CHLOROMETHYL)SILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3389 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2	ACETYLENE, ETHYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE.	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Approved dust respirator; goggles or face shield; protective clothing (USCG, 1999)	Water soluble, reacting to give a milky solution. The reaction is not hazardous.	URANYL ACETATE reacts weakly as an acid. Usually does not react as either oxidizing agents or reducing agents but such behavior is not impossible. May catalyze organic reactions.	Radioactive Material	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									
3	ALUMINUM NITRATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Self-contained or air-line breathing apparatus; solvent- resistant rubber gloves; chemical splash goggles; rubber apron; rubber or PVC clothing; full face shield. (USCG, 1999)	Slightly soluble in water and oxidized in air at approximately 130Â°C.	CUMENE HYDROPEROXIDE is a strong oxidizing agent. May react explosively upon contact with reducing reagents. Violent reaction occurs upon contact with copper, copper alloys, lead alloys, and mineral acids. Contact with charcoal powder gives a strong exothermic reaction. Decomposes explosively with sodium iodide [Chem. Eng. News, 1990, 68(6), 2]. Can be exploded by shock or heat [Sax, 2 ed., 1965, p. 643]. May ignite organic materials.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	4	6	Oxidizer	(NTP, 1992)		135		(NTP, 1992)		0.9		%	(NTP, 1992)		6.5		%	(USCG, 1999)		300		(NTP, 1992)		less than -40
4	AMMONIA SOLUTIONS (CONTAINING MORE THAN 35% BUT NOT MORE THAN 50% AMMONIA)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to air and light. (NTP, 1992). Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																						
5	AMMONIA, ANHYDROUS	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Approved dust respirator; goggles or face shield; protective clothing (USCG, 1999)	Soluble in water.	(BLOB)	Radioactive Material	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									
6	AMMONIA, SOLUTION, WITH MORE THAN 10% BUT NOT MORE THAN 35% AMMONIA	Do not touch spilled material. Sweep or shovel material into a clean, dry container. Carefully collect remainder. (EPA, 1998)	(BLOB)	Insoluble in water.	LINDANE is incompatible with strong bases. It is incompatible with powdered metals such as iron, zinc and aluminum. It is also incompatible with oxidizing agents. It can undergo oxidation when in contact with ozone. When exposed to alkalis, this chemical undergoes dehydrochlorination. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1	ACETYLENE																									(EPA, 1998)		184														Poison Inhalation Hazard|Corrosive	CH2Cl4Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	60.0	5.0	171.0	5.0	10.0
2	ACETYLENE, ETHYLENE AND PROPYLENE IN MIXTURE, REFRIGERATED LIQUID CONTAINING AT LEAST 71.5% ETHYLENE WITH NOT MORE THAN 22.5% ACETYLENE AND NOT MORE THAN 6% PROPYLENE.														(USCG, 1999)		2.89		68							(USCG, 1999)		424.2		(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3						URA	Radioactive	UO2(C2H3O2)2.2H2O		60.0	5.0	171.0	5.0	10.0
3	ALUMINUM NITRATE	(NTP, 1992)	(for 80-85% by weight)	0.6		68		mm Hg	(NTP, 1992)		5				(USCG, 1999)		1.03		77		(NTP, 1992)	Decomposes at 261Â° F					(NTP, 1992)		152.21						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL	CMH	Organic Peroxide	C9H12O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	52.0	5.0	182.0	5.0	10.0
4	AMMONIA SOLUTIONS (CONTAINING MORE THAN 35% BUT NOT MORE THAN 50% AMMONIA)																									(NTP, 1992)		273.37							(NTP, 1992)	Insoluble						C17H23NO2	Dirt/Earth	56.0	5.0	348.0	5.0	10.0
5	AMMONIA, ANHYDROUS														(USCG, 1999)		3.28		68							(USCG, 1999)		420.2		(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3						URS	Radioactive	UO2SO4.3H2O		56.0	5.0	348.0	5.0	10.0
6	AMMONIA, SOLUTION, WITH MORE THAN 10% BUT NOT MORE THAN 35% AMMONIA	(EPA, 1998)		9.40E-06		68		mm Hg							(EPA, 1998)		1.9				(EPA, 1998)	Decomposes	614		760	(EPA, 1998)		290.83		(NIOSH, 2003)		50	mg/m3	(NTP, 1992)	at 75Â° F		less than 1	mg/mL	BHC	Poison	C6H6Cl6		56.0	5.0	348.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
7	AMMONIA, ZINC CHLORIDE, ZINC SULFATE, (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)	AMMONIA, ZINC CHLORIDE, ZINC SULFATE, (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)	7664-41-7	A clear aqueous solution with a pungent odor. Contains the three substances in unspecified proportions. Nonflammable. Environmentally hazardous. Immediate steps should be taken to limit spread to the environment. Easily penetrates soil to contaminate groundwater and nearby waterways.	2.5	5.0	2.5	30.0	0.0	0.0	0.0	0.0	3.0	0.0	0.0	0.0	0.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray can also be used. (NTP, 1992)
8	ARGON	ARGON|ARGON, COMPRESSED|ARGON, ISOTOPE OF MASS 40|ARGON-40|KHLADON R 740|R 740	7440-37-1	A colorless odorless noncombustible gas. Heavier than air and can asphyxiate by displacement of air. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket . If liquefied, contact of the very cold liquid with water may cause violent boiling. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Contacts with water in a closed container may cause dangerous pressure to build.	5.0	1.0	1.0	40.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	0.0	(BLOB)	Special Hazards of Combustion Products: Irritating ammonia gas may be formed in fire. Behavior in Fire: Melts and decomposes, giving off oxygen and ammonia. Increases severity of fire. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
9	ARGON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	ARGON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|ARGON, [REFRIGERATED LIQUID]	7440-37-1	A colorless noncombustible liquid. Heavier than air. Contact may cause frostbite. May cause asphyxiation by displacement of air. Prolonged exposure to fire or intense heat may cause the container to rupture violently and rocket.	2.5	5.0	2.5	50.0	0.0	0.0	0.0	0.0	5.0	0.0	0.0	0.0	0.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
10	ARGON-OXYGEN GAS MIXTURE	ARGON-OXYGEN GAS MIXTURE	7440-37-1	A colorless odorless gas. Both argon and oxygen are noncombustible, but oxygen can accelerate the burning of a fire. May cause asphyxiation by the displacement of air. Prolonged exposure to fire or intense heat may cause the container to rupture violently and rocket.	5.0	1.0	1.0	60.0	0.0	10.0	0.0	0.0	6.0	0.0	1.0	0.0	0.0	(BLOB)	Special Hazards of Combustion Products: Contain toxic and irritating gases including phosgene. Behavior in Fire: Decomposes in the presence of heat of fire to produce toxic and irritating gases. (USCG, 1999)	Fire Extinguishing Agents: Small fires: Dry chemical, carbon dioxide, water spray or foam. Large fires: Water spray, fog or foam. (USCG, 1999)
11	CARBON DIOXIDE	CARBON DIOXIDE|CARBON DIOXIDE, COMPRESSED|CARBON OXIDE (CO2)|CARBON-12 DIOXIDE|CARBONIC ACID ANHYDRIDE|CARBONIC ACID GAS|CARBONIC ANHYDRIDE|DRY ICE|KHLADON 744|R 744	124-38-9	A colorless odorless gas at atmospheric temperatures and pressures. Relatively nontoxic and noncombustible. Heavier than air and may asphyxiate by the displacement of air. Soluble in water. Forms carbonic acid, a mild acid. Under prolonged exposure to heat or fire the container may rupture violently and rocket. Used to freeze food, to control chemical reactions, and as a fire extinguishing agent.	5.0	1.0	1.0	70.0	0.0	10.0	0.0	0.0	7.0	0.0	1.0	0.0	0.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
12	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 87% ETHYLENE OXIDE	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 87% ETHYLENE OXIDE|ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE, WITH MORE THAN 87% ETHYLENE OXIDE	124-38-9	A gas with an ethereal odor. Flammable over a wide vapor to air concentration range. Toxic by inhalation. Vapors heavier than air. Under prolonged exposure to fire or intense heat the containers may violently rupture and rocket. Used as a fumigant.	5.0	1.0	1.0	80.0	0.0	10.0	0.0	0.0	8.0	0.0	1.0	0.0	0.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
7	AMMONIA, ZINC CHLORIDE, ZINC SULFATE, (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)- is incompatible with strong oxidizers, acids and alkalis. (NTP, 1992)	Polymerizable						0		(NTP, 1992)		374																		
8	ARGON	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Rubber gloves and protective goggles (USCG, 1999)	Decomposed by moisture at about 40Â°C to yield a solution of hydrogen peroxide (nonhazardous reaction). Water soluble.	UREA HYDROGEN PEROXIDE is an oxidizing agent. Liable to spontaneous combustion when heated or in contact with organic materials. The contents of a screw-capped brown glass bottle spontaneously erupted after four years storage at ambient temperature. [MCA Case History No. 719]. Combustion may release Irritating ammonia gas.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0													(USCG, 1999)			greater than 680	(NTP, 1992)	(decomposes)		167 to 185
9	ARGON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The powder reacts with water or moisture in air to form lithium hydroxide and flammable hydrogen gas. The heat of the reaction may ignite the hydrogen gas generated.	LITHIUM SILICON is a reducing agent. Reacts with oxidizing agents. Reacts, usually vigorously, with any substance having active hydrogen atoms to liberate gaseous hydrogen. This includes alcohols, acids, and water. Reacts with sulfides,aldehydes, and cyanides. Corrodes rapidly on contact with the air. As a practical matter, most organic compounds, including ethers, are wet enough (carry enough water as an impurity) to cause heating and liberation of gases.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
10	ARGON-OXYGEN GAS MIXTURE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear positive pressure breathing apparatus and special chemical protective clothing. (USCG, 1999)	This compound is sensitive to exposure to moisture and light. Soluble in water. This compound reacts with water to form chloral hydrate.	TRICHLOROACETALDEHYDE reacts with water to form chloral hydrate. It polymerizes under the influence of light and in the presence of sulfuric acid forming a white solid trimer called metachloral. (NTP, 1992)	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		167																(NTP, 1992)		-71.5	
11	CARBON DIOXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	TRICHLOROBENZENE reacts with strong oxidants. [Handling Chemicals Safely 1980 p. 916].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
12	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 87% ETHYLENE OXIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	TRICHLOROBUTENE is a halogenated alkene. may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
7	AMMONIA, ZINC CHLORIDE, ZINC SULFATE, (ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.)	(NTP, 1992)	; .000375 at 140Â° F	7.50E-07		77		mm Hg							(NTP, 1992)		1.227		62.8		(NTP, 1992)		307		760		(NTP, 1992)		284.34						(NTP, 1992)	at 61Â° F		less than 1	mg/mL			C14H20O6	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	56.0	5.0	348.0	5.0	10.0
8	ARGON														(USCG, 1999)		0.8		68								(NTP, 1992)		94.07						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	UPO	Oxidizer|Corrosive	CH4N2O|H2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	63.0	5.0	207.0	5.0	10.0
9	ARGON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																								Dangerous When Wet	Li.Si		63.0	5.0	207.0	5.0	10.0
10	ARGON-OXYGEN GAS MIXTURE	(NTP, 1992)	; 40 mm Hg at 68.ÃŠ F; 760 mm Hg at 207.9Â° F	35		68		mm Hg							(NTP, 1992)		1.51		68		(NTP, 1992)		208		760		(NTP, 1992)		147.39						(NTP, 1992)	Reaction				TCH	Poison	C2HCl3O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	63.0	5.0	207.0	5.0	10.0
11	CARBON DIOXIDE																																							Poison	C6H3Cl3		63.0	5.0	272.0	5.0	10.0
12	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 87% ETHYLENE OXIDE																																							Poison	C4H5Cl3	Dirt/Earth	58.0	5.0	271.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
13	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 9% BUT NOT MORE THAN 87% ETHYLENE OXIDE	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 9% BUT NOT MORE THAN 87% ETHYLENE OXIDE|CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH MORE THAN 6% ETHYLENE OXIDE|CARBON DIOXIDE, MIXT. CONTAINING|CARBON DIOXIDE-ETHYLENE OXIDE MIXT.|CARBON DIOXIDE-ETHYLENE OXIDE MIXTURE, [WITH > 6% ETHYLENE OXIDE]|CARBOXIDE|CARBOXIDE|CARBOXIDE (PESTICIDE)|CARTOX|ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURE, WITH MORE THAN 9% BUT NOT MORE THAN 87% ETHYLENE OXIDE|ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURES, WITH MORE THAN 6 % ETHYLENE OXIDE|ETHYLENE OXIDE-CARBON DIOXIDE	124-38-9	Ethylene oxide-carbon dioxide mixture is a colorless gas with an ether-like odor. Carbon dioxide is noncombustible. Ethylene oxide is flammable. The mixture can asphyxiate by displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used as a fumigant.	5.0	1.0	1.0	90.0	0.0	10.0	0.0	0.0	9.0	0.0	1.0	0.0	0.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases are produced in fire situations. (USCG, 1999)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
14	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH NOT MORE THAN 6% ETHYLENE OXIDE	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH NOT MORE THAN 6% ETHYLENE OXIDE|CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH NOT MORE THAN 9% ETHYLENE OXIDE|CARBON DIOXIDE, MIXT. CONTAINING|CARBON DIOXIDE-ETHYLENE OXIDE MIXT.|CARBON DIOXIDE-ETHYLENE OXIDE MIXTURE, [WITH <= 6% ETHYLENE OXIDE]|CARBOXIDE|CARBOXIDE (PESTICIDE)|CARTOX|ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURES, WITH NOT MORE THAN 6% ETHYLENE OXIDE|ETHYLENE OXIDE AND CARBON DIOXIDE MIXTURES, WITH NOT MORE THAN 9% ETHYLENE OXIDE|ETHYLENE OXIDE-CARBON DIOXIDE	124-38-9	Ethylene oxide-carbon dioxide mixtures is a colorless gas with an ether-like odor. Carbon dioxide is noncombustible. Ethylene oxide is flammable. The mixture can asphyxiate by displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used as a fumigant.	5.0	1.0	1.0	90.0	0.0	20.0	0.0	0.0	9.0	0.0	2.0	0.0	0.0	(BLOB)	Special Hazards of Combustion Products: Produces irritating and toxic products when heated to decomposition temperatures. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
15	CARBON DIOXIDE AND NITROUS OXIDE MIXTURE	CARBON DIOXIDE AND NITROUS OXIDE MIXTURE|CARBON DIOXIDE-NITROGEN OXIDE (N2O) MIXTURE|CARBON DIOXIDE-NITROUS OXIDE MIXT.|CARBON DIOXIDE-NITROUS OXIDE MIXTURE|NITROGEN OXIDE (N2O), MIXT. CONTAINING|NITROUS OXIDE AND CARBON DIOXIDE MIXTURE	124-38-9	A colorless sweet tasting mixture of gases. Both components are noncombustible. Can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	90.0	0.0	20.0	0.0	0.0	9.0	0.0	2.0	0.0	0.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
16	CARBON DIOXIDE AND OXYGEN MIXTURE	CARBOGEN|CARBOGEN 240|CARBON DIOXIDE AND OXYGEN MIXTURE|CARBON DIOXIDE AND OXYGEN MIXTURE, COMPRESSED|CARBON DIOXIDE-OXYGEN MIXT.|CARBON DIOXIDE-OXYGEN MIXTURE|OXYGEN AND CARBON DIOXIDE MIXTURE|OXYGEN AND CARBON DIOXIDE MIXTURE, COMPRESSED|OXYGEN, MIXT. CONTAINING	124-38-9	Carbon dioxide-oxygen mixture is a colorless odorless gas. Both carbon dioxide and oxygen are noncombustible; however, oxygen can accelerate the burning of a fire. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	100.0	0.0	30.0	0.0	10.0	10.0	0.0	3.0	0.0	1.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
17	CARBON MONOXIDE	CARBON MONOOXIDE|CARBON MONOXIDE|CARBON MONOXIDE, COMPRESSED|CARBON OXIDE|CARBON OXIDE (CO)|FLUE GAS|MONOXIDE	630-08-0	Carbon monoxide is a colorless, odorless gas. Prolonged exposure to carbon monoxide rich atmospheres may be fatal. It is easily ignited. It is just lighter than air and a flame can flash back to the source of leak very easily. Under prolonged exposure to fire or intense heat the containers may violently rupture and rocket.	5.0	1.0	1.0	100.0	0.0	30.0	0.0	10.0	10.0	0.0	3.0	0.0	1.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of chlorine containing compounds, phosphorus oxides, and sulfur oxides. (EPA, 1998)	(Non-Specific -- Organophosphate Pesticide, Liquid, n.o.s.) Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphate Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
13	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 9% BUT NOT MORE THAN 87% ETHYLENE OXIDE	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Slightly soluble in water.	It has been determined experimentally that mixtures of finely divided barium metal and a number of halogenated hydrocarbons possess an explosive capability. Specifically, impact sensitivity tests have shown that granular barium in contact with monofluorotrichloromethane, trichlorotrifluoroethane, carbon tetrachloride, trichloroethylene, or tetrachloroethylene can detonate (ASESB Pot. Incid. 39. 1968; Chem. Eng. News 46(9):38. 1968). It has been determined experimentally that a mixture of beryllium powder with carbon tetrachloride or with trichloroethylene will flash or spark on heavy impact (ASESB Pot. Incid. 39. 1968). A mixture of powdered magnesium with trichloroethylene or with carbon tetrachloride will flash or spark under heavy impact (ASESB Pot. Incid, 39. 1968).		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)			greater than 200	(NTP, 1992)		12.5		%	(NTP, 1992)		90		%	(USCG, 1999)		770		(NTP, 1992)		-99	
14	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH NOT MORE THAN 6% ETHYLENE OXIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	(BLOB)	Water soluble. Hydrolyzed slowly.	TRICHLOROFLUOROMETHANE is incompatible with alkali or alkaline earth metals, powdered aluminum, zinc and beryllium. It reacts violently with barium and lithium. (NTP, 1992)		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																(USCG, 1999)	Not flammable			(NTP, 1992)		-168	
15	CARBON DIOXIDE AND NITROUS OXIDE MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures away from all organic compounds. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRICHLOROMELAMINE is unstable and sensitive to heat and friction. This chemical is an oxidizer. It can ignite spontaneously in contact with reactive organic materials. It is incompatible with strong oxidizing agents. It is also incompatible with strong reducing agents. Addition of acetone, ammonia, aniline or diphenylamine to the chemical causes, after a few seconds delay, a rapid reaction accompanied by smoke and flame. (NTP, 1992).	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																(NTP, 1992)		320		(NTP, 1992)			greater than 572
16	CARBON DIOXIDE AND OXYGEN MIXTURE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TRICHLORONAPHTHALENE is non-flammable, but combustible. Gives off irritating or toxic gases in a fire. Incompatible with strong oxidizing agents. Reacts violently with liquid oxygen. Also can react violently with aluminum and with bases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		392														(NIOSH, 2003)		199	
17	CARBON MONOXIDE	Avoid inhalation. (Non-Specific -- Organophosphate Pesticide, Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as TRICHLORONATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
13	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURE, WITH MORE THAN 9% BUT NOT MORE THAN 87% ETHYLENE OXIDE	(NTP, 1992)	; 77 mm Hg at 77Â° F	60		68		mm Hg	(NTP, 1992)		4.53				(USCG, 1999)		1.46		68		(NTP, 1992)		189		760		(NTP, 1992)		131.4		(NIOSH, 2003)	; A potential human carcinogen.	1000	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	TCL	Poison	C2HCl3	Dirt/Earth	58.0	5.0	271.0	5.0	10.0
14	CARBON DIOXIDE AND ETHYLENE OXIDE MIXTURES, WITH NOT MORE THAN 6% ETHYLENE OXIDE	(NTP, 1992)		792		77		mm Hg	(NTP, 1992)		5.04		77		(NTP, 1992)		1.49		63		(NTP, 1992)		74.7		760		(NTP, 1992)		137.38		(NIOSH, 2003)		2000	ppm	(NTP, 1992)	at 64Â° F		10 to 50	mg/mL	TCF	Non-Flammable Gas	CCl3F		58.0	5.0	271.0	5.0	10.0
15	CARBON DIOXIDE AND NITROUS OXIDE MIXTURE																				(NTP, 1992)	Decomposes					(NTP, 1992)		229.46						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Oxidizer|Poison	C3H3Cl3N6	Mineral-Based & Clay-Based Absorbents	58.0	5.0	271.0	5.0	10.0
16	CARBON DIOXIDE AND OXYGEN MIXTURE	(NIOSH, 2003)			less than 1			mm Hg							(NIOSH, 2003)		1.58				(NIOSH, 2003)			579 to 669	760		(NIOSH, 2003)		231.5						(NIOSH, 2003)	Insoluble					Poison	C10H5Cl3		58.0	5.0	271.0	5.0	10.0
17	CARBON MONOXIDE														(EPA, 1998)		1.365		68		(EPA, 1998)		226		0.01		(EPA, 1998)		333.6											Poison	C10H12Cl3O2PS		58.0	5.0	271.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
18	CARBON MONOXIDE AND HYDROGEN MIXTURE	CARBON MONOXIDE AND HYDROGEN MIXTURE|CARBON MONOXIDE AND HYDROGEN MIXTURE, COMPRESSED|CARBON MONOXIDE-HYDROGEN MIXTURE|HYDROGEN AND CARBON MONOXIDE MIXTURE|HYDROGEN AND CARBON MONOXIDE MIXTURE, COMPRESSED	630-08-0	Both carbon monoxide and hydrogen are a colorless, odorless gas. Both are flammable over a wide range of vapor/air mixtures. The vapors will be lighter than air. The mixture is potentially toxic especially if the mixture is high in carbon monoxide. Under prolonged exposure to fire or intense heat the container may violently rupture and rocket.	5.0	1.0	1.0	100.0	0.0	30.0	0.0	10.0	10.0	0.0	3.0	0.0	1.0	INHALATION: remove to fresh air; get medical attention. EYES: flush with water for at least 15 min; get medical attention. SKIN: wash with soap and water; if irritation occurs, get medical attention. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
19	CARBON MONOXIDE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	CARBON MONOXIDE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|CARBON MONOXIDE, [CRYOGENIC]	630-08-0	A colorless cryogenic liquid. Prolonged exposure to carbon monoxide rich atmospheres may be fatal. Contact with the liquid can cause severe frostbite. Less dense than air. Easily ignited and a flame can flash back to the source of a leak very easily. Burns with a violet flame. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used in organic synthesis, metallurgy, and a fuel.	2.5	5.0	2.5	100.0	0.0	30.0	0.0	10.0	10.0	0.0	3.0	0.0	1.0	INHALATION: remove to fresh air; get medical attention. INGESTION: alimentary absorption is very rapid; action during first10-15 min. determines prognosis. Give egg whites, milk, or activated charcoal and induce vomiting; consult physician. EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water, (USCG, 1999)	Special Hazards of Combustion Products: Fumes from fire may contain toxic mercury vapor. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
20	CHLORINE	BERTHOLITE|CHLORINE|CHLORINE MOL.|CHLORINE MOLECULE (CL2)|DIATOMIC CHLORINE|DICHLORINE|MOLECULAR CHLORINE	7782-50-5	A greenish yellow gas with a pungent suffocating odor. Toxic by inhalation. Slightly soluble in water. Liquefies at -35Â°C and room pressure. Readily liquefied by pressure applied at room temperature. Density (as a liquid) 13.0 lb / gal. Contact with unconfined liquid can cause frostbite by evaporative cooling. Does not burn but, like oxygen, supports combustion. Long-term inhalation of low concentrations or short-term inhalation of high concentrations has ill effects. Vapors are much heavier than air and tend to settle in low areas. Contact CHEMTREC to activate chlorine response team 800-424-9300. Used to purify water, bleach wood pulp, and to make other chemicals. Rate of onset: Immediate to hours Persistence: Minutes to hours Odor threshold: 3.5 ppm Source/use/other hazard: Cleaner/disinfectant in many industries; water treatment; WWI war gas; irritating corr fumes heavier than air.	5.0	1.0	1.0	100.0	0.0	40.0	0.0	10.0	10.0	0.0	4.0	0.0	1.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
21	HELIUM	ATOMIC HELIUM|HELIUM|HELIUM, COMPRESSED|HELIUM-4|O-HELIUM|P-HELIUM	7440-59-7	A colorless, odorless, noncombustible gas. Can asphyxiate. Inhalation causes the voice to become squeaky (Mickey Mouse voice). Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket. If liquefied, contact of the very cold liquid with water causes violent boiling. Pressures may build to dangerous levels if the liquid contacts water in a closed container. Used in arc welding, to trace leaks in refrigeration and other closed systems and as a lifting gas for lighter-than-air aircraft.	5.0	1.0	1.0	100.0	0.0	40.0	0.0	10.0	10.0	0.0	4.0	0.0	1.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
22	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|HELIUM, [REFRIGERATED LIQUID]	7440-59-7	Helium is a colorless odorless gas. It is lighter than air. It is nonflammable and is only slightly soluble in water. It is chemically inert. When shipped as a liquid it is very cold and will solidify all other gases. Contact with the liquid will cause severe frostbite. Liquid helium is used in cryogenic research and as a nuclear reactor coolant.	5.0	1.0	1.0	110.0	0.0	40.0	0.0	20.0	11.0	0.0	4.0	0.0	2.0	Call a physician. INHALATION: Move to fresh air. EYES: Flush with large amount of water for 15 minutes. Seek medical attention. SKIN: Wash with soap and water. INGESTION: Dilute with water or milk. Remove by gastric lavage or vomiting. Give milk or starch drink to relieve irritation. Call a physician. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
18	CARBON MONOXIDE AND HYDROGEN MIXTURE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved dust respirator for toxic dusts; goggles; protective clothing to prevent contact with skin. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Phenols, such as TRICHLOROPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable			(USCG, 1999)		135	
19	CARBON MONOXIDE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Insoluble in water.	MERCURY IODIDE is a mild reducing agent. Reacts with sodium azide to form mercury(II) azide, which is shock, friction, and heat sensitive. Incompatible with acetylene, ammonia, chlorine dioxide, azides, chlorine trifluoride, calcium (because of amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		495	
20	CHLORINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Fumes in air. Reacts exothermically with water to generate hydrochloric and valeric acids, which are corrosive.	VALERYL CHLORIDE is acidic. Incompatible with water, with bases, including amines, and with strong oxidizing agents and alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
21	HELIUM	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture, air and light. (NTP, 1992). Water insoluble.	VITAMIN D3 may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												(NTP, 1992)		183 to 185	
22	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves, safety glasses. (USCG, 1999)	Soluble in hot water [Hawley].	Acidic inorganic salts, such as ZIRCONIUM POTASSIUM FLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)	Not flammable			(USCG, 1999)		1724	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
18	CARBON MONOXIDE AND HYDROGEN MIXTURE														(USCG, 1999)		1.7		77		(USCG, 1999)		485		760		(USCG, 1999)		197.5											TPH	Poison	C6H3Cl3O		58.0	5.0	271.0	5.0	10.0
19	CARBON MONOXIDE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)														(USCG, 1999)		6.3		68		(USCG, 1999)		669		760		(USCG, 1999)		454.9		(NIOSH, 2003)	(as Hg)	10	mg/m3						MID	Poison	HgI2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	58.0	5.0	271.0	5.0	10.0
20	CHLORINE																																								Corrosive|Flammable Liquid	C4H9ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	61.0	5.0	329.0	5.0	10.0
21	HELIUM																										(NTP, 1992)		384.62						(NTP, 1992)	Insoluble					Poison	C27H44O	Cellulose-Based Absorbents|Dirt/Earth	53.0	5.0	130.0	5.0	10.0
22	HELIUM, REFRIGERATED LIQUID (CRYOGENIC LIQUID)														(USCG, 1999)		3.48		68								(USCG, 1999)		283.41											ZPF	Poison	ZrK2F6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	53.0	5.0	130.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
23	HELIUM-OXYGEN MIXTURE	HELIOX|HELIUM-OXYGEN MIXT.|HELIUM-OXYGEN MIXTURE|OXYGEN, MIXT. CONTAINING|RARE GASES AND OXYGEN MIXTURE, COMPRESSED	7440-59-7	Rare gas and oxygen mixture is a colorless odorless gas. Both gases are noncombustible; however, oxygen will accelerate the combustion of a fire. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	110.0	0.0	50.0	0.0	20.0	11.0	0.0	5.0	0.0	2.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
24	HYDROCHLORIC ACID, SOLUTION	ANHYDROUS HYDROCHLORIC ACID|CHLOROHYDRIC ACID|DILUTE HYDROCHLORIC ACID|HYDROCHLORIC ACID|HYDROCHLORIC ACID (CONC 37% OR GREATER)|HYDROCHLORIC ACID GAS|HYDROCHLORIC ACID SOLUTION, [INHIBITED]|HYDROCHLORIC ACID, SOLUTION|HYDROGEN CHLORIDE (HCL)|MURIATIC ACID	7647-01-0	Colorless watery liquid with a sharp, irritating odor. Consists of hydrogen chloride, a gas, dissolved in water. Sinks and mixes with water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	110.0	0.0	50.0	0.0	20.0	11.0	0.0	5.0	0.0	2.0	(BLOB)	When heated to decomposition, it emits toxic fumes of sodium oxide. (EPA, 1998)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Extinguish fires with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
25	HYDROGEN	DIHYDROGEN|HYDROGEN|HYDROGEN (H2)|HYDROGEN MOLECULE|HYDROGEN, COMPRESSED|HYDROGEN, GAS|MOL. HYDROGEN|MOLECULAR HYDROGEN|ORTHOHYDROGEN|PARAHYDROGEN|PROTIUM	1333-74-0	Hydrogen is a colorless, odorless gas. It is easily ignited. Once ignited it burns with a pale blue, almost invisible flame. The vapors are lighter than air. It is flammable over a wide range of vapor/air concentrations. Hydrogen is not toxic but is a simple asphyxiate by the displacement of oxygen in the air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Hydrogen is used to make other chemicals and in oxyhydrogen welding and cutting.	5.0	1.0	1.0	120.0	0.0	50.0	0.0	20.0	12.0	0.0	5.0	0.0	2.0	INHALATION: Consult a physician. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Induce vomiting immediately. EYES: Hold the eyelids open and flush with plenty of water for 15 minutes. SKIN: Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes upon decomposition. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
26	HYDROGEN AND METHANE MIXTURE, COMPRESSED	HYDROGEN AND METHANE MIXTURE, COMPRESSED|HYDROGEN-METHANE MIXTURE|METHANE AND HYDROGEN MIXTURE, COMPRESSED	1333-74-0	Hydrogen and methane mixtures are colorless, odorless gases. The mixture is very flammable and lighter than air. The flame may be almost invisible if the hydrogen content is high. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	130.0	0.0	50.0	0.0	20.0	13.0	0.0	5.0	0.0	2.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
27	HYDROGEN CHLORIDE, ANHYDROUS	ANHYDROUS HYDROCHLORIC ACID|ANHYDROUS HYDROGEN CHLORIDE|AQUEOUS HYDROGEN CHLORIDE (I.E., HYDROCHLORIC ACID, MURIATIC ACID)|CHLOROHYDRIC ACID|HYDROCHLORIC ACID|HYDROCHLORIC ACID (AEROSOL FORMS ONLY)|HYDROCHLORIC ACID GAS|HYDROCHLORIC ACID, ANHYDROUS|HYDROCHLORIC ACID, TRIMER|HYDROCHLORIDE|HYDROGEN CHLORIDE|HYDROGEN CHLORIDE (ANHYDROUS)|HYDROGEN CHLORIDE (GAS ONLY)|HYDROGEN CHLORIDE (HYDROCHLORIC ACID)|HYDROGEN CHLORIDE DIMER|HYDROGEN	7647-01-0	A colorless gas with a sharp, pungent odor. Fumes strongly in moist air. Nonflammable. Corrosive to metals and tissues and irritating to the eyes and respiratory system. Heavier than air. Long-term inhalation of low concentrations or short-term inhalation of high concentrations has adverse health effects. Prolonged exposure to fire or intense heat may result in the violent rupture and rocketing of the container. Used in the manufacture of rubber, pharmaceuticals, chemicals, and in gasoline refining and metals processing. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 0.77 ppm Source/use/other hazard: Ore, other metal refining/cleaning; food/pickling; petroleum; corrosive liq.	5.0	1.0	1.0	140.0	0.0	60.0	0.0	20.0	14.0	0.0	6.0	0.0	2.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
23	HELIUM-OXYGEN MIXTURE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIFLUOROMETHANE attacks magnesium and its alloys. [Handling Chemicals Safely 1980. p. 936]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
24	HYDROCHLORIC ACID, SOLUTION	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. For small spills, take up with sand or other noncombustible absorbent material and place into containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover; move containers from spill area. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	A coumarin derivative, a lactone. Lactones are similar to esters reactive chemistries.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
25	HYDROGEN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear approved respirator, chemical resistant gloves or mask, apron, safety goggles and boots. (USCG, 1999)	Highly flammable. Insoluble in water.	TRIISOBUTYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		-104.8	
26	HYDROGEN AND METHANE MIXTURE, COMPRESSED	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable.	Isocyanates and thioisocyanates, such as TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
27	HYDROGEN CHLORIDE, ANHYDROUS	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Borates, such as TRIISOPROPYL BORATE, behave similarly to esters in that they react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters/borates with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	4		(NFPA, 2010)		82																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
23	HELIUM-OXYGEN MIXTURE																																								Non-Flammable Gas	CHF3		53.0	5.0	130.0	5.0	10.0
24	HYDROCHLORIC ACID, SOLUTION																										(EPA, 1998)		330.33													Poison	C19H16O4.Na	Cellulose-Based Absorbents	60.0	5.0	416.0	5.0	10.0
25	HYDROGEN	(USCG, 1999)		3.9				mm Hg							(USCG, 1999)		0.77				(USCG, 1999)		350.6		760		(USCG, 1999)		168.32										TIB	Flammable Liquid	(C4H8)3	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	58.0	5.0	271.0	5.0	10.0
26	HYDROGEN AND METHANE MIXTURE, COMPRESSED																																								Poison|Flammable Liquid	C36H54N6O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	58.0	5.0	271.0	5.0	10.0
27	HYDROGEN CHLORIDE, ANHYDROUS																																								Flammable Liquid	C9H21BO3		60.0	5.0	416.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
28	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	ANHYDROUS HYDROCHLORIC ACID|CHLOROHYDRIC ACID|DILUTE HYDROCHLORIC ACID|HYDROCHLORIC ACID (AEROSOL FORMS ONLY)|HYDROCHLORIC ACID GAS|HYDROGEN CHLORIDE|HYDROGEN CHLORIDE (ANHYDROUS)|HYDROGEN CHLORIDE (GAS ONLY)|HYDROGEN CHLORIDE (HCL)|HYDROGEN CHLORIDE (HYDROCHLORIC ACID)|HYDROGEN CHLORIDE, REFRIGERATED LIQUID|HYDROGEN CHLORIDE, [REFRIGERATED LIQUID]|MURIATIC ACID	7647-01-0	A colorless liquid with a sharp, pungent odor. Vapors are heavier than air. Long-term inhalation of low concentrations of vapors or short-term inhalation of high concentrations has adverse health effects. Exposure of the container to intense heat may cause its violent rupture and rocketing.	2.5	5.0	2.5	150.0	0.0	60.0	0.0	20.0	15.0	0.0	6.0	0.0	2.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
29	HYDROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	HYDROGEN|HYDROGEN (LIQUEFIED)|HYDROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|HYDROGEN, [REFRIGERATED LIQUID]|LIQUID HYDROGEN|PARA-HYDROGEN	1333-74-0	A colorless very cold liquid shipped in special heavily insulated containers. Boils at -442Â°F. Contact causes severe frostbite. Hydrogen gas at normal temperatures is lighter than air but until vapors boiling off from the liquid warm up they are heavier than air. Very easily ignited. Burns with a pale blue, almost invisible flame. A leak could be either a vapor or a liquid leak. The container is designed to vent the vapor as it is boils off. Under prolonged exposure to intense heat the containers may rupture violently and rocket.	2.5	5.0	2.5	150.0	0.0	60.0	0.0	20.0	15.0	0.0	6.0	0.0	2.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
30	NITROGEN	DIATOMIC NITROGEN|DINITROGEN|MOLECULAR NITROGEN|NITROGEN|NITROGEN (LIQUEFIED)|NITROGEN (N2)|NITROGEN GAS|NITROGEN, COMPRESSED|NITROGEN-14	7727-37-9	A colorless odorless gas. Noncombustible and nontoxic. Makes up the major portion of the atmosphere, but will not support life by itself. Used in food processing, in purging air conditioning and refrigeration systems, and in pressurizing aircraft tires. May cause asphyxiation by displacement of air. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	160.0	0.0	60.0	0.0	20.0	16.0	0.0	6.0	0.0	2.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
31	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	LIQUID NITROGEN|NITROGEN|NITROGEN (LIQUEFIED)|NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|NITROGEN, [REFRIGERATED LIQUID]	7727-37-9	Colorless odorless liquid. Very cold. Contact may cause frostbite. Nontoxic. Under prolonged exposure to heat or fire the container may rupture violently and rocket. Used to freeze foods, to preserve whole blood and other biologicals, and as a coolant.	2.5	5.0	2.5	160.0	0.0	60.0	0.0	20.0	16.0	0.0	6.0	0.0	2.0	(BLOB)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
32	NITROSULFURIC ACID AND SULFURIC ACID as sulfuric	NITROSULFURIC ACID AND SULFURIC ACID	7664-93-9	A light-colored liquid. May severely burn skin, eyes and mucous membranes.	2.5	5.0	2.5	160.0	0.0	60.0	0.0	20.0	16.0	0.0	6.0	0.0	2.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
33	OXYGEN	LIQUID OXYGEN|LOX|OXYGEN|OXYGEN, (LIQUID) (LIQUID OXYGEN)|OXYGEN, COMPRESSED|OXYGEN, [COMPRESSED]	7782-44-7	Oxygen is a colorless, odorless and tasteless gas. It will support life. It is noncombustible, but will actively support the burning of combustible materials. Some materials that will not burn in air will burn in oxygen. Materials that burn in air will burn more vigorously in oxygen. As a non-liquid gas it is shipped at pressures of 2000 psig or above. Pure oxygen is nonflammable. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Oxygen is used in the production of synthesis gas from coal, for resuscitation and as an inhalant.	5.0	1.0	1.0	170.0	0.0	60.0	20.0	20.0	17.0	0.0	6.0	2.0	2.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
28	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	The finely powdered nitrile is a significant dust explosion hazard. Slightly soluble in water.	O-CHLOROBENZYLIDENE MALONONITRILE may react with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)		203	
29	HYDROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	WAXES: PARAFFIN, may be incompatible with strong oxidizing agents. Charring may occur followed by ignition of unreacted portion and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1	(USCG, 1999)		390												(USCG, 1999)		473		(USCG, 1999)		149	
30	NITROGEN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slowly reacts with water to form phosphorous acid and trimethylol, an alcohol.	TRIMETHYLOLPROPANE PHOSPHITE is a phosphite ester. May react with strong reducing agents such as hydrides to form highly toxic and flammable phosphine, a gas. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
31	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	PICRIC ACID, WET, WITH NOT LESS THAN 10% WATER undergoes vigorous reactions with both oxidizing or reducing agents. Burns if ignited by a flame and continues to burns quietly if the quantity is small or, if large, is thinly spread over an area. The dry compound can explode if shocked or exposed to heat. Wetting significantly reduces the tendency to explode. Readily forms salts on contact with many metals (including copper, lead, mercury, zinc, nickel, iron) . The salts are sensitive explosives when subjected to heat, friction, or impact. Contact with concrete floors may form the friction-sensitive explosive calcium picrate [Urbanski, 1964, vol. 1, p. 518]. Contact with metallic zinc or lead can cause detonation. Salts with ammonia, amines and complexes with hydrocarbons are less sensitive [Kirk-Othmer, 1965, vol. 8, p. 617].		Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	4	8		(NTP, 1992)		302												(NTP, 1992)		572		(NTP, 1992)		251 to 253	
32	NITROSULFURIC ACID AND SULFURIC ACID as sulfuric	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Highly flammable. Insoluble in water.	PINANE is incompatible with strong oxidizers. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	0	0		(NTP, 1992)		104												(NTP, 1992)		523					
33	OXYGEN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	When dissolved in water, it is a strong acid. [Handling Chemicals Safely 1980. p. 964]	Acidic organic/inorganic salts, such as ZINC CHLORIDE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NIOSH, 2003)		554	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
28	HYDROGEN CHLORIDE, REFRIGERATED LIQUID	(NTP, 1992)		3.40E-05		68		mm Hg	(NTP, 1992)		6.52										(NTP, 1992)			590 to 599	760		(NTP, 1992)		187.6		(NIOSH, 2003)		2	mg/m3	(NTP, 1992)	at 61Â° F		1 to 5	mg/mL		Poison	C10H5Cl N2	Dirt/Earth	60.0	5.0	416.0	5.0	10.0
29	HYDROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)														(USCG, 1999)		0.9		68		(USCG, 1999)	Very high (about 700Â° F)					(NIOSH, 2003)			350 to 420				(NIOSH, 2003)	Insoluble				WPF	Combusti ble Liquid			58.0	5.0	271.0	5.0	10.0
30	NITROGEN																										(EPA, 1998)		162.14												Poison	C6H11O3 P			70.0	5.0	273.0	5.0	10.0
31	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	(NTP, 1992)			less than 1			mm Hg	(NTP, 1992)		7.9				(NTP, 1992)		1.763				(NTP, 1992)	(Sublimes /explodes)		greater than 572	760		(NTP, 1992)		229.12		(NIOSH, 2003)		75	mg/m3	(NTP, 1992)	at 75Â° F		1 to 10	mg/mL		Flammabl e Solid	(NO2)3C6 H2OH	Cellulose-Based Absorbents|Exp anded Polymeric Absorbents	70.0	5.0	273.0	5.0	10.0
32	NITROSULFURIC ACID AND SULFURIC ACID as sulfuric	(NTP, 1992)	approxima tely	2		68		mm Hg	(NTP, 1992)	approxima tely	4.8				(NTP, 1992)		0.8467		70		(NTP, 1992)		304		760		(NTP, 1992)		138.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammabl e Liquid	C10H18		60.0	5.0	384.0	5.0	10.0
33	OXYGEN	(NIOSH, 2003)	(approx)	0				mm Hg													(NIOSH, 2003)		1350		760		(NIOSH, 2003)		136.3		(NIOSH, 2003)	(as zinc chloride fume)	50	mg/m3	(NIOSH, 2003)	at 70Â° F	435		%		Corrosive	ZnCl2		66.0	5.0	261.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
34	OXYGEN AND RARE GASES MIXTURE	OXYGEN AND RARE GASES MIXTURE|OXYGEN AND RARE GASES MIXTURE, COMPRESSED|RARE GAS-OXYGEN MIXTURE|RARE GASES AND OXYGEN MIXTURE	7782-44-7	Colorless odorless mixture of oxygen and the rare gas. Inert rare gas lessens oxidizing ability of oxygen.	5.0	1.0	1.0	170.0	0.0	60.0	20.0	20.0	17.0	0.0	6.0	2.0	2.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
35	OXYGEN DIFLUORIDE	DIFLUORINE MONOOXIDE|DIFLUORINE MONOXIDE|DIFLUORINE OXIDE|FLUORINE MONOXIDE|FLUORINE MONOXIDE (F2O)|FLUORINE OXIDE (F2O)|OXYDIFLUORIDE|OXYGEN DIFLUORIDE|OXYGEN DIFLUORIDE, COMPRESSED|OXYGEN FLUORIDE	7783-41-7	A colorless poisonous gas with a strong peculiar odor. Highly toxic by inhalation. Corrosive to skin and eyes. Can explode on contact with water. Decomposes to toxic gaseous fluorine if heated to high temperature. Prolonged exposure of the containers to high heat may result in their violent rupturing and rocketing. Used as an oxidizer for propellants.	5.0	1.0	1.0	170.0	0.0	60.0	20.0	20.0	17.0	0.0	6.0	2.0	2.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
36	OXYGEN GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	DIOXYGEN|GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.|MOLECULAR OXYGEN|OXYGEN GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.|OXYGEN MOLECULE|OXYGEN, (LIQUID) {LIQUID OXYGEN}|OXYGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|OXYGEN, [REFRIGERATED LIQUID]	7782-44-7	Oxygen is a colorless, odorless and tasteless gas. It will support life. It is noncombustible, but will actively support the burning of combustible materials. Some materials that will not burn in air will burn in oxygen. Materials that burn in air will burn more vigorously in oxygen. As a non-liquid gas it is shipped at pressures of 2000 psig or above. Pure oxygen is nonflammable. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Oxygen is used in the production of synthesis gas from coal, for resuscitation and as an inhalant.	5.0	1.0	1.0	170.0	0.0	60.0	20.0	20.0	17.0	0.0	6.0	2.0	2.0	INGESTION: give large volumes of water and induce vomiting; repeat process; call a doctor. EYES: wash with water for at least 15 min. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
37	OXYGEN-NITROGEN GAS MIXTURE	OXYGEN-NITROGEN GAS MIXTURE	7782-44-7	Oxygen - nitrogen gas mixture is a colorless odorless gas. Both oxygen and nitrogen are noncombustible; however, oxygen can accelerate the burning of a fire. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	170.0	0.0	60.0	20.0	20.0	17.0	0.0	6.0	2.0	2.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
38	POLYETHYLENE AS	(BLOB)	9002-88-4	PHYSICAL DESCRIPTION: White powder (microbeads). Tough and flexible at room temperatures. (NTP, 1992)	1.0	2.5	5.0	170.0	10.0	60.0	20.0	30.0	17.0	1.0	6.0	2.0	3.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
39	PROPYLENE OXIDE	AD 6|AD 6 (SUSPENDING AGENT)|DL-1,2-EPOXYPROPANE|DL-PROPYLENE OXIDE|EPIHYDRIN|1,2-EPOXY PROPANE|EPOXYPROPANE|(.+-.)-EPOXYPROPANE|(.+-.)-1,2-EPOXYPROPANE|1,2-EPOXYPROPANE|2,3-EPOXYPROPANE|ETHYLENE OXIDE, METHYL-|METHYL ETHYLENE OXIDE|METHYL OXIRANE|METHYLOXACYCLOPROPANE|METHYLOXIRANE|(.+-.)-METHYLOXIRANE|(.+-.)-2-METHYLOXIRANE|NCI-C50099|OXIRANE, METHYL-|OXYPROPYLENE|PROPANE, 1,2-EPOXY-|PROPANE, EPOXY|PROPENE OXIDE|PROPENEOXIDE|PROPYLENE EPOXIDE|PROPYLENE OXIDE|(.+-.)-PROPYLENE OXIDE|1,2-PROPYLENE OXIDE|PROPYLENEOXIDE	75-56-9	A clear colorless volatile liquid with an ethereal odor. Flash point -35Â°F. Boiling point 95Â°F. Density 6.9 lb./gal. Flammable over a wide range of vapor-air concentrations. If contaminated, may polymerize with evolution of heat and possible rupture of container. Vapors irritate eyes, skin, and respiratory system. Prolonged contact with skin may result in delayed burns. Vapors heavier than air. Used as a fumigant, in making detergents and lubricants, and to make other chemicals.	2.5	5.0	2.5	180.0	10.0	60.0	20.0	30.0	18.0	1.0	6.0	2.0	3.0	(BLOB)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
34	OXYGEN AND RARE GASES MIXTURE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable/combustible material. Insoluble in water.	Aromatic nitro compounds, such as TRINITROBENZENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
35	OXYGEN DIFLUORIDE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	TRINITROBENZENE is classified as explosive. Severe explosion hazard when exposed to heat or shocked. TRINITROBENZENE is considered a powerful high explosive and has more shattering power than TNT. It is a highly dangerous material. When heated to decomposition it emits highly toxic fumes of NOx and explodes. It is very incompatible with reducing agents and can explode upon immediate contact with such materials. Organic nitrates may explode when shocked, exposed to heat or flame or by spontaneous chemical reaction. It must be stored in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. Also reacts violently with Al; BP; cyanides; esters; PN2H; P; NaCN; SnCl2; sodium hypophosphite; thiocyanates. Dangerous disaster hazard due to fire and explosion hazard. On decomposition, they emit toxic fumes. They are powerful oxidizing agents which may cause violent reaction with reducing materials. Nitrates should be protected carefully in storage. (SAX and Lewis, 1987) p.664	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
36	OXYGEN GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	When dissolved in water, it is a strong acid. [Handling Chemicals Safely 1980. p. 964]	Acidic salts, such as ZINC CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable			(USCG, 1999)		541	
37	OXYGEN-NITROGEN GAS MIXTURE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Aromatic nitro compounds, such as TRINITROBENZENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
38	POLYETHYLENE AS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. Keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). (NTP, 1992)	Subject to peroxidation in air. Insoluble in water.	BIS(2-CHLORO-1-METHYLETHYL)ETHER oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164].	Peroxidizable Compound	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		185														(NTP, 1992)		-143	
39	PROPYLENE OXIDE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Pyrophoric, Ignites spontaneously in the presence of air; during storage, H2 escapes with fire and explosion hazards; reacts violently with acids forming H2. [Handling Chemicals Safely 1980. p. 807].	(BLOB)	Strong Reducing Agent; Known Catalytic Activity; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5																		(NTP, 1992)		2651	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
34	OXYGEN AND RARE GASES MIXTURE																																								Explosive 1.1D	C6H3N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	66.0	5.0	261.0	5.0	10.0
35	OXYGEN DIFLUORIDE																																								Flammable Solid	C6H3N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	66.0	5.0	261.0	5.0	10.0
36	OXYGEN GAS, REFRIGERATED LIQUID, OXIDIZING, N.O.S.														(USCG, 1999)		2.91		77		(USCG, 1999)	Very high					(USCG, 1999)		136.28										ZCL	Corrosive	ZnCl2 (aqueous)		66.0	5.0	261.0	5.0	10.0
37	OXYGEN-NITROGEN GAS MIXTURE																																								Flammable Solid	C6H3N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	66.0	5.0	261.0	5.0	10.0
38	POLYETHYLENE AS	(NTP, 1992)	: 1 mm Hg at 85.3Â° F	0.1		68		mm Hg	(NTP, 1992)		6				(NTP, 1992)		1.1122		68		(NTP, 1992)		369.3		760		(NTP, 1992)		171.07						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Poison	C6H12Cl2O		56.0	5.0	239.0	5.0	10.0
39	PROPYLENE OXIDE	(NTP, 1992)		1		3290		mm Hg							(NTP, 1992)		8.908				(NTP, 1992)		4946		760		(NTP, 1992)		58.71		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	Insoluble					Spontaneously Combustible	Ni|Al alloy		52.0	5.0	211.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
40	SODIUM HYDROXIDE SOLUTION	AETZNATRON|ASCARITE|CAUSTIC SODA|CAUSTIC SODA SOLUTION|CAUSTIC SODA, SOLUTION|COLLO-GRILLREIN|COLLO-TAPETTA|LYE|SODA LYE|SODA, CAUSTIC|SODIUM HYDRATE|SODIUM HYDROXIDE|SODIUM HYDROXIDE (LYE)|SODIUM HYDROXIDE SOLUTION|SODIUM HYDROXIDE, SOLUTION|SODIUM HYDROXIDE, [LIQUID]|WHITE CAUSTIC	1310-73-2	A dark, thick liquid. More dense than water. Contact may severely irritate skin, eyes, and mucous membranes. Toxic by ingestion. Corrosive to metals and tissue. Density 13 lb / gal.	2.5	5.0	2.5	180.0	10.0	70.0	20.0	30.0	18.0	1.0	7.0	2.0	3.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)
41	SODIUM HYDROXIDE, CRESOL, XYLENOL (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	SODIUM HYDROXIDE, CRESOL, XYLENOL (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	1310-73-2	An amber, brown or black liquid with an unpleasant odor. From the neutralization of cresols and xylenols (phenolic materials from petroleum) with sodium hydroxide. Denser than water. Vapors heavier than air. Irritates skin eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	190.0	10.0	70.0	20.0	30.0	19.0	1.0	7.0	2.0	3.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
42	SODIUM HYDROXIDE, SOLID	CAUSTIC SODA|CAUSTIC SODA, BEAD|CAUSTIC SODA, FLAKE|CAUSTIC SODA, GRANULAR|CAUSTIC SODA, SOLID|LYE|SODA LYE|SODIUM HYDRATE|SODIUM HYDROXIDE|SODIUM HYDROXIDE (LYE)|SODIUM HYDROXIDE, BEAD|SODIUM HYDROXIDE, DRY|SODIUM HYDROXIDE, FLAKE|SODIUM HYDROXIDE, GRANULAR|SODIUM HYDROXIDE, SOLID|SODIUM HYDROXIDE, [DRY SOLID, FLAKE, BEAD]	1310-73-2	A white solid. Corrosive to metals and tissue. Used in chemical manufacturing, petroleum refining, cleaning compounds, drain cleaners.	1.0	2.5	5.0	190.0	10.0	70.0	20.0	30.0	19.0	1.0	7.0	2.0	3.0			
43	SODIUM HYDROXIDE-SODIUM BOROHYDRIDE SOLUTION	SODIUM HYDROXIDE SOLUTION|SODIUM HYDROXIDE-SODIUM BOROHYDRIDE SOLUTION	1310-73-2	Odorless colorless liquid. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	200.0	10.0	70.0	20.0	30.0	20.0	1.0	7.0	2.0	3.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
44	SODIUM HYPOCHLORITE	ANTIFORMIN|B-K LIQUID|BLEACH|CARREL-DAKIN SOLUTION|CHLOROS|CLOROX|DAKIN'S SOLUTION|DEOSAN|HYCLORITE|HYPURE|HYPURE N|JAVEL WATER|JAVELLE WATER|JAVEX|KLOROCIN|MILTON|MODIFIED DAKIN'S SOLUTION|NEO-CLEANER|NEOSEPTAL CL|PAROZONE|PURINB|SODIUM HYPOCHLORITE|SODIUM HYPOCHLORITE (NACLO)|SODIUM HYPOCHLORITE (NAOCL)|SODIUM HYPOCHLORITE SOLUTION|SOLUTIONS, DAKIN'S|SUNNYSOL 150|XY 12	7681-52-9	Colorless or slightly yellow watery liquid with an odor of household bleach. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	210.0	10.0	70.0	30.0	30.0	21.0	1.0	7.0	3.0	3.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may be formed in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: ``Alcohol'' foam, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
40	SODIUM HYDROXIDE SOLUTION	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	SEC-BUTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Dissolves rubber and plastics (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		62		(USCG, 1999)		1.7		%	(USCG, 1999)		9.8		%					(USCG, 1999)		-100	
41	SODIUM HYDROXIDE, CRESOL, XYLENOL (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NIOSH, 2003)		75		(NIOSH, 2003)	at 212Â° F	1.7		%	(NIOSH, 2003)	at 212Â° F	9.8		%					(NIOSH, 2003)		-175	
42	SODIUM HYDROXIDE, SOLID			Very soluble in water. Forms a green solution, which becomes brownish-yellow by addition of HCl, and blackish-green with NaOH.	C.I. ACID GREEN 3 neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.					0																								
43	SODIUM HYDROXIDE-SODIUM BOROHYDRIDE SOLUTION	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts exothermically with moisture in air to generate fumes of hydrochloric acid. Decomposes slowly in water. Insoluble in water.	SEC-BUTYL CHLOROFORMATE reacts with water to form sec-butanol, HCl, and CO2. Attacks many metals, especially in humid atmosphere [Handling Chemicals Safely 1980. p. 476]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2742 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
44	SODIUM HYPOCHLORITE	Neutralizing Agents for Acids and Caustics: Flush with water (USCG, 1999)	Chemical safety goggles; rubber gloves and apron; respiratory protective equipment; non-sparking shoes (USCG, 1999)	May be sensitive to air. (NTP, 1992). Water soluble.	SEC-BUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		15		(NTP, 1992)		1.7		%	(NTP, 1992)		10		%	(USCG, 1999)		712		(NTP, 1992)		-155	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
40	SODIUM HYDROXIDE SOLUTION	(USCG, 1999)		51.7				mm Hg							(USCG, 1999)		0.872		68		(USCG, 1999)		234		760		(USCG, 1999)		116.16		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1700	ppm	(NIOSH, 2003)		0.8		%	BTA	Flammable Liquid	C6H12O2		64.0	5.0	477.0	5.0	10.0
41	SODIUM HYDROXIDE, CRESOL, XYLENOL (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	(NIOSH, 2003)		12				mm Hg							(NIOSH, 2003)		0.81				(NIOSH, 2003)		211		760		(NIOSH, 2003)		74.1		(NIOSH, 2003)		2000	ppm	(NIOSH, 2003)		16		%		Flammable Liquid	C4H10O	Cellulose-Based Absorbents	64.0	5.0	477.0	5.0	10.0
42	SODIUM HYDROXIDE, SOLID																																									C37H35N2O6S2.Na	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	64.0	5.0	477.0	5.0	10.0
43	SODIUM HYDROXIDE-SODIUM BOROHYDRIDE SOLUTION																																								Poison|Corrosive|Flammable Liquid	C5H9ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	64.0	5.0	477.0	5.0	10.0
44	SODIUM HYPOCHLORITE	(USCG, 1999)		315.37				mm Hg	(NTP, 1992)		2.52				(USCG, 1999)		0.721		68		(NTP, 1992)		146.3		760		(NTP, 1992)		73.16						(NTP, 1992)	Soluble (>=10 mg/ml)				BTL	Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	56.0	5.0	251.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
45	SULFUR, MOLTEN	BRIMSTONE|SULFUR|SULFUR, DRY|SULFUR, MOLTEN|SULFUR, [MOLTEN]|SULFUR, [SOLID]|SULPHUR|SULPHUR, MOLTEN	7704-34-9	A pale yellow crystalline solid with a faint odor of rotten eggs. Insoluble in water. A fire and explosion risk above 450Â° F. Transported as a yellow to red liquid. Handled at elevated temperature (typically 290Â°F) to prevent solidification and makes transfers easier. Hot enough that plastic or rubber may melt or lose strength. Causes thermal burns to skin on contact. Cools rapidly and solidifies if released. Equipment designed to protect against ordinary chemical exposure is ineffective against the thermal hazard. Exercise caution walking on the surface of a spill to avoid breakthrough into pockets of molten sulfur below the crust. Do not attempt to remove sulfur impregnated clothing because of the danger of tearing flesh if a burn has resulted. May be irritatin to skin, eyes and mucous membranes. Used in sulfuric acid production, petroleum refining, and pulp and paper manufacturing.	1.0	2.5	5.0	220.0	10.0	70.0	30.0	30.0	22.0	1.0	7.0	3.0	3.0	(BLOB)	Flash point data is not available for this chemical, but it is probably combustible. (NTP, 1992)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
46	SULFURIC ACID	BATTERY ACID|BOV|CHAMBER ACID|CONTACT ACID|DIHYDROGEN SULFATE|DIPPING ACID|FERTILIZER ACID|HYDROGEN SULFATE|MATTING ACID|NORDHAUSEN ACID|OIL OF VITRIOL|SPENT SULFURIC ACID|SPIRIT OF SULFUR|SULFURIC ACID|SULFURIC ACID (AEROSOL FORMS ONLY)|SULFURIC ACID (AQUEOUS)|SULFURIC ACID, WITH MORE THAN 51% ACID|SULPHURIC ACID|SULPHURIC ACID, WITH MORE THAN 51% ACID|VITRIOL BROWN OIL	7664-93-9	Sulfuric acid is a colorless oily liquid. It is soluble in water with release of heat. It is corrosive to metals and tissue. It will char wood and most other organic matter on contact, but is unlikely to cause a fire. Density 15 lb / gal. Long term exposure to low concentrations or short term exposure to high concentrations can result in adverse health effects from inhalation. It is used to make fertilizers and other chemicals, in petroleum refining, in iron and steel production, and for many other uses. Rate of onset: Immediate Persistence: Hours, days Odor threshold: Source/use/other hazard: Battery/dyes/paper/glue/metals industries; volcanic gas; toxic fumes when heated.	2.5	5.0	2.5	230.0	10.0	70.0	30.0	30.0	23.0	1.0	7.0	3.0	3.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
47	SULFURIC ACID, SPENT	DILUTE SULFURIC ACID|SULFURIC ACID|SULFURIC ACID (AEROSOL FORMS ONLY)|SULFURIC ACID, SPENT|SULFURIC ACID, [SPENT]|SULPHURIC ACID, SPENT	7664-93-9	A black oily liquid. Corrosive to metals and tissue. Density 15 lb /gal.	2.5	5.0	2.5	230.0	10.0	70.0	40.0	40.0	23.0	1.0	7.0	4.0	4.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
48	UREA	AQUADRATE|B-I-K|BENURAL 70|CARBAMIDE|CARBAMIMIDIC ACID|CARBONYL DIAMIDE|CARBONYLDIAMIDE|CARBONYLDIAMINE|ISOUREA|KERATINAMIN KOWA|NCI-C02119|NIMIN|PASTARON|PASTARON 10|PASTARON 20|PASTARON 20 SOFT|PSEUDOUREA|UR|UREA|UREA PERHYDRATE|UREAPHIL|UREOPHIL|UREPEAL|UREPEAL|UREPEAL|UREPEARL|UREVERT|VARIOFORM II	57-13-6	Solid odorless white crystals or pellets. Density 1.335 g /cc. Noncombustible.	1.0	2.5	5.0	230.0	20.0	70.0	40.0	40.0	23.0	2.0	7.0	4.0	4.0	(BLOB)	Emits very toxic fumes of flourides and nitrogen oxides when heated to decomposition. Avoid decomposing heat. (EPA, 1998)	(Non-Specific -- Drugs or Medicines, n.o.s. (Solid) Poison B) Avoid breathing dusts, and fumes from burning material. Keep upwind. Avoid bodily contact with the material. Wear boots, protective gloves, and goggles. Wear self-contained breathing apparatus. (Non-Specific -- Drugs or Medicines, n.o.s. (Solid) Poison B) Extinguish fire using agent suitable for type of surrounding fire (material itself burns with difficulty). Use water in flooding quantities as fog. Use "alcohol" foam, carbon dioxide or dry chemical. (EPA, 1998)
49	UREA, AMMONIUM NITRATE SOLUTION, (W/AQUA AMMONIA)	LIQUAMON 28|URAN, RUSTICA|UREA, AMMONIUM NITRATE SOLN (W/AQUA AMMONIA)|UREA, AMMONIUM NITRATE SOLUTION, (W/AQUA AMMONIA)	57-13-6	Clear liquid consisting of urea and ammonium nitrate dissolved in aqueous ammonia. Odor of ammonia.	2.5	5.0	2.5	240.0	20.0	70.0	40.0	40.0	24.0	2.0	7.0	4.0	4.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
45	SULFUR, MOLTEN	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water.	TRIAZIQUONE is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		324 to 325
46	SULFURIC ACID	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
47	SULFURIC ACID, SPENT	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Reacts slowly with atmospheric oxygen. (NTP, 1992). Insoluble in water.	SENECIPHYLLINE is readily hydrolyzed with alkali; it reacts readily with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
48	UREA	(Non-Specific -- Drugs) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. If water pollution occurs, notify appropriate authorities. Spill or leak: shut off ignition sources; no flares, smoking or flames in hazard area. Keep combustibles (wood, paper, oil etc.) away from spilled material. Do not touch spilled material. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	FLUOROURACIL may be sensitive to prolonged exposure to light. Solutions discolor on storage. This chemical can react with oxidizing agents and strong bases. Incompatible with methotrexate sodium. (NTP, 1992)						0																							(EPA, 1998)	Decomposes at 540-541Â° F		
49	UREA, AMMONIUM NITRATE SOLUTION, (W/AQUA AMMONIA)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water and slowly decomposed by water.	STRONTIUM PEROXIDE may explode from friction, heat or contamination. Accelerates burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). If the combustible material is finely divided the mixture may be explosive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
45	SULFUR, MOLTEN																										(NTP, 1992)		231.2						(NTP, 1992)	Sparingly soluble					Poison	C12H13N3O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	51.0	5.0	227.0	5.0	10.0
46	SULFURIC ACID																																								Poison	H2O5Se2.Zn		60.0	5.0	384.0	5.0	10.0
47	SULFURIC ACID, SPENT																										(NTP, 1992)		333.4						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C18H23NO5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	60.0	5.0	384.0	5.0	10.0
48	UREA																										(EPA, 1998)		130.08						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C4H3FN2O2	Dirt/Earth	51.0	5.0	260.0	5.0	10.0
49	UREA, AMMONIUM NITRATE SOLUTION, (W/AQUA AMMONIA)																																							Oxidizer	SrO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	51.0	5.0	560.0	5.0	10.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
50	ACETIC ACID, GLACIAL	ACETIC ACID|ACETIC ACID (AQUEOUS)|ACETIC ACID, GLACIAL|ACETIC ACID, [GLACIAL]|ACI-JEL|ETHANOIC ACID|ETHANOIC ACID MONOMER|ETHYLIC ACID|GLACIAL ACETIC ACID|GLACIAL ACETIC ACID (PURE COMPOUND)|METHANECARBOXYLIC ACID|VINEGAR ACID	64-19-7	A clear colorless liquid with a strong odor of vinegar. Flash point 104Â°F. Density 8.8 lb / gal. Corrosive to metals and tissue. Used to make other chemicals, as a food additive, and in petroleum production.	2.5	5.0	2.5	249.0	20.0	70.0	40.0	40.0	25.0	2.0	7.0	4.0	4.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
51	ACETIC ACID, SOLUTION, MORE THAN 10% BUT NOT MORE THAN 80% ACID	ACETIC ACID|ACETIC ACID, SOLUTION, MORE THAN 10% BUT NOT MORE THAN 80% ACID|ACETIC ACID, [AQUEOUS SOLUTION]	64-19-7	A colorless aqueous solution. Smells like vinegar. Corrosive to metals and tissue.	2.5	5.0	2.5	249.0	20.0	70.0	40.0	40.0	25.0	2.0	7.0	4.0	4.0	(BLOB)	Flash point data are not available for this compound. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
52	ACETIC ACID, SOLUTION, MORE THAN 80% ACID	ACETIC ACID, SOLUTION, MORE THAN 80% ACID	64-19-7	Clear colorless aqueous solution with a pungent odor.	2.5	5.0	2.5	258.0	20.0	70.0	40.0	49.0	26.0	2.0	7.0	4.0	5.0	(BLOB)	Special Hazards of Combustion Products: May emit toxic hydrogen chloride and phosgene gases in fire. Behavior in Fire: Decomposes to form hydrogen chloride and phosgene gases in fire. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, carbon dioxide, water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
53	ALCOHOL, [COMBUSTIBLE LABEL]	ALCARE HAND DEGERMER|ALCOHOL|ALCOHOL, [COMBUSTIBLE LABEL]|ALGRAIN|ANHYDROL|ANHYDROL PM 4085|100C.NPA|DESINFEKTOL EL|DUPLICATING FLUID 100C.NPA|ESUMIRU WK 88|ETHICAP|ETHYL ALCOHOL|ETHYL HYDRATE|ETHYL HYDROXIDE|HINETOLESS|IMS 99|JAYSOL|JAYSOLS|METHYLCARBINOL|MOLASSES ALCOHOL|POTATO ALCOHOL|SDA 3A|SDA 40-2|SY FRESH M|SYNASOL|TECSOL|TECSOL C	64-17-5	A clear colorless liquid with a fragrant odor and burning taste.	2.5	5.0	2.5	267.0	20.0	70.0	40.0	49.0	27.0	2.0	7.0	4.0	5.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
54	ALUMINUM SULFATE, SOLID	ALUM|ALUMINUM ALUM|ALUMINUM SESQUISULFATE|ALUMINUM SULFATE|ALUMINUM SULFATE (2:3)|ALUMINUM SULFATE (AL2(SO4)3)|ALUMINUM SULFATE, SOLID|ALUMINUM SULFATE, [SOLID]|ALUMINUM SULPHATE|ALUMINUM SULPHATE, SOLID|ALUMINUM TRISULFATE|ALUMINUM(III) SULFATE|CAKE ALUM|CAKE ALUMINUM|DIALUMINUM SULFATE|DIALUMINUM TRISULFATE|FERTOSAN|FILTER ALUM|MNALCO 7530|PAPER MAKERS' ALUM|PATENT ALUMINUM|PEARL ALUM|PICKLE ALUM|SULFATOD|ALUMINUM DISULFATE (AL2(SO4)3)|SULFURIC ACID ALUMINUM SALT (AL2(SO4)3)|SULFURIC ACID	10043-01-3	Anhydrous aluminum sulfate is a white crystalline solid. Aluminum sulfate is also obtained as an 18-hydrate Al2(SO4)3.18H2O. Both forms are soluble in water, noncombustible, and nontoxic. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in paper making, in firefighting foams, and in sewage treatment and water purification.	1.0	2.5	5.0	276.0	20.0	70.0	40.0	49.0	28.0	2.0	7.0	4.0	5.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention if injury was caused by solid. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors of acetic acid may form in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
50	ACETIC ACID, GLACIAL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	(BLOB)	Insoluble in water.	A halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	662	
51	ACETIC ACID, SOLUTION, MORE THAN 10% BUT NOT MORE THAN 80% ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust may form an explosive mixture in air. Slightly soluble in water.	The triazoles are a group of highly explosive materials that are sensitive to heat, friction, and impact. Sensitivity varies with the type substitution to the triazole ring. Metal chelated and halogen substitution of the triazol ring make for a particularly heat sensitive material. Azido and nitro derivatives have been employed as high explosives. No matter the derivative these materials should be treated as explosives.	Explosive						0																								(NTP, 1992)		208 to 212	
52	ACETIC ACID, SOLUTION, MORE THAN 80% ACID	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator, away from oxidizers. (NTP, 1992)	Wear self-contained positive pressure breathing apparatus and protective clothing. (USCG, 1999)	Insoluble in water.	1,2,3-TRICHLOROBENZENE can react with oxidizing agents. (NTP, 1992). May emit toxic hydrogen chloride and phosgene gases in fire.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		234.9																		(NTP, 1992)		126.7	
53	ALCOHOL, [COMBUSTIBLE LABEL]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	LAURYL CHLORIDE may be incompatible with strong oxidizing and reducing agents. May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		235																		(NTP, 1992)		15.3	
54	ALUMINUM SULFATE, SOLID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Water soluble.	Salts, basic, such as CUPRIC ACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		239	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
50	ACETIC ACID, GLACIAL	(NTP, 1992)			less than 0.0000003	77		mm Hg	(NTP, 1992)		16.94										(USCG, 1999)	Sublimes with decomposition at 662.0Â° F					(NTP, 1992)		490.68		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 73Â° F		less than 1	mg/mL	KPE	Poison	C10Cl10O		40.0	4.0	186.0	5.0	9.0
51	ACETIC ACID, SOLUTION, MORE THAN 10% BUT NOT MORE THAN 80% ACID																				(NTP, 1992)		399		15		(NTP, 1992)		119.13						(NTP, 1992)	at 74.7Â° F		1 to 5	mg/mL			C6H5N3		40.0	4.0	186.0	5.0	9.0
52	ACETIC ACID, SOLUTION, MORE THAN 80% ACID	(NTP, 1992)		1		104		mm Hg	(NTP, 1992)		6.2				(USCG, 1999)		1.69		77		(NTP, 1992)			424 to 426	760		(NTP, 1992)		181.45						(NTP, 1992)	Insoluble				TBZ	Poison	C6H3Cl3		40.0	4.0	186.0	5.0	9.0
53	ALCOHOL, [COMBUSTIBLE LABEL]	(NTP, 1992)	; 137 mm Hg at 59.2Â° F; 143.9 mm Hg at 68.2Â° F	116		41.9		mm Hg							(NTP, 1992)		0.8687		68		(NTP, 1992)		500		760		(NTP, 1992)		204.79						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C12H25Cl		42.0	4.0	238.0	5.0	9.0
54	ALUMINUM SULFATE, SOLID														(USCG, 1999)		1.9		68								(USCG, 1999)		199.65											COP	Class 9	Cu(C2H3O2)2.H2O		40.0	4.0	179.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
55	ALUMINUM SULFATE, SOLUTION	ALUM|ALUMINUM ALUM|ALUMINUM SESQUISULFATE|ALUMINUM SULFATE|ALUMINUM SULFATE (2:3)|ALUMINUM SULFATE (AL2(SO4)3)|ALUMINUM SULFATE SOLUTION|ALUMINUM SULFATE, SOLUTION|ALUMINUM SULPHATE|ALUMINUM SULPHATE, SOLUTION|ALUMINUN TRISULFATE|ALUMINUM(III) SULFATE|CAKE ALUM|DIALUMINUM SULFATE|DIALUMINUM TRISULFATE|FERTOSAN|NALCO 7530|SULFATODIALUMINUM DISULFATE (AL2(SO4)3)|SULFURIC ACID ALUMINUM SALT (AL2(SO4)3)|SULFURIC ACID ALUMINUM(3+) SALT (3:2)|TAI-ACE S 150	10043-01-3	A clear colorless aqueous solution. Noncombustible. Nontoxic. Density 10.9 lb / gal. Used in paper making, in firefighting foams, as a fireproofing agent, in sewage treatment and water purification.	2.5	5.0	2.5	276.0	20.0	79.0	40.0	49.0	28.0	2.0	8.0	4.0	5.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
56	AMMONIUM HYDROXIDE	AMMONIA WATER|AMMONIA, AQUA|AMMONIA, MONOHYDRATE|AMMONIUM HYDROXIDE|AQUA AMMONIA	1336-21-6	A colorless aqueous solution. Concentration of ammonia ranges up to approximately 30%. Ammonia vapors (which arise from the solution) irritate the eyes.	2.5	5.0	2.5	285.0	20.0	88.0	40.0	49.0	29.0	2.0	9.0	4.0	5.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
57	AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR> AMMONIUM NITRATE GEL, INTERMEDIATE FOR BLASTING EXPLOSIVES	AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR>|AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR> AMMONIUM NITRATE|AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR> AMMONIUM NITRATE GEL, INTERMEDIATE FOR BLASTING EXPLOSIVES	6484-52-2	Ammonium Nitrate Emulsion, Suspension, or Gel is ammonium nitrate suspended in a liquid. The material itself does not readily burn but will readily do so if contaminated by combustible material. It will accelerate the burning of combustible material. Toxic oxides of nitrogen are produced during combustion during combustion of this material. It is used as a fertilizer, as a freezing mixture, in safety explosives, matches, and pyrotechnics. PHYSICAL PROPERTIES: White to gray to brown, odorless beads, pellets, or flakes. MELTING POINT: 336Â°F (169Â°C) decomposes at 410 F (210Â°C) SPECIFIC GRAVITY: 1.72 SOLUBILITY IN WATER: soluble	2.5	5.0	2.5	294.0	20.0	97.0	40.0	49.0	30.0	2.0	10.0	4.0	5.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
58	AMMONIUM NITRATE FERTILIZER	AMMONIUM NITRATE FERTILIZER	6484-52-2	A brownish-black granular solid. Will accelerate the burning of combustible materials. Can be caused to explode under prolonged exposure to heat, for example. The primary hazard is from blast and not from flying projectiles and fragments.	1.0	2.5	5.0	303.0	20.0	106.0	40.0	49.0	31.0	2.0	11.0	4.0	5.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
59	AMMONIUM NITRATE FERTILIZER, N.O.S.	AMMONIUM NITRATE FERTILIZER, N.O.S.|AMMONIUM NITRATE FERTILIZERS|AMMONIUM NITRATE FERTILIZERS, [TYPE B]	6484-52-2	A grayish white solid in the form of prills. Soluble in water. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	303.0	20.0	106.0	40.0	49.0	31.0	2.0	11.0	4.0	5.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
55	ALUMINUM SULFATE, SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	1,2,4-TRIMETHYLBENZENE is incompatible with the following: Oxidizers, nitric acid (NIOSH, 1997).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		111		(USCG, 1999)		0.9		%	(USCG, 1999)		6.4		%	(USCG, 1999)		932		(USCG, 1999)		-47.2	
56	AMMONIUM HYDROXIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water. Sensitive to heat and may be sensitive to air (NTP, 1992).	1,2-DI-(DIMETHYLAMINO)ETHANE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		50																(NTP, 1992)		-67.2	
57	AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR> AMMONIUM NITRATE GEL, INTERMEDIATE FOR BLASTING EXPLOSIVES	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed slowly by acids and bases.	A urea derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
58	AMMONIUM NITRATE FERTILIZER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	3,3-DICHLORO-1,1,1,2,2-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature. Strong bases may release toxic gases.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
59	AMMONIUM NITRATE FERTILIZER, N.O.S.	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	3,3'-DICHLORO-4,4'-DIAMINODIPHENYL ETHER is an amine/ether. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)		262 to 264	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
55	ALUMINUM SULFATE, SOLUTION	(USCG, 1999)		4.9				mm Hg							(USCG, 1999)		0.889				(USCG, 1999)		334.4		760		(USCG, 1999)		120.2						(NIOSH, 2003)		0.006		%	TME	Flammable Liquid	C9H12		40.0	4.0	179.0	5.0	9.0
56	AMMONIUM HYDROXIDE														(NTP, 1992)		0.7765		68		(NTP, 1992)			250 to 252	760		(NTP, 1992)		116.24						(NTP, 1992)	Soluble					Flammable Liquid	C6H16N2	Mineral-Based & Clay-Based Absorbents	40.0	4.0	133.0	5.0	9.0
57	AMMONIUM NITRATE EMULSION <OR> AMMONIUM NITRATE SUSPENSION <OR> AMMONIUM NITRATE GEL, INTERMEDIATE FOR BLASTING EXPLOSIVES																																								Class 9	C9H10Cl2N2O2		43.0	4.0	147.0	5.0	9.0
58	AMMONIUM NITRATE FERTILIZER																																								Class 9	C3HCl2F5		43.0	4.0	147.0	5.0	9.0
59	AMMONIUM NITRATE FERTILIZER, N.O.S.																											(NTP, 1992)		269.14													C12H10ClI2N2O		43.0	4.0	147.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
60	AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL	AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL|AMMONIUM NITRATE FERTILIZER, [WITH <= 45% AMMONIUM NITRATE]|AMMONIUM NITRATE FERTILIZERS	6484-52-2	A grayish white solid in the form of prills. Does not readily burn but will readily do so if contaminated by combustible material. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	312.0	20.0	115.0	40.0	58.0	32.0	2.0	12.0	4.0	6.0	(BLOB)	Combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
61	AMMONIUM NITRATE FERTILIZERS	AMMONIUM NITRATE FERTILIZER, [CONTAINING <= 0.2% CARBON]|AMMONIUM NITRATE FERTILIZERS|AMMONIUM NITRATE, WITH NOT MORE THAN 0.2% COMBUSTIBLE SUBSTANCES	6484-52-2	A grayish white solid in the form of prills. Soluble in water. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	321.0	20.0	115.0	40.0	58.0	33.0	2.0	12.0	4.0	6.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
62	AMMONIUM NITRATE, [NO ORGANIC COATING]	AMMONIUM NITRATE|AMMONIUM NITRATE, [NO ORGANIC COATING]|EMULITE|GERMAN SALTPETER|NITRIC ACID, AMMONIUM SALT|NORGE SALTPETER|NORWAY SALTPETER|NORWEGIAN SALTPETER|PLENCO 12203|VARIOFORM I	6484-52-2	A colorless crystalline solid. Soluble in water. Does not readily burn but will do so if contaminated with combustible material. Accelerates the burning of combustible material. Produces toxic oxides of nitrogen during combustion. Used to make fertilizers and explosives, and as a nutrient in producing antibiotics and yeast.	1.0	2.5	5.0	321.0	20.0	115.0	40.0	58.0	33.0	2.0	12.0	4.0	6.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Unstable. Rapidly decomposes under alkaline conditions and upon exposure to light. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
63	AMMONIUM NITRATE, LIQUID (HOT CONCENTRATED SOLUTION)	AMMONIUM NITRATE, LIQUID (HOT CONCENTRATED SOLUTION)|AMMONIUM NITRATE, SOLUTION, [WITH >= 15% WATER]|EMULITE|GERMAN SALTPETER|NITRIC ACID, AMMONIUM SALT|NORGE SALTPETER|NORWAY SALTPETER|NORWEGIAN SALTPETER|PLENCO 12203|VARIOFORM I	6484-52-2	Ammonium nitrate liquid is the white crystals dissolved in water. Though the material itself is noncombustible it will accelerate the burning of combustible materials. Toxic oxides of nitrogen are produced in fires involving this material. It is used to make fertilizers and explosives.	2.5	5.0	2.5	321.0	20.0	115.0	40.0	58.0	33.0	2.0	12.0	4.0	6.0	(BLOB)	When heated to decomposition, emits highly toxic fumes of phosphorus oxides and sulfur oxides. Avoid strong oxidizers. Technical products corrosive to iron. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. Fight fire from maximum distance. (EPA, 1998)
64	AMMONIUM NITRATE, WITH ORGANIC COATING	AMMONIUM NITRATE|AMMONIUM NITRATE, WITH ORGANIC COATING|AMMONIUM NITRATE, [ORGANIC COATING]|EMULITE|GERMAN SALTPETER|NITRAM|NITRIC ACID, AMMONIUM SALT|NORGE SALTPETER|NORWAY SALTPETER|NORWEGIAN SALTPETER|PLENCO 12203|VARIOFORM I	6484-52-2	Odorless white to light gray or brown solid pellets or flakes. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	330.0	20.0	124.0	40.0	58.0	34.0	2.0	13.0	4.0	6.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
65	AMMONIUM NITRATE-FUEL OIL MIXTURES	AMMONIUM NITRATE-FUEL OIL MIXTURES|AMMONIUM NITRATE-FUEL OIL MIXTURES ANFO	6484-52-2	Ammonium nitrate-fuel oil mixture is a brownish-black granular solid. It is used for blasting rock and in some types of mining. It will accelerate the burning of combustible materials. The ammonium nitrate is soluble in water. If large quantities of this material are involved in a fire, it may explode.	1.0	2.5	5.0	330.0	20.0	124.0	40.0	58.0	34.0	2.0	13.0	4.0	6.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
60	AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	(BLOB)	Insoluble in water.	A halide- and amine-substituted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)			270 to 271
61	AMMONIUM NITRATE FERTILIZERS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	3,3'-DICHLOROBENZIDINE DIHYDROCHLORIDE reacts as a weak acid. May react vigorously with strong oxidizing agents. May generate flammable gases with strong reducing agents.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
62	AMMONIUM NITRATE, [NO ORGANIC COATING]	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water spray to reduce vapors. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as CYANOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorous oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)			57 to 59
63	AMMONIUM NITRATE, LIQUID (HOT CONCENTRATED SOLUTION)	(Non-Specific -- Organophosphate Pesticide) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Insoluble in water.	TETRAETHYL DITHIOPYROPHOSPHATE is incompatible with the following: Strong oxidizing agents, iron (corrosive to iron (NIOSH, 1997). Susceptible to formation of highly toxic and flammable gases in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic gases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	Not combustible																									
64	AMMONIUM NITRATE, WITH ORGANIC COATING	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water. Likely to slowly form peroxidized product when exposed to air. The formed peroxide is likely to be unstable.	Ethers, such as DIETHOXYPROPENE, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
65	AMMONIUM NITRATE-FUEL OIL MIXTURES	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to air and light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Keep well closed. Protect from air and light. (NTP, 1992)	3,3'-DIHYDROXYBENZIDINE is an aromatic amino. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		320	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
60	AMMONIUM NITRATE FERTILIZER, WITH NOT MORE THAN 0.4% COMBUSTIBLE MATERIAL																				(NIOSH, 2003)		788		760		(NTP, 1992)		253.13						(NIOSH, 2003)	at 59Â° F	0.07		%		Poison	C12H10Cl2N2		43.0	4.0	147.0	5.0	9.0
61	AMMONIUM NITRATE FERTILIZERS																				(NTP, 1992)						(NTP, 1992)		326.06						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Class 9	C12H10Cl2N2.2ClH		43.0	4.0	147.0	5.0	9.0
62	AMMONIUM NITRATE, [NO ORGANIC COATING]	(EPA, 1998)		0.0008		68		mm Hg							(EPA, 1998)	H2O = 1		1.255 to 1.265		77	(EPA, 1998)	Decomposes		246 to 248		0.09	(EPA, 1998)		243.23												Poison	C9H10NO3PS		43.0	4.0	147.0	5.0	9.0
63	AMMONIUM NITRATE, LIQUID (HOT CONCENTRATED SOLUTION)	(EPA, 1998)		0.00017		68		mm Hg							(EPA, 1998)		1.196			77	(EPA, 1998)			277 to 282		2	(EPA, 1998)		322.32		(NIOSH, 2003)	(as TEDP)	10	mg/m3	(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL	TED	Poison	C8H20O5P2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	43.0	4.0	147.0	5.0	9.0
64	AMMONIUM NITRATE, WITH ORGANIC COATING																																							Flammable Liquid	C7H14O2	Dirt/Earth	43.0	4.0	147.0	5.0	9.0
65	AMMONIUM NITRATE-FUEL OIL MIXTURES																											(NTP, 1992)		216.26													C12H12N2O2		43.0	4.0	147.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
66	AMMONIUM NITRATE-UREA SOLUTION	AMMONIUM NITRATE-UREA SOLUTION|NITREX NITROGEN SOLUTIONS (NON-PRESSURE)|SOLAR NITROGEN SOLUTIONS	6484-52-2	Colorless aqueous solution with a slight ammonia odor. (USCG, 1999)	2.5	5.0	2.5	339.0	20.0	124.0	40.0	58.0	35.0	2.0	13.0	4.0	6.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
67	ASPHALT	AC 10|AC 10 (ASPHALT)|AC 20|AC 20 (ASPHALT)|AC 3|AC 3 (ASPHALT)|AC 8|AC 8 (ASPHALT)|AQUA BROWN B-A|AQUA BROWN B-K|AR 1000|ASPHALT|ASPHALT (TYPICAL)|ASPHALT BLENDING STOCKS: ROOFERS FLUX|ASPHALT BLENDING STOCKS: STRAIGHT RUN RESIDUE|ASPHALT CEMENTS|ASPHALT FUMES|ASPHALT: ASPHALTUM|ASPHALTIC BITUMEN|ASPHALTUM|ASPHALTUM OIL|ASRO 150|ASRO 85|ASZOL A|ASZOL H|AZ-IP 90|BITUMEN|BITUMEN (EUROPEAN TERM)|BITUMENS, ASPHALT|BITUMINOUS MATERIALS, ASPHALT|BITUSIZE B|CARPETING MEDIUM|CPE 3|DACHOLEUM|DUST-LAYING OIL|ELINTKOTE|ELINTKOTE	8052-42-4	A dark-brown to black solid or semisolid complex mixture of aliphatic and aromatic hydrocarbons and organic compounds. Contains sulfur, nitrogen and oxygen. Obtained as a residue in petroleum refining. Combustible.	1.0	2.5	5.0	339.0	20.0	124.0	40.0	58.0	35.0	2.0	13.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
68	ASPHALT FUME EXTRACTS	ASPHALT|ASPHALT FUME EXTRACTS|ASPHALT FUMES	8052-42-4	PHYSICAL DESCRIPTION: Dark liquid. A mixture of heavy hydrocarbon residues including saturated and unsaturated hydrocarbons and aromatic hydrocarbons (Reactive Groups 16, 28, and 29). Depending on the blend includes various heterocyclic hydrocarbons containing sulfur and nitrogen.	2.5	5.0	2.5	339.0	20.0	124.0	40.0	58.0	35.0	2.0	13.0	4.0	6.0	(BLOB)	Flash point data for this material is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a CO2, foam, and/or Halon extinguisher. (NTP, 1992)
69	BENZENE	(6)ANNULENE|[6]ANNULENE|BENZENE|BENZIN|BENZINE|BENZOL|BENZOLE|BENZOLENE|BICARBURET OF HYDROGEN|CARBON OIL|COAL NAPHTHA|CYCLOHEXATRIENE|1,3,5-CYCLOHEXATRIENE|MINERAL NAPHTHA|MOTOR BENZOL|NCI-C55276|NITRATION BENZENE|PHENE|PHENYL HYDRIDE|PYROBENZOL|PYROBENZOLE	71-43-2	A clear colorless liquid with a petroleum-like odor. Flash point less than 0Â°F. Less dense than water and slightly soluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	339.0	20.0	124.0	40.0	58.0	35.0	2.0	13.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
70	CALCIUM CARBONATE	(BLOB)	471-34-1	White, odorless powder or colorless crystals. Practically insoluble in water. Occurs extensive in rocks world-wide. Ground calcium carbonate (CAS: 1317-65-3) results directly from the mining of limestone. The extraction process keeps the carbonate very close to its original state of purity and delivers a finely ground product either in dry or slurry form. Precipitated calcium carbonate (CAS: 471-34-1) is produced industrially by the decomposition of limestone to calcium oxide followed by subsequent recarbonization or as a by-product of the Solvay process (which is used to make sodium carbonate). Precipitated calcium carbonate is purer than ground calcium carbonate and has different (and tailorable) handling properties.	1.0	2.5	5.0	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	proc_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_sour ce	nfpa_noe	nfpa_heali h	nfpa_flam	nfpa_react	nfpa_spec ial	fp_source	fp_note	fp_value	fp_range	fp_source	fp_note	fp_value	fp_range	hel_source	hel_noe	hel_value	hel_range	hel_unit	vel_source	vel_note	vel_value	vel_range	al_source	al_noe	al_value	al_range	mp_source	mp_note	mp_value	mp_range
66	AMMONIUM NITRATE-UREA SOLUTION	Excerpt from CLIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012) STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Partially soluble in water and less dense than water.	1,2-DIAMINOCYCLOHEXANE. ISOPHORONE DIAMINE are amines. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Cyanides and carbon dioxide (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					
67	ASPHALT	SMALL SPILLS AND LEAKAGE. If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and scoop up the material with a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the dampened material in a suitable container. Wash all contaminated surfaces with acetone followed by soap and water. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	3,4-DIAMINOTOLUENE. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																					
68	ASPHALT FUME EXTRACTS	SMALL SPILLS AND LEAKAGE. If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the near test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific sulfide (NTP, 1992), Water soluble (NTP, 1992). pentoxide (P2O5) with pH of 1% aqueous solution is 5.6-6.0.	Reacts with water, steam, and/or acids to produce toxic and flammable vapors of hydrogen sulfide (NTP, 1992), Water soluble (NTP, 1992). pH of 1% aqueous solution is 5.6-6.0.	An organosulfide and amine derivative. (carboxylic acid, Look at Reactive Groups 20) (organosulfides), 7 (amines), and 5 (carboxylic acids) may give indications about reactive mechanisms. It is an amino acid essential in human nutrition.	Water-Reactive																									
69	BENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the near test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Aqueous solutions are weak acids.	1-PHENYLALANINE may be light sensitive. Act as weak acids in solution.			0																					
70	CALCIUM CARBONATE	SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DESMEDIPHAM is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
66	AMMONIUM NITRATE-UREA SOLUTION																																								Corrosive	C6H14N2 (1,2-diaminocyclohexane)(C10H22N2 (isophorone diamine)	Mineral-Based & Clay-Based Absorbents	43.0	4.0	147.0	5.0	9.0
67	ASPHALT																			(NTP, 1992)	(Sublimes)	509		760		(NTP, 1992)		122.17						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Poison	C7H10N2		43.0	4.0	125.0	5.0	9.0
68	ASPHALT FUME EXTRACTS														(NTP, 1992)		1,178		68		(NTP, 1992)	sublimes at 367Â° F					(NTP, 1992)		149.21						(NTP, 1992)	Soluble						C5H11NO2S		43.0	4.0	125.0	5.0	9.0
69	BENZENE																			(NTP, 1992)	(sublimes)	563		760		(NTP, 1992)		165.19						(NTP, 1992)	at 77Â° F		10 to 50	mg/mL			C9H11NO2		42.0	4.0	231.0	5.0	9.0
70	CALCIUM CARBONATE																																							Class 9	C16H16N2O4		48.0	4.0	250.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
71	DENATURED ALCOHOL	DENATURED ALCOHOL|DENATURED ALCOHOL, [SOLIDIFIED]	64-17-5	Ethanol with a small amount of an adulterant added so as to be unfit for use as a beverage.	2.5	5.0	2.5	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	(BLOB)	This compound is a flammable liquid. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
72	ETHANOL	ABSOLUTE ETHANOL|ALCARE HAND DEGERMER|ALCOHOL|ALCOHOL ANHYDROUS|ALCOHOL DEHYDRATED|ALCOHOL, ANHYDROUS|ALGRAIN|ANHYDROL|ANHYDROL PM 4085|100C.NPA|COLOGNE SPIRIT|COLOGNE SPIRITS (ALCOHOL)|DENATURED ALCOHOL|DESINFEKTOL EL|DUPLICATING FLUID 100C.NPA|ESUMIRU WK 88|ETHANOL|ETHANOL 200 PROOF|ETHANOL SOLUTION|ETHICAP|ETHYL ALCOHOL|ETHYL ALCOHOL ANHYDROUS|ETHYL HYDRATE|ETHYL HYDROXIDE|ETOH|FERMENTATION ALCOHOL|GRAIN ALCOHOL|HINETOLESS|IMS 99|JAYSOL|JAYSOLS|METHYLCARBINOL|MOLASSES ALCOHOL|NCI-C03134|POTATO ALCOHOL|SD ALCOHOL 23-HYDROGEN|SDA 3A|SDA 40-	64-17-5	A clear colorless liquid with a characteristic vinous odor and pungent taste. Flash point 55Â°F. Density 6.5 lb / gal. Vapors are heavier than air.	2.5	5.0	2.5	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
73	ETHANOL, SOLUTION	ETHANOL, SOLUTION|ETHYL ALCOHOL, SOLUTION|KETONES, LIQUID, N.O.S.	64-17-5	A homogeneous mixture of ethanol and water. Ethanol is a clear colorless liquid with a characteristic odor and pungent taste. Flammability depends on the ratio of water and ethanol. The very common 95% aqueous ethanol has a flash point of 55Â°F.	2.5	5.0	2.5	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	(BLOB)	Flash point data on this compound is not available, but it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
74	ETHYLENE	ACETENE|BICARBURRETTED HYDROGEN|ELAYL|ETHENE|ETHENE (ETHYLENE)|ETHYLENE|ETHYLENE, COMPRESSED|OLEFIANT GAS	74-85-1	A colorless gas with a sweet odor and taste. It is lighter than air. It is easily ignited and a flame can easily flash back to the source of the leak. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Can cause explosion.	5.0	1.0	1.0	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	Wash affected parts with water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)
75	ETHYLENE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	ETHENE|ETHYLENE|ETHYLENE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|ETHYLENE, [REFRIGERATED LIQUID]	74-85-1	A pressurized liquid when shipped below 50Â°F. Colorless with a sweet odor and taste. Vapors arising from the boiling liquid are lighter than air. Easily ignited. Not toxic but is a simple asphyxiant. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Used as an anesthetic, a refrigerant, and to make other chemicals.	2.5	5.0	2.5	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
76	FORMALDEHYDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	BFV|F-GEN|FANNOFORM|FLOGUARD 1015|FM 282|FORMALDEHYDE|FORMALDEHYDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)|FORMALIN|FORMALITH|FORMIC ALDEHYDE|FORMOL|FYDE|LYSOFORM|METHALDEHYDE|METHANAL|METHYL ALDEHYDE|METHYLENE OXIDE|MORBICID|OXOMETHANE|OXYMETHYLENE|PARAFORM|SUPERLYSOFORM	50-00-0	Solids containing varying amounts of formaldehyde, probably as paraformaldehyde (polymers of formula HO(CH2O)xH where x averages about 30). A hazard to the environment. Immediate steps should be taken to limit spread to the environment.	1.0	2.5	5.0	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	INHALATION: remove from exposure; support respiration if necessary; call physician. EYES: if irritated by either vapor or liquid, flush with water for at least 15 min. SKIN: wash with large amounts of water for at least 15 min. INGESTION: do NOT induce vomiting; give water; call physician. (USCG, 1999)	Special Hazards of Combustion Products: When heated to decomposition, emits highly toxic phosgene gas. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
71	DENATURED ALCOHOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber, Neoprene to 230 minutes (NTP, 1992)	Highly flammable. Water soluble.	1,3-DIAMINOPROPANE is heat sensitive. This compound may react with oxidizing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		75											(NTP, 1992)		680		(NTP, 1992)		10	
72	ETHANOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	HEPTANE is incompatible with the following: Strong oxidizers (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3		3		(USCG, 1999)		25		(USCG, 1999)		1		%	(USCG, 1999)		7		%	(USCG, 1999)		433		(USCG, 1999)		-131	
73	ETHANOL, SOLUTION	SMALL SPILLS AND LEAKAGE: 1. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-HEXACOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.						0																		(NTP, 1992)		133.5	
74	ETHYLENE		Chemical safety goggles and adequate protective clothing. (USCG, 1999)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	Ethers, such as TRIETHYLENE GLYCOL METHYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(USCG, 1999)			greater than 230																
75	ETHYLENE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	NITRONAPHTHALENE is incompatible with oxidizing agents and strong reducing agents. Mixtures with tetranitromethane are highly explosive and sensitive. Sulfuric acid and nitric acid mixtures of this compound undergo runaway reactions and detonate when the temperature is raised to 140Â° F. (NTP, 1992)	Highly Flammable; Explosive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		327																(NTP, 1992)		142.7	
76	FORMALDEHYDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	(BLOB)	Vapor-proof protective goggles and face shield; plastic or rubber gloves, shoes and clothing; gas mask or self-contained breathing apparatus. (USCG, 1999)	Highly flammable. Water reaction produces heat and acidic HCl. In the presence of moist air, corrosive hydrogen chloride is produced.	Acid halides, such as ALLYL CHLOROCARBONATE, are water reactive; some are violently reactive. They are incompatible with strong oxidizing agents, alcohols, amines, alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1722 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(USCG, 1999)		88																(USCG, 1999)		-112	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
71	DENATURED ALCOHOL								(NTP, 1992)		2.5				(NTP, 1992)		0.881		68		(NTP, 1992)		275.9		738		(NTP, 1992)		74.13						(NTP, 1992)	Soluble					Corrosive|Flammable Liquid	C3H10N2	Mineral-Based & Clay-Based Absorbents	42.0	4.0	238.0	5.0	9.0
72	ETHANOL	(USCG, 1999)		37.49		70		mm Hg							(USCG, 1999)		0.6838		68		(USCG, 1999)		209.1		760		(USCG, 1999)		100.21		(NIOSH, 2003)		750	ppm	(NIOSH, 2003)		0.0003		%	HPT	Flammable Liquid	C7H16		42.0	4.0	238.0	5.0	9.0
73	ETHANOL, SOLUTION														(NTP, 1992)		0.8032		68		(NTP, 1992)		774		760		(NTP, 1992)		366.72													C26H54		42.0	4.0	238.0	5.0	9.0
74	ETHYLENE														(USCG, 1999)		1.026										(USCG, 1999)		164.23											TGY		C7H16O4	Cellulose-Based Absorbents	48.0	4.0	182.0	5.0	9.0
75	ETHYLENE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)								(NTP, 1992)		5.96				(NTP, 1992)		1.332		68		(NTP, 1992)	(sublimes)	579		760		(NTP, 1992)		173.17						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Flammable Solid	C10H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	48.0	4.0	182.0	5.0	9.0
76	FORMALDEHYDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)														(USCG, 1999)		1.139		68		(USCG, 1999)		235		760		(USCG, 1999)		120.5											ACF	Poison Inhalation Hazard|Flammable Liquid|Corrosive	C4H5ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	43.0	4.0	181.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
77	FORMALDEHYDE, SOLUTION, FLAMMABLE	BFV|FA|FANNOFORM|FORMALDEHYDE|FORMALDEHYDE (SOLUTION)|FORMALDEHYDE SOLUTION|FORMALDEHYDE WATER SOLUTION|FORMALDEHYDE, GAS|FORMALDEHYDE, SOLUTION, FLAMMABLE|FORMALDEHYDE, SOLUTIONS (FORMALIN)|FORMALIN|FORMALIN (AS FORMALDEHYDE)|FORMALIN 40|FORMALITH|FORMIC ALDEHYDE|FORMIC ALDEHYDE SOLUTION|FORMOL|FYDE|HOCH|IVALON|KARSAN|LYSOFORM|METHANAL|METHANAL SOLUTION|METHYL ALDEHYDE|METHYLENE GLYCOL|METHYLENE OXIDE|MORBICID|NCI-C02799|OXOMETHANE|OXYMETHYLENE|SUPERLYSOFORM	50-00-0	A colorless aqueous solution of formaldehyde, which is a gas at ordinary conditions. Has a pungent irritating odor. Flash point varies from 122 to 141Â°F. Denser than water. The vapors are heavier than air and are highly irritating to the nose. Toxic if swallowed. Contact can cause severe injury to the skin accompanied by drying, cracking, and scaling. Used to make plastics, other chemicals, and fertilizers. Used as a preservative and a corrosion inhibitor. Rate of onset: Immediate Persistence: Hours Odor threshold: 1 ppm Source/use/other hazard: Disinfection/germicide; fungicide; textile; health care (tissue fixing).	5.0	1.0	1.0	348.0	20.0	133.0	40.0	58.0	36.0	2.0	14.0	4.0	6.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
78	FORMALDEHYDE, SOLUTIONS (FORMALIN) (CORROSIVE)	BFV|F-GEN|FANNOFORM|FLOGUARD 1015|FM 282|FORMALDEHYDE (SOLUTION)|FORMALDEHYDE SOLUTION|FORMALDEHYDE, SOLUTIONS (FORMALIN) (CORROSIVE)|FORMALIN|FORMALIN (AS FORMALDEHYDE)|FORMALIN SOLUTION|FORMALITH|FORMIC ALDEHYDE|FORMIC ALDEHYDE SOLUTION|FORMOL|FYDE|LYSOFORM|METHALDEHYDE|METHANAL|METHANAL SOLUTION|METHYL ALDEHYDE|METHYLENE OXIDE|MORBICID|OXOMETHANE|OXYMETHYLENE|OXYMETHYLENE SOLUTION|PARAFORM|SUPERLYSOFORM	50-00-0	A colorless liquid with a pungent irritating odor. Contains 37-50% formaldehyde by mass and varying amounts of methanol, added to prevent precipitation of formaldehyde polymers (formaldehyde exists in solution as CH2(OH)2 and its polymers HO(CH2O)xH where x averages about three). Formalin free of methanol is also shipped but must be kept warm (about 30Â°C (86Â°F)) to prevent polymerization. Pure formaldehyde, a gas, is not handled commercially because it tends to polymerize exothermally and may ignite. Vapor from formalin solution is flammable and an explosion hazard when exposed to flame or heat. Skin and eye irritant. Confirmed carcinogen.	2.5	5.0	2.5	348.0	20.0	142.0	40.0	58.0	36.0	2.0	15.0	4.0	6.0	(BLOB)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene are generated in fires. Behavior in Fire: May explode in fire due to polymerization. Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
79	FUEL OIL, [DIESEL]	DFM|DIESEL FUEL|DIESEL FUEL OIL|DIESEL OIL, MEDIUM|FUEL OIL|FUEL OIL 1-D|FUEL OIL 2-D|FUEL OIL, [DIESEL]|NCI-C54795|OILS: DIESEL	68334-30-5	A straw yellow to dark colored liquid with a petroleum-like odor. Flash point below 141Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	348.0	20.0	142.0	40.0	58.0	36.0	2.0	15.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
80	GASOLINE	A 76|A 76 (FUEL)|AI 3|AI 93 (FUEL)|AKVAZIN|BENZINE (MOTOR FUEL)|FUELS, GASOLINE|GASOLINE|GASOLINE, SYNTHETIC|GASOLINES: AUTOMOTIVE (<4.23G LEAD/GAL)|HERBICIDES|INDOLENE|MOTOR FUEL|MOTOR SPIRIT|MOTOR SPIRITS|NATURAL GAS CONDENSATES, GASOLINE|NATURAL GASOLINE|NEFRAS S 150/200|NEFRAS S 50/170|PETROL|PETROL, NATURAL|PETROL, SYNTHETIC|SYNFUELS|SYNTHETIC GASOLINE	86290-81-5	A clear colorless to amber colored, volatile liquid with a petroleum-like odor. Flash point below 0Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air. Leaked vapors may travel to a source of ignition and then flash back to the source.	2.5	5.0	2.5	357.0	20.0	151.0	40.0	58.0	37.0	2.0	16.0	4.0	6.0	Call for medical aid. INHALATION: Remove victim to fresh air; give oxygen if breathing is difficult. EYES: Irrigate immediately for 15 min. with water, lifting lids occasionally. SKIN: Flush with water; wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
81	LIQUEFIED PETROLEUM GAS	BOTTLED GAS|BURSHANE|COMPRESSED PETROLEUM GAS|FUELS, LIQUEFIED PETROLEUM GAS|L.P.G.|LIQ. PETROLEUM GAS|LIQUEFIED HYDROCARBON GAS|LIQUEFIED PETROLEUM GAS|LIQUEFIED PETROLEUM GASES|LPG|LPG (LIQUEFIED PETROLEUM GASES)|PETROLEUM GASES, LIQUEFIED|PETROLEUM PRODUCTS, LIQUEFIED GASES|PROPANE-BUTANE-(PROPYLENE)|PYROFAX	68476-85-7	A mixture of butane, isobutane, propane, propylene, butylenes and other hydrocarbons of low molecular weight that is refined from petroleum. Maintained as a liquid under pressure. Leaking vessels can release either the liquid, which quickly vaporizes, or the gaseous mixture. The gas is beavier than air-- a flame can flash back to the source of the leak very easily. Under prolonged exposure to heat the containers may rupture violently and rocket. Used as a fuel, an aerosol propellant, in cigarette lighters, and to make other chemicals.	5.0	1.0	1.0	366.0	20.0	151.0	40.0	58.0	38.0	2.0	16.0	4.0	6.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
77	FORMALDEHYDE, SOLUTION, FLAMMABLE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts avidly with water and with moisture in the air to give fumes of hydrogen chloride, a water-soluble toxic gas.	TRIFLUOROACETYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, amines, alkalis. Reacts vigorously with amines and alkalis. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3057 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									
78	FORMALDEHYDE, SOLUTIONS (FORMALIN) (CORROSIVE)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	Peroxidizable monomer, such as VINYLIDENE CHLORIDE, may initiate exothermic polymerization of the bulk material [Bretherick 1979. p. 160, 187]. Mixing vinylidene chloride in equal molar portions in a closed container with any of the following substances caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid, or oleum [NFPA 1991]. Its reaction products with ozone are particularly dangerous [Dow Chemical, 1968]. This may extend to other powerful oxidants, as various peroxides are produced.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6		(NTP, 1992)		14		(NTP, 1992)		7.3		%	(NTP, 1992)		16		%	(USCG, 1999)		1058		(NTP, 1992)		-188.5	
79	FUEL OIL, [DIESEL]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	N-NITROSOMORPHOLINE is incompatible with strong oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										(NTP, 1992)		84	
80	GASOLINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves; safety goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	OCTYL ALDEHYDES are aldehydes. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			2	0	2		(USCG, 1999)		125																				
81	LIQUEFIED PETROLEUM GAS	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly water soluble (NIOSH, 1997).	XYLIDINES are incompatible with the following: Strong oxidizers, hypochlorite salts (NIOSH, 1997).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)	(2,3-)	206		(NIOSH, 2003)	(o-isomer)	1		%												(NIOSH, 2003)		-33	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
77	FORMALDEHYDE, SOLUTION, FLAMMABLE																																								Poison Gas|Corrosive	C2F3ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	43.0	4.0	181.0	5.0	9.0
78	FORMALDEHYDE, SOLUTIONS (FORMALIN) (CORROSIVE)	(NTP, 1992)	; 591 mm Hg at 77Â° F	500		68		mm Hg	(NTP, 1992)		3.25				(USCG, 1999)		1.21		68		(NTP, 1992)		89.1		760		(NTP, 1992)		96.94		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 70Â° F		5 to 10	mg/mL	VCI	Flammable Liquid	C2H2Cl2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	43.0	4.0	181.0	5.0	9.0
79	FUEL OIL, [DIESEL]	(NTP, 1992)		25				mm Hg													(NTP, 1992)			435 to 436	747		(NTP, 1992)		116.14						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C4H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	48.0	4.0	151.0	5.0	9.0
80	GASOLINE														(USCG, 1999)		0.82 to 0.83										(USCG, 1999)		128.22											OAL	Flammable Liquid	C8H16O	Cellulose-Based Absorbents	45.0	4.0	162.0	5.0	9.0
81	LIQUEFIED PETROLEUM GAS	(NIOSH, 2003)			less than 1			mm Hg							(NIOSH, 2003)		0.98				(NIOSH, 2003)			415 to 439	760		(NIOSH, 2003)		121.2		(NIOSH, 2003)		50	ppm	(NIOSH, 2003)	Slight					Poison	C8H11N		47.0	4.0	132.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
82	METHANOL	BIELESKI'S SOLUTION|CARBINOL|COLONIAL SPIRIT|COLUMBIAN SPIRIT|COLUMBIAN SPIRITS|METHANOL|METHANOL CLUSTER|METHANOL {METHYL ALCOHOL}|METHYL ALCOHOL|METHYL HYDROXIDE|METHYLOL|MONOHYDROXYMETHANE|PYROLIGNEOUS SPIRIT|PYROXYLIC SPIRIT|SOLUTIONS, BIELESKI'S|WOOD ALCOHOL|WOOD NAPHTHA|WOOD SPIRIT	67-56-1	A colorless fairly volatile liquid with a faintly sweet pungent odor like that of ethyl alcohol. Completely mixes with water. The vapors are slightly heavier than air and may travel some distance to a source of ignition and flash back. Any accumulation of vapors in confined spaces, such as buildings or sewers, may explode if ignited. Used to make chemicals, to remove water from automotive and aviation fuels, as a solvent for paints and plastics, and as an ingredient in a wide variety of products.	2.5	5.0	2.5	366.0	20.0	151.0	40.0	58.0	38.0	2.0	16.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
83	METHANOL, TALLOW ALKYL IMINOBISETHANOL (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	METHANOL, TALLOW ALKYL IMINOBISETHANOL (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	67-56-1	A yellow-colored liquid with an "alcohol" odor. Less dense than water. Vapors heavier than air. Corrosive. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	375.0	20.0	151.0	40.0	58.0	39.0	2.0	16.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
84	NICKEL HYDROXIDE	GREEN NICKEL OXIDE|NICKEL DIHYDROXIDE|NICKEL HYDROXIDE|NICKEL(2+) HYDROXIDE|NICKEL(II) HYDROXIDE|NICKELOUS HYDROXIDE	11113-74-9	A fine green powder. Slightly soluble in water and denser than water. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment.	1.0	2.5	5.0	384.0	20.0	151.0	40.0	58.0	40.0	2.0	16.0	4.0	6.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
85	NITRATE OF AMMONIA EXPLOSIVES	NITRATE OF AMMONIA EXPLOSIVES	6484-52-2	A powder. Readily explodes if heated. Difficult to explode by shock. Toxic nitrogen oxide fumes may be released during combustion. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	393.0	20.0	151.0	40.0	58.0	41.0	2.0	16.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
86	NITRATING ACID, MIXTURE, (WITH <= 50% NITRIC ACID)	MIXED ACID|NITRATING ACID, MIXTURE, (WITH <= 50% NITRIC ACID)	7697-37-2	A colorless to yellow or red liquid sometimes fuming reddish brown vapors (of nitrogen dioxide). Has a suffocating odor. Density 10.4 lb / gal. Typically contains 36% nitric acid and 61% sulfuric acid by mass (the rest is water). Corrosive to metals or tissue. Used for nitration reactions (in the manufacture of explosives and plastics).	2.5	5.0	2.5	393.0	20.0	151.0	40.0	58.0	41.0	2.0	16.0	4.0	6.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
87	NITRATING ACID, MIXTURE, (WITH > 50% NITRIC ACID)	MIXED ACID, (WITH > 50% NITRIC ACID)|NITRATING ACID, MIXTURE, (WITH > 50% NITRIC ACID)	7697-37-2	Nitric acid is a colorless to yellow or red liquid sometimes fuming reddish brown vapors with a suffocating odor. It is soluble in water with release of heat. It is corrosive to metals or tissue. It will accelerate the burning of combustible materials and it may even cause ignition upon contact with combustible material. It is fully soluble in water and may react violently upon contact with water with the evolution of heat, fumes and spattering. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Density 10.4 lb / gal.	2.5	5.0	2.5	393.0	20.0	151.0	40.0	58.0	41.0	2.0	16.0	4.0	6.0	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
82	METHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PARBENDAZOLE is a carbamate ester-amine. Amines behave as chemical bases. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.					0																							(NTP, 1992)	(decomposes)		491 to 495
83	METHANOL, TALLOW ALKYL IMINOBISETHANOL (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials and reducing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust may form an explosive mixture in air. Insoluble in water.	P-AZOXYANISOLE is incompatible with strong oxidizing agents and strong reducing agents. (NTP, 1992)	Explosive		0																							(NTP, 1992)			244 to 250
84	NICKEL HYDROXIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ARSENIC reacts incandescently with bromine trifluoride, even at 10Â°C [Mellor 2:113 1946-47]. Causes bromoazide to explode upon contact. Ignites if ground up together with solid potassium permanganate [Mellor 12:322 1946-47]. Is oxidized by sodium peroxide with incandescence [Mellor 2:490-93 1946-47]. A combination of finely divided arsenic with finely divided bromates (also chlorates and iodates) of barium, calcium, magnesium, potassium, sodium, or zinc can explode by heat, percussion, and friction [Mellor 2:310 1946-47]. Bromine pentafluoride reacts readily in the cold with arsenic. Ignition usually occurs. Reacts vigorously with fluorine at ordinary temperatures [Mellor 9:34 1946-47].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																											
85	NITRATE OF AMMONIA EXPLOSIVES	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	ASPHALT burns readily when heated or ignited in the presence of air or oxygen. May be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition. Mostly unreactive in other settings. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.		Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																											
86	NITRATING ACID, MIXTURE, (WITH <= 50% NITRIC ACID)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHTHALIC ACID is a carboxylic acid. This chemical is sensitive to exposure to extreme heat. This compound reacts violently with nitric acid. It is incompatible with sodium nitrite. It is also incompatible with oxidizers. (NTP, 1992).			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		334																(NTP, 1992)	(decomposes)		410 to 412
87	NITRATING ACID, MIXTURE, (WITH > 50% NITRIC ACID)	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Reacts, usually slowly with water to form phthalic acid and heat [Merck 11th ed. 1989]. The phthalic acid is somewhat soluble in water.	PHTHALIC ANHYDRIDE reacts exothermically with water. The reactions are sometimes slow, but can become violent when local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases. Undergoes exothmeric nitration with fuming nitric acid-sulfuric acid and may give mixtures of the potentially explosive phthaloyl nitrates or nitrites or their nitro derivatives [Chem. & Ind. 20:790. 1972]. Phthalic anhydride reacts violently with CuO at elevated temperatures [Park, Chang-Man, Richard J. Sheehan. "Phthalic Acids and Other Benzenepolycarboxylic Acids" Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2005]. Mixtures of phthalic anhydride and anhydrous CO2 explode violently if heated [Leaflet No. 5, Inst. of Chem., London, 1940].		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		305	(NTP, 1992)		1.7		%	(NTP, 1992)		10.4		%	(USCG, 1999)		1058		(NTP, 1992)		267.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_mmHG	bp_range_mmHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solhby_source	solhby_note	solhby_value	solhby_range	solhby_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
82	METHANOL																									(NTP, 1992)		247.33														C1H3(17)N 302	Mineral-Based & Clay-Based Absorbents	45.0	4.0	219.0	5.0	9.0
83	METHANOL, TALLOW ALKYL IMINOBISETHANOL (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)														(NTP, 1992)		1.1711		239							(NTP, 1992)		258.28				(NIOSH, 2003)	A potential human carcinogen.	5	mg/m3	(NTP, 1992)	at 70.7A° F	less than 1	mg/mL			Poison	C14H14N 203	Mineral-Based & Clay-Based Absorbents	45.0	4.0	219.0	5.0	9.0
84	NICKEL HYDROXIDE																														(NIOSH, 2003)	As arsenic (organic compounds; as As); A potential human carcinogen.	5	mg/m3																																														
85	NITRATE OF AMMONIA EXPLOSIVES																														(NIOSH, 2003)	As asphalt fumes; A potential human carcinogen.									Oxidizer		DietEarth	43.0	4.0	147.0	5.0	9.0
86	NITRATING ACID, MIXTURE, (WITH <= 50% NITRIC ACID)								(NTP, 1992)		1.593		68		(NTP, 1992)	Decomposes	(NTP, 1992)									(NTP, 1992)		166.13							(NTP, 1992)	at 68A° F	less than 1	mg/mL				C8H6O4		49.0	4.0	226.0	5.0	9.0
87	NITRATING ACID, MIXTURE, (WITH > 50% NITRIC ACID)	(NTP, 1992)	0.001 mm Hg at 86A° F	0.0002		68		mm Hg	(NTP, 1992)		5.1				(USCG, 1999)	1.53 at 20A°C (solid)	1.2		275		(NTP, 1992)	(sublimes)	563		760		(NTP, 1992)		148.12		(NIOSH, 2003)		60	mg/m3	(NTP, 1992)	Decomposes					PAN	Corrosive	C8H4O3	Cellulose-Based Absorbents;Mineral-Based & Clay-Based Absorbents;Dirt; Earth	49.0	4.0	225.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
88	NITRIC ACID, FUMING	AQUA FORTIS|AZOTIC ACID|HYDROGEN NITRATE|NITAL|NITRIC ACID|NITRIC ACID (CONC 80% OR GREATER)|NITRIC ACID (HONO2)|NITRIC ACID, FUMING|NITRIC ACID, RED FUMING|NITRIC ACID, [FUMING]|NITRYL HYDROXIDE	7697-37-2	A pale yellow to reddish brown liquid generating red-brown fumes and having a suffocating odor. Very toxic by inhalation. Corrosive to metals or tissue. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Rate of onset: Immediate Persistence: Hours - days Odor threshold: ~1 ppm Source/use/other hazard: Used in many industries; Very corrosive to skin/mucous membranes as well as metals & other materials.	2.5	5.0	2.5	393.0	20.0	151.0	40.0	58.0	41.0	2.0	16.0	4.0	6.0	(BLOB)	Literature sources indicate that this compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
89	NITRIC ACID, OTHER THAN RED FUMING	NITRIC ACID, OTHER THAN RED FUMING	7697-37-2	A pale yellow to reddish brown liquid with reddish brown vapors and a suffocating odor. Very toxic by inhalation. Corrosive to metals or tissue. Accelerates the burning of combustible material and may cause ignition of combustible materials upon contact. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Density 12 lb / gal.	2.5	5.0	2.5	393.0	20.0	151.0	40.0	58.0	41.0	2.0	16.0	4.0	6.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
90	OIL, [FUEL, 1-D]	DIESEL OIL (LIGHT)OIL, [FUEL, 1-D]OILS, FUEL: 1-D	68334-30-5	Oily yellow-brown liquid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	402.0	20.0	151.0	40.0	58.0	42.0	2.0	16.0	4.0	6.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
91	OIL, [FUEL, 2-D]	DIESEL OIL, MEDIUM|OIL, [FUEL, 2-D]|OILS, FUEL: 2-D	68334-30-5	Oily yellow-brown liquid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	411.0	20.0	151.0	40.0	58.0	43.0	2.0	16.0	4.0	6.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
92	PHOSPHORIC ACID	C 134|C 134 (ACID)|C 434|C 434 (ACID)|DECON 4512|EVITS|K-ETCHANT|KEFO|3M ETCHING LIQUID|MIKRO KLENE DF|ORTHOPHOSPHORIC ACID|PHOSPHORIC ACID|PHOSPHORIC ACID (AQUEOUS)|PHOSPHORIC ACID, AQUEOUS|SONAC|SPA 2|SPA 2 (CATALYST)|WC-REINIGER|WHITE PHOSPHORIC ACID	7664-38-2	A clear colorless liquid or transparent crystalline solid. The pure solid melts at 42.35Â°C and has a density of 1.834 g / cm3. Liquid is usually an 85% aqueous solution. Shipped as both a solid and liquid. Corrosive to metals and tissue. Used in making fertilizers and detergents and in food processing.	1.0	2.5	5.0	420.0	20.0	160.0	40.0	58.0	44.0	2.0	17.0	4.0	6.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
93	POLYPROPYLENE	POLYPROPYLENE|PROPENE POLYMER	9003-07-0	Tan to white odorless solid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	1.0	2.5	5.0	429.0	20.0	160.0	40.0	58.0	45.0	2.0	17.0	4.0	6.0	(BLOB)	Not Flammable. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
88	NITRIC ACID, FUMING	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and away from bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHTHALIMIDE is an imide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical forms salts with bases. (NTP, 1992)						0																					(NTP, 1992)		460	
89	NITRIC ACID, OTHER THAN RED FUMING	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]							0																						
90	OIL, [FUEL, 1-D]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	POTASSIUM BISULFITE SOLUTION is a reducing agent. Reacts as a base to neutralize acids.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
91	OIL, [FUEL, 2-D]	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. When exposed to water it may react violently and start a fire. Produce flammable gases on contact with water. May ignite on contact with water or moist air.	A reducing agent. Reacts rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
92	PHOSPHORIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Isocyanates and thioisocyanates, such as TRIALLYL ISOCYANURATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 230																	(NTP, 1992)		74 to 77	
93	POLYPROPYLENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	BIS(2-CHLOROETHOXY)METHANE, [LIQUID], the b-chloroethyl acetal of formaldehyde, is incompatible with oxidizing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		230																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
88	NITRIC ACID, FUMING																				(NTP, 1992)	Sublimes					(NTP, 1992)		147.13						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C8H5NO2		49.0	4.0	226.0	5.0	9.0
89	NITRIC ACID, OTHER THAN RED FUMING																									(NTP, 1992)		366.39														C16H18N2O6S		49.0	4.0	226.0	5.0	9.0
90	OIL, [FUEL, 1-D]																																								Corrosive	KHSO3 (aqueous)		48.0	4.0	151.0	5.0	9.0
91	OIL, [FUEL, 2-D]																																								Dangerous When Wet	BH4.K		48.0	4.0	151.0	5.0	9.0
92	PHOSPHORIC ACID														(NTP, 1992)		1.159				(NTP, 1992)		300 to 306	4		(NTP, 1992)		249.27						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C12H15N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	49.0	4.0	245.0	5.0	9.0
93	POLYPROPYLENE																				(NTP, 1992)		424.6		760		(NTP, 1992)		173												Poison	C5H10Cl2O2		43.0	4.0	205.0	5.0	9.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
94	POLYVINYL CHLORIDE LATEX	(BLOB)	9002-86-2	PHYSICAL DESCRIPTION: Viscous white liquid. A 51% by mass emulsion of polyvinyl chloride in water. (NTP, 1992)	2.5	5.0	2.5	429.0	20.0	160.0	40.0	58.0	45.0	2.0	17.0	4.0	6.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
95	PROPANE	BOTTLED GAS|DIMETHYL METHANE|DIMETHYLMETH ANE|HC 290|LIQUEFIED PETROLEUM GAS|LPG|N-PROPANE|PROPANE|PROPAN E MIXTURE|PROPYL HYDRIDE|R 290	74-98-6	A colorless gas with a faint petroleum-like odor. It is shipped as a liquefied gas under its vapor pressure. For transportation it may be stenched. Contact with the unconfined liquid can cause frostbite by evaporative cooling. Easily ignited. The vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak may be either a liquid or vapor leak. The vapors can asphyxiate by the displacement of air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	438.0	20.0	160.0	40.0	58.0	46.0	2.0	17.0	4.0	6.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
96	PROPANE MIXTURE	PROPANE MIXTURE	74-98-6	Colorless gas with a slight odor.	5.0	1.0	1.0	438.0	20.0	160.0	40.0	58.0	46.0	2.0	17.0	4.0	6.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
97	SODIUM CHLORIDE	BCD|BRINEWATE SUPERFINE|COMMON SALT|DENDRITIS|EXTRA FINE 200 SALT|EXTRA FINE 325 SALT|H.G. BLENDING|HALITE|IODIZED SALT|MAFIRON|PUREX|ROC K SALT|SALINE|SALT|SEA SALT|SODIUM CHLORIDE|SODIUM MONOCHLORIDE|SS SALT|STERLING|TABLE SALT|TOP FLAKE|USP SODIUM CHLORIDE|WATESAL A|WHITE CRYSTAL	7647-14-5	PHYSICAL DESCRIPTION: A white crystalline solid. Commercial grade usually contains some chlorides of calcium and magnesium which absorb moisture and cause caking. (NTP, 1992)	1.0	2.5	5.0	447.0	20.0	160.0	40.0	58.0	47.0	2.0	17.0	4.0	6.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and chlorides. Polymerizes slowly. (Hazard not specified.) (EPA, 1998)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
98	1,1,1-TRIFLUOROETHANE	REFRIGERANT GAS R-143A|TRIFLUOROETHANE|TR IFLUOROETHANE, COMPRESSED|1,1,1-TRIFLUOROETHANE	420-46-2	1,1,1-Trifluoroethane is a colorless, highly flammable gas. It is heavier than air and vapors may travel from a leaking container to a source of ignition causing a flame to flashback to the container. Contact with the unconfined liquid can cause frostbite. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	455.0	20.0	160.0	48.0	58.0	48.0	2.0	17.0	5.0	6.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
99	1,3-BUTADIENE	ALPHA,GAMMA-BUTADIENE|ALPHA-GAMMA-BUTADIENE|BIETHYLENE|BI VINYL|BUTA-1,3-DIENE|BUTADIENE|1,3-BUTADIENE, [INHIBITED]|BUTADIENE-1, 3, INHIBITED|BUTADIENE-1,3|1,3-BUTADIENE|BUTADIENES, INHIBITED|DIVINYL|ERYTH RENE|NCI-C50602|PYRROLYLENE|VINY L ETHYLENE|VINYLETHYLEN E	106-99-0	Butadiene, inhibited is a colorless gas with an aromatic odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. It can asphyxiate by the displacement of air. It must be shipped inhibited as butadiene is liable to polymerization. If polymerization occurs in the container, it may violently rupture. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used to make synthetic rubber and plastics, and to make other chemicals.	5.0	1.0	1.0	455.0	20.0	160.0	48.0	58.0	48.0	2.0	17.0	5.0	6.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
94	POLYVINYL CHLORIDE LATEX	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	(BLOB)		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		68		(NTP, 1992)		1.8		%	(NTP, 1992)		12.4		%	(USCG, 1999)		900		(NTP, 1992)		-44	
95	PROPANE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposed by water.	ZINC PEROXIDE dissolves in dilute acid, liberating hydrogen peroxide [Merck 11th ed. 1989]. Noncombustible but accelerates the burning of combustible material. If the combustible material is finely divided, the mixture may be explosive. Mixtures with combustible material can sometimes be ignited by friction or contact with moisture. The hydrated material (of indefinite composition) explodes at 212Â°C. Mixtures with aluminum or zinc powder burn brilliantly [Mellor 1940. v. 4, 530].	Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
96	PROPANE MIXTURE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	TRINITROMETACRESOL is a nitroaryl derivative. It is sensitive to heat. Nitroaryls range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																								
97	SODIUM CHLORIDE	Avoid inhalation and skin contact. (Non-Specific -- Poisonous Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	When dissolved in water, it is a strong base.	When dissolved in water, ETHYLBIS(2-CHLOROETHYL)AMINE is a strong base; reacts violently with strong oxidants and acids ; attacks copper and copper compounds. [Handling Chemicals Safely 1980. p. 123]; reacts with hypochlorites to give N-chloroamines, some of which, are explosives when isolated [Bretherick 1979 p. 108].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1	0	0	0		(EPA, 1998)	High enough not to interfere with military use of the agent															(EPA, 1998)		-29	
98	1,1,1-TRIFLUOROETHANE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TUNGSTEN is stable at room temperature. Very slowly attacked by nitric acid, sulfuric acid, and aqua regia. Dissolved by a mixture of hydrofluoric acid and nitric acid. No reaction with aqueous bases. Attacked rapidly by molten alkaline melts such as Na2O2 or KNO3/NaOH. Vigorous reactions with bromine trifluoride and chlorine trifluoride. Becomes incandescent upon heating with lead oxide; becomes incandescent in cold fluorine and with iodine pentafluoride. Combustible in the form of finely divided powder and may ignite spontaneously.				3.00	1.00	1.00	2																			(NIOSH, 2003)		6170	
99	1,3-BUTADIENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This compound is sensitive to light, oxidation and pH changes. (NTP, 1992).				1.00	4.00	2.00	6																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
94	POLYVINYL CHLORIDE LATEX	(NTP, 1992)	; 20 mm Hg at 77Â° F	18		68		mm Hg	(NTP, 1992)		2.72				(USCG, 1999)		0.983		68		(NTP, 1992)		239		760		(NTP, 1992)		79.1		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL	PRD	Flammable Liquid	C5H5N	Mineral-Based & Clay-Based Absorbents	46.0	4.0	205.0	5.0	9.0
95	PROPANE																																									Oxidizer	ZnO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	42.0	4.0	142.0	5.0	9.0
96	PROPANE MIXTURE																																								Explosive 1.1D	C7H5N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	42.0	4.0	142.0	5.0	9.0
97	SODIUM CHLORIDE	(EPA, 1998)		0.24		77		mm Hg	(EPA, 1998)		5.9				(EPA, 1998)		1.0861		73.4		(EPA, 1998)		185		12		(EPA, 1998)		170.1												Poison	C6H13Cl2N	Mineral-Based & Clay-Based Absorbents	40.0	4.0	192.0	5.0	9.0
98	1,1,1-TRIFLUOROETHANE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		19.3				(NIOSH, 2003)		10701		760		(NIOSH, 2003)		183.9						(NIOSH, 2003)	Insoluble					W		66.0	5.0	13.0	3.0	8.0
99	1,3-BUTADIENE																											(NTP, 1992)		369.39						(NTP, 1992)	at 68Â° F		less than 1	mg/mL				Dirt/Earth	31.0	3.0	101.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
100	ACETONE	ACETONE|BETA-KETOPROPANE|CHEVRON ACETONE|DIMETHYL KETONE|DIMETHYLFORMALDEHYDE|DIMETHYLKETAL|KETONE PROPANE|KETONE, DIMETHYL|METHYL KETONE|PROPANONE|2-PROPANONE|PYROACETIC ACID|PYROACETIC ETHER	67-64-1	A clear colorless liquid with a sweetish odor. Flash point 0Â°F. Less dense than water. Vapors are heavier than air. Used as a solvent in paint and nail polish removers.	2.5	5.0	2.5	463.0	20.0	160.0	64.0	58.0	49.0	2.0	17.0	7.0	6.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
101	ALUMINUM POWDER, COATED	ALUMINUM (FUME OR DUST)|ALUMINUM POWDER, COATED|ALUMINUM POWDER, [COATED]	7429-90-5	A light gray or silver powdered metal. Easily ignited; burns with an intense flame.	1.0	2.5	5.0	471.0	20.0	168.0	64.0	58.0	50.0	2.0	18.0	7.0	6.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: ``Alcohol'' foam; water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
102	ALUMINUM POWDER, PYROPHORIC	ALUMINUM (FUME OR DUST)|ALUMINUM POWDER, PYROPHORIC|ALUMINUM POWDER, [PYROPHORIC]	7429-90-5	A light gray or silvery colored powdered metal.	1.0	2.5	5.0	471.0	20.0	168.0	64.0	58.0	50.0	2.0	18.0	7.0	6.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
103	ALUMINUM POWDER, UNCOATED	(BLOB)	7429-90-5	A light gray solid. Denser than water. Contact may burn skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	471.0	20.0	176.0	64.0	58.0	50.0	2.0	19.0	7.0	6.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
104	ALUMINUM, MOLTEN	ALUMINUM, MOLTEN	7429-90-5	Aluminum metal held above melting point of 1220Â°F (660Â°C) for ease in handling. Cools and solidifies if released. Contact causes thermal burns. Plastic or rubber may melt or lose strength upon contact. Protective equipment designed for chemical exposure only is not effective against direct contact. Take care walking on the surface of a spill to avoid stepping into a pocket of molten aluminum below the crust. Do not attempt to remove aluminum impregnated clothing because of the danger of tearing flesh if there has been a burn.	1.0	2.5	5.0	479.0	20.0	184.0	64.0	58.0	51.0	2.0	20.0	7.0	6.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
105	AMMONIUM PHOSPHATE	AMMONIUM PHOSPHATE|AMMONIUM PHOSPHATE, DIBASIC|DIAMMONIUM HYDROGEN PHOSPHATE|DIAMMONIUM ORTHOPHOSPHATE|MONOAMMONIUM ORTHOPHOSPHATE|SECONDARY AMMONIUM PHOSPHATE	7722-76-1	White solid with a weak odor of ammonia. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	479.0	20.0	184.0	64.0	58.0	51.0	2.0	20.0	7.0	6.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
100	ACETONE	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air Reacts violently with water to form acetic acid	KETENE is extremely flammable. Mixtures with air are explosive. Reacts violently with water; reacts vigorously with alcohols, ammonia. Readily polymerizes and cannot be shipped or stored. Is obtained instead as needed from diketene. DIKETENE is extremely flammable. Forms explosive vapor/air mixtures above 33Â°C. Undergoes a further exothermic polymerization that is retarded by storage in the solid state (below -6.5Â°C) or by the use of stabilizing additives. This polymerization becomes violent (with risk of fire or explosion) with warming or on contact with acids or bases. Reacts violently with water.	Highly Flammable; Polymerizable; Water-Reactive	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1955 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NIOSH, 2003)		-238	
101	ALUMINUM POWDER, COATED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and away from all mineral acids and bases. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable.	2-NITROPROPANE is sensitive to heat. Can react with amines/heavy metal oxides, strong acids, strong alkalis, and chlorosulfonic acid. (NTP, 1992). The heat of adsorption of this compound on carbon, such as that found in cartridge respirators, is extremely high. Metal oxide catalysts, such as copper oxide or manganese oxide, can initiate ignition, therefore carbon respirators should not be used in environments that have a high vapor concentration of this material.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5		(NTP, 1992)		75		(NTP, 1992)		1.6		%	(NTP, 1992)		11		%	(USCG, 1999)		802		(NTP, 1992)		-135	
102	ALUMINUM POWDER, PYROPHORIC	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	2-OCTYL-3-ISOTHIAZOLONE reacts as an isothiocyanate. Isothiocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 200																			
103	ALUMINUM POWDER, UNCOATED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	2-OXIME 2,3-BUTANEDIONE may react violently during vacuum distillation above 130 pascals. (NTP, 1992)					0																			(NTP, 1992)		171 to 172	
104	ALUMINUM, MOLTEN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as 2-PENTENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NFPA, 2010)		less than -4																			
105	AMMONIUM PHOSPHATE			No rapid reaction with air. No rapid reaction with water.	An ether substituted acidic organic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
100	ACETONE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-69		760		(NIOSH, 2003)		42		(NIOSH, 2003)		5	ppm	(NIOSH, 2003)	Reacts with water					Poison Gas	CH2=CO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	30.0	3.0	146.0	5.0	8.0
101	ALUMINUM POWDER, COATED	(NTP, 1992)		12.9		68		mm Hg	(NTP, 1992)		3.06				(USCG, 1999)		0.99		68		(NTP, 1992)		248.5		760		(NTP, 1992)		89.11		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 0.1	mg/mL	NPP	Flammable Liquid	C3H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	39.0	3.0	520.0	5.0	8.0
102	ALUMINUM POWDER, PYROPHORIC	(NTP, 1992)		2.98		77		mm Hg							(NTP, 1992)		1.04		60.3		(NTP, 1992)		248		0.01		(NTP, 1992)		213.34						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Corrosive|Poison	C11H19NOS	Dirt/Earth	39.0	3.0	520.0	5.0	8.0
103	ALUMINUM POWDER, UNCOATED																				(NTP, 1992)		365 to 367	760			(NTP, 1992)		101.11						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL			C4H7NO2		39.0	3.0	520.0	5.0	8.0
104	ALUMINUM, MOLTEN																																								Flammable Liquid	C5H10	Dirt/Earth	39.0	3.0	520.0	5.0	8.0
105	AMMONIUM PHOSPHATE																																									C14H18N2O2		32.0	3.0	151.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
106	AMMONIUM SULFATE	AMMONIUM SULFATE	7783-20-2	White odorless solid. Sinks and dissolves in water. (USCG, 1999)	1.0	2.5	5.0	487.0	20.0	184.0	64.0	58.0	52.0	2.0	20.0	7.0	6.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
107	CALCIUM CHLORIDE	CALCIUM CHLORIDE|CALCIUM CHLORIDE HYDRATES|CALCIUM CHLORIDE, ANHYDROUS	10043-52-4	White to off-white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	495.0	20.0	192.0	64.0	58.0	53.0	2.0	21.0	7.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
108	CALCIUM HYDROXIDE	CALCIUM HYDRATE|CALCIUM HYDROXIDE|CAUSTIC LIME|HYDRATED LIME|SLAKED LIME	1305-62-0	Odorless white granules. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	495.0	20.0	192.0	64.0	58.0	53.0	2.0	21.0	7.0	6.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
109	CALCIUM OXIDE	AIRLOCK|BELL CML(E)|BELL CML(P)|BURNED LIME|BURNT LIME|CALCIA|CALCIA (CAO)|CALCIUM MONOXIDE|CALCIUM OXIDE|CALCIUM OXIDE (QUICKLIME)|CALOXAL CPA|CALOXOL CP 2|CALOXOL W 3|CALX|CALXYL|CML 21|CML 31|CML 35|DESICAL P|LIME|PEBBLE LIME|QC-X|QUICK LIME|QUICKLIME|QUICKLIME (CAO)|RHENOSORB C|RHENOSORB F|UNSLAKED LIME|VESTA PP	1305-78-8	An odorless, white or gray-white solid in the form of hard lumps. A strong irritant to skin, eyes and mucous membranes. Used in insecticides and fertilizers.	1.0	2.5	5.0	495.0	20.0	192.0	64.0	58.0	53.0	2.0	21.0	7.0	6.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
110	CARBON BLACK OIL	(BLOB)	1333-86-4	A dark colored liquid with a petroleum-like odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	503.0	20.0	192.0	64.0	58.0	54.0	2.0	21.0	7.0	6.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
111	CARBON, ACTIVATED	(BLOB)	7440-44-0	Black grains that have been treated to improve absorptive ability. May heat spontaneously if not properly cooled after manufacture.	1.0	2.5	5.0	503.0	20.0	192.0	64.0	58.0	54.0	2.0	21.0	7.0	6.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
106	AMMONIUM SULFATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 3,3'-DIMETHYL DIPHENYLMETHANE-4,4'-DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
107	CALCIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Dust may form an explosive mixture in air. Insoluble in water.	4-AMINOAZOBENZENE can detonate, particularly if sensitized by the presence of metal salts or strong acids. May form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. May react explosively with strong oxidizing agents, metal salts, peroxides, and sulfides. Emits toxic fumes of oxides of nitrogen when heated to decomposition (over 350Â°C) [Sax, 2nd ed., 1965, p. 417].	Explosive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		262	
108	CALCIUM HYDROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable					0		(NTP, 1992)		152																			
109	CALCIUM OXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		133 to 136	
110	CARBON BLACK OIL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	MERCURY GLUCONATE is incompatible acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
111	CARBON, ACTIVATED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture and heat. Insoluble in water.	Epoxides, such as 1,2-EPOXYDECANE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts. This chemical is incompatible with strong acids, caustics and peroxides. (NTP, 1992)	Highly Flammable; Polymerizable					0		(NTP, 1992)		173																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
106	AMMONIUM SULFATE																																								Poison	C17H14N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	36.0	3.0	198.0	5.0	8.0
107	CALCIUM CHLORIDE														(NTP, 1992)		1.05				(NTP, 1992)			greater than 680	760	(NTP, 1992)		197.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Class 9	C12H11N3		38.0	3.0	187.0	5.0	8.0
108	CALCIUM HYDROXIDE	(NTP, 1992)	; 28.5 mm Hg at 108Â° F; 65.5 mm Hg at 149Â° F	11.6		77		mm Hg							(NTP, 1992)		1.495		68		(NTP, 1992)		300		764	(NTP, 1992)		161.41						(NTP, 1992)	at 65.3Â° F		less than 0.1	mg/mL			C3H3Cl3O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	32.0	3.0	123.0	5.0	8.0
109	CALCIUM OXIDE																																							Poison	C7H2ClF3N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	34.0	3.0	103.0	5.0	8.0
110	CARBON BLACK OIL																															(NIOSH, 2003)	(as Hg)	10	mg/m3						Poison	C12H22O14.Hg	Cellulose-Based Absorbents	37.0	3.0	155.0	5.0	8.0
111	CARBON, ACTIVATED														(NTP, 1992)		0.837				(NTP, 1992)			234 to 235	35	(NTP, 1992)		156.27						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C10H20O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	33.0	3.0	160.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
112	COPPER	COPPER|COPPER METAL DUSTS|COPPER METAL FUMES	7440-50-8	Reddish lustrous malleable odorless metallic solid.	1.0	2.5	5.0	503.0	20.0	192.0	64.0	58.0	54.0	2.0	21.0	7.0	6.0	(BLOB)	Flash point data for this chemical is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinquisher. (NTP, 1992)
113	DEXTROSE SOLUTION	CORN SUGAR SOLUTION|DEXTROSE SOLUTION|GLUCOSE SOLUTION|GRAPE SUGAR SOLUTION	50-99-7	Watery odorless colorless liquid. Denser than water and soluble in water. Hence sinks in and mixes with water. (USCG, 1999)	2.5	5.0	2.5	511.0	20.0	192.0	64.0	58.0	55.0	2.0	21.0	7.0	6.0	Get medical attention after all exposures to this compound. INHALATION: remove victim to fresh air; alert physician to delayed effects similar to those of phosgene. INGESTION: give large amount of water and induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride, sulfur dioxide and other fumes may be formed in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
114	ETHYL ALUMINUM SESQUICHLORIDE	ALUMINUM, TRICHLOROTRIETHYLDI-|EASC|ETHYL ALUMINUM SESQUICHLORIDE|ETHYLALUMINUM SESQUICHLORIDE|SESQUIETHYLALUMINUM CHLORIDE|TRICHLOROTRIETHYLDIALUMINUM|TRICHLOROTRIETHYLDIALUMINUM|TRIETHYLALUMINUM SESQUICHLORIDE|TRIETHYLDIALUMINUM TRICHLORIDE|TRIETHYLTRICHLORODIALUMINUM	12075-68-2	A clear yellow liquid. Slightly denser than water. Used to make other chemicals.	2.5	5.0	2.5	519.0	20.0	192.0	64.0	58.0	56.0	2.0	21.0	7.0	6.0	INHALATION: move to fresh air; get medical attention if exposure has been severe. INGESTION: give large amounts of water. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating formic acid vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
115	ETHYLENE GLYCOL	146AR|1,2-DIHYDROXYETHANE|DOWTHERM SR 1|1,2-ETHANDIOL|ETHANE-1,2-DIOL|1,2-ETHANEDIOL|ETHYLENE ALCOHOL|ETHYLENE DIHYDRATE|ETHYLENE GLYCOL|1,2-ETHYLENE GLYCOL|FRIDEX|GLYCOL|GLYCOL ALCOHOL|2-HYDROXYETHANOL|LUTROL-9|M.E.G.|MACROGOL 400 BPC|MONOETHYLENE GLYCOL|NCI-C00920|NORKOOL|RAMP|TESCOL|UCAR 17|ZEREX	107-21-1	Ethylene glycol is a clear, colorless syrupy liquid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams.	2.5	5.0	2.5	519.0	28.0	192.0	80.0	58.0	56.0	3.0	21.0	9.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
116	FERRIC CHLORIDE	CLAYFEC|FECL3: FERRIC CHLORIDE, IRON(III) CHLORIDE|FERRIC CHLORIDE|FERRIC CHLORIDE, ANHYDROUS|FERRIC CHLORIDE, HEXAHYDRATE|FERRIC CHLORIDE, [SOLID, ANHYDROUS]|FERRIC TRICHLORIDE|FLORES MARTIS|IRON (III) CHLORIDE|IRON CHLORIDE|IRON III CHLORIDE|IRON PERCHLORIDE|IRON TRICHLORIDE|IRON(III) CHLORIDE|TRIFLOC	7705-08-0	Ferric chloride is an orange to brown-black solid. It is slightly soluble in water. It is noncombustible. When wet it is corrosive to aluminum and most metals. Pick up and remove spilled solid before adding water. It is used to treat sewage, industrial waste, to purify water, as an etching agent for engraving circuit boards, and in the manufacture of other chemicals.	1.0	2.5	5.0	527.0	28.0	192.0	80.0	58.0	57.0	3.0	21.0	9.0	6.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
117	FERRIC CHLORIDE, SOLUTION	CLAYFEC|FECL3: FERRIC CHLORIDE, IRON(III) CHLORIDE|FERRIC CHLORIDE|FERRIC CHLORIDE SOLUTION|FERRIC CHLORIDE, SOLUTION|FERRIC TRICHLORIDE|FLORES MARTIS|IRON CHLORIDE|IRON PERCHLORIDE|IRON TRICHLORIDE|IRON(III) CHLORIDE|TRIFLOC	7705-08-0	A colorless to light brown aqueous solution that has a faint hydrochloric acid odor. Highly corrosive to most metals and probably corrosive to tissue. Noncombustible. Used in sewage treatment and water purification.	2.5	5.0	2.5	527.0	28.0	192.0	80.0	58.0	57.0	3.0	21.0	9.0	6.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
112	COPPER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Insoluble in water.	5-AMINO-3-SULFOSALICYLIC ACID may react with strong oxidizing agents, with mineral acids or bases (NTP, 1992).								0																								
113	DEXTROSE SOLUTION	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Use extreme care when handling this compound. Avoid any contact with liquid or vapor. Rubber or neoprene gloves; respiratory protection; goggles (USCG, 1999)	Reacts with water to form hydrochloric acid, reaction may be violent.	METHYL PHOSPHONOTHIOIC DICHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases(including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)			greater than 122												(USCG, 1999)		-14.1	
114	ETHYL ALUMINUM SESQUICHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; face shield or safety goggles; protective clothing (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	NICKEL FORMATE is a crystalline material, mildly toxic and carcinogenic. Combustible when exposed to heat or flame. When heated to decomposition it emits toxic fumes of oxides of nickel [M. K.].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
115	ETHYLENE GLYCOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	NITROFURAZONE darkens on prolonged exposure to light. This chemical can react violently with reducing materials. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]							0																				(NTP, 1992)	(decomposes)		457 to 464
116	FERRIC CHLORIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	They are soluble in water and weigh more than water. Heat may be generated by dissolution into water.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
117	FERRIC CHLORIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator and protect it from mineral acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Water soluble	1,4-BUTANEDIOL DIGLYCIDYL ETHER reacts with acids. (NTP, 1992)	Polymerizable	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)			greater than 200																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
112	COPPER																										(NTP, 1992)		212.46						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C7H7NO6S		36.0	3.0	130.0	5.0	8.0
113	DEXTROSE SOLUTION														(USCG, 1999)		1.42		68								(USCG, 1999)		149												MPD	Corrosive	CH3Cl2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	33.0	3.0	111.0	5.0	8.0
114	ETHYL ALUMINUM SESQUICHLORIDE														(USCG, 1999)		2.15		68								(USCG, 1999)	(dihydrate)	184.8		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NFM	Class 9	Ni(CHO2)2.2H2O		99.0	5.0	12.0	3.0	8.0
115	ETHYLENE GLYCOL																										(NTP, 1992)		198.14						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C6H6N4O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	34.0	3.0	131.0	5.0	8.0
116	FERRIC CHLORIDE																																								Corrosive	C2H6O4S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	36.0	3.0	136.0	5.0	8.0
117	FERRIC CHLORIDE, SOLUTION														(NTP, 1992)		1.09 to 1.10	77		(NTP, 1992)			311 to 320	11		(NTP, 1992)		202.25						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL		Class 9	C10H18O4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	36.0	3.0	136.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
118	FERROUS SULFATE	COPPERAS|DURETTER|DURO FERON|FEOSOL|FEOSPAN|FE R-IN-SOL|FERRALYN|FERRO-GRADUMET|FERRO-THERON|FERROMYN|FERRO SULFATE|FERROUS SULFATE|FERROUS SULFATE (1:1)|FERROUS SULFATE HEPTAHYDRATE|FERROUS SULPHATE|FERSOLATE|FES O4: FERROUS SULFATE, IRON(II) SULFATE|GREEN SALTS|GREEN VITRIOL|IRON (OUS) SULFATE|IRON MONOSULFATE|IRON PROTOSULFATE|IRON SULFATE (1:1)|IRON SULFATE (FESO4)|IRON SULFATE (FESO4) HEPTAHYDRATE|IRON SULFATE HEPTAHYDRATE|IRON SULFATE HEPTAHYDRATE (FESO4.7H2O)|IRON VITRIOL|IRON(2+) SULFATE|IRON(2+) SULFATE (1:1)|IRON(2+) SULFATE HEPTAHYDRATE|IRON(II)	7720-78-7	A greenish or yellow-brown crystalline solid. Density 15.0 lb /gal. Melts at 64Â°C and loses the seven waters of hydration at 90Â°C. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Used for water or sewage treatment, as a fertilizer ingredient.	1.0	2.5	5.0	527.0	28.0	192.0	80.0	58.0	57.0	3.0	21.0	9.0	6.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, carbon dioxide, or dry chemical (USCG, 1999)
119	GLYCERINE, [CRUDE, CONCENTRATED]	GLYCERIN|GLYCERIN (ANHYDROUS)|GLYCERIN (MIST)|GLYCERIN, ANHYDROUS|GLYCERIN, SYNTHETIC|GLYCERINE|GL YCERINE, [CRUDE, CONCENTRATED]|GLYCERIT OL|GLYCEROL|GLYCYL ALCOHOL|GLYROL|GLYSAN IN|OSMOGLYN|PROPANETRI OL|1,2,3-PROPANETRIOL|SYNTHETIC GLYCERINE|90 TECHNICAL GLYCERINE|TRIHYDROXYP ROPANE|1,2,3-TRIHYDROXYPROPANE	56-81-5	A colorless to brown colored liquid. Combustible but may require some effort to ignite. Residual sodium hydroxide (lye) causes crude material to be corrosive to metals and/or tissue.	2.5	5.0	2.5	527.0	28.0	192.0	80.0	58.0	57.0	3.0	21.0	9.0	6.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
120	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED	HYDROGEN PEROXIDE - PEROXYACETIC ACID MIXTURE, [<= 5% PEROXYACETIC ACID, STABILIZED]|HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED	7722-84-1	A colorless liquid. Contact may severely irritate the skin, eyes, and mucous membranes. Decomposes violently on contact with many metals. Contact with combustible materials may result in spontaneous ignition. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	2.5	5.0	2.5	535.0	28.0	192.0	80.0	58.0	58.0	3.0	21.0	9.0	6.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
121	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED, WITH MORE THAN 60% HYDROGEN PEROXIDE	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED, WITH MORE THAN 60% HYDROGEN PEROXIDE	7722-84-1	A colorless liquid. Vapors may irritate the eyes and mucous membranes. Under prolonged exposure to fire or heat containers may violently rupture due to decomposition. Used to bleach textiles and wood pulp, in chemical manufacturing and food processing.	2.5	5.0	2.5	543.0	28.0	192.0	80.0	58.0	59.0	3.0	21.0	9.0	6.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
122	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 20% BUT NOT MORE THAN 60% HYDROGEN PEROXIDE (STABILIZED AS NECESSARY)	ALBONE|ALBONE 35|ALBONE DS|BAQUASHOCK|DIHYDRO GEN DIOXIDE|HIPOX|HYBRITE|H YDROGEN DIOXIDE|HYDROGEN PEROXIDE|HYDROGEN PEROXIDE (35% TO 52% BY WEIGHT)|HYDROGEN PEROXIDE (CONC.> 52%)|HYDROGEN PEROXIDE SOLUTION (30%)|HYDROGEN PEROXIDE SOLUTION, [40% TO 52% PEROXIDE]|HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 20% BUT NOT MORE THAN 60% HYDROGEN PEROXIDE (STABILIZED AS NECESSARY)|HYDROPEROX IDE|INHIBINE|METROKUR|O DOSAT D|OXYDOL|OXYFULL|OXYS EPT I|PERHYDROL|PERONE|PERO XAAN|PEROXIDE|SELECT BLEACH|SUPEROXOL|T-	7722-84-1	Colorless aqueous solution. Vapors may irritate the eyes and mucous membranes. Contact with most common metals and their compounds may cause violent decomposition, especially in the higher concentrations. Contact with combustible materials may result in spontaneous ignition. Prolonged exposure to fire or heat may cause decomposition and rupturing of the container. Used to bleach textiles and wood pulp, in chemical manufacturing and food processing.	2.5	5.0	2.5	551.0	36.0	200.0	80.0	66.0	60.0	4.0	22.0	9.0	7.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
118	FERROUS SULFATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Safety goggles. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164]. Water soluble.	DIETHYLENE GLYCOL MONOMETHYL ETHER is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		200		(NTP, 1992)		1.5		%	(NTP, 1992)		9.5		%	(NTP, 1992)		465		(NTP, 1992)		-94	
119	GLYCERINE, [CRUDE, CONCENTRATED]		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	NONYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).			(NFPA, 2010)		1	2	0	2																							
120	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	OCHRATOXIN A is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992). It is a carboxylic acid derivative. Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		336	
121	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED, WITH MORE THAN 60% HYDROGEN PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% ethanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	OCHRATOXIN B is incompatible with strong oxidizing agents, strong acids and strong bases. It is a carboxylic acid derivative. Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		430	
122	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 20% BUT NOT MORE THAN 60% HYDROGEN PEROXIDE (STABILIZED AS NECESSARY)	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,5-DINITRONAPHTHALENE is incompatible with strong oxidizers and strong bases. Mixtures with sulfur or sulfuric acid may explode if heated to 248Â° F (NTP, 1992).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		421 to 423	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
118	FERROUS SULFATE	(NTP, 1992)	; 0.25 mm Hg at 77Â° F	0.2		68		mm Hg	(NTP, 1992)		4.14				(USCG, 1999)		1.025		68		(NTP, 1992)		381		760		(NTP, 1992)		120.15						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	DGM	Poison	C5H12O3	Cellulose-Based Absorbents	35.0	3.0	165.0	5.0	8.0
119	GLYCERINE, [CRUDE, CONCENTRATED]														(USCG, 1999)		0.8785		59		(USCG, 1999)			406.4 to 413.6	760		(USCG, 1999)		186.29											NAE		C11H22O2		35.0	3.0	178.0	5.0	8.0
120	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE, WITH ACID(S), WATER AND NOT MORE THAN 5% PEROXYACETIC ACID, STABILIZED																										(NTP, 1992)		403.84						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C20H18ClNO6		36.0	3.0	150.0	5.0	8.0
121	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, STABILIZED, WITH MORE THAN 60% HYDROGEN PEROXIDE																										(NTP, 1992)		369.4												Poison	C20H19NO6		36.0	3.0	150.0	5.0	8.0
122	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 20% BUT NOT MORE THAN 60% HYDROGEN PEROXIDE (STABILIZED AS NECESSARY)																				(NTP, 1992)	Sublimes					(NTP, 1992)		218.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C10H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	36.0	3.0	150.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
123	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 8% BUT LESS THAN 20% HYDROGEN PEROXIDE	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 8% BUT LESS THAN 20% HYDROGEN PEROXIDE	7722-84-1	Hydrogen peroxide solution is the colorless liquid dissolved in water. Its vapors are irritating to the eyes and mucous membranes. The material, especially the higher concentrations, can violently decompose in contact with most common metals and their compounds. Contact with combustible materials can result in spontaneous ignition. Under prolonged exposure to fire or heat containers may violently rupture due to decomposition of the material. It is used to bleach textiles and wood pulp, in chemical manufacturing and food processing.	2.5	5.0	2.5	551.0	36.0	200.0	80.0	74.0	60.0	4.0	22.0	9.0	8.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
124	HYDROGEN PEROXIDE, STABILIZED	ALBONE|ALBONE 35|ALBONE DS|BAQUASHOCK|HIGH-STRENGTH HYDROGEN PEROXIDE|HIPOX|HYBRITE|HYDROGEN DIOXIDE|HYDROGEN DIOXIDE SOLUTION|HYDROGEN PEROXIDE|HYDROGEN PEROXIDE (AQUEOUS)|HYDROGEN PEROXIDE (CONC.>52%)|HYDROGEN PEROXIDE (CONCENTRATION GREATER THAN 52%)|HYDROGEN PEROXIDE, STABILIZED|HYDROPEROXIDE|INHIBINE|METROKUR|ODOSAT D|OXYDOL|OXYFULL|OXYSEPT |PERHYDROL|PERONE|PEROXAAN|PEROXIDE|SELECT BLEACH|SUPEROXOL|T-STUFF	7722-84-1	A crystalline solid at low temperatures. Has a slightly pungent, irritating odor. Used in the bleaching and deodorizing of textiles, wood pulp, hair, fur, etc. as a source of organic and inorganic peroxides; pulp and paper industry; plasticizers; rocket fuel; foam rubber; manufacture of glycerol; antichlor; dyeing; electroplating; antiseptic; laboratory reagent; epoxidation; hydroxylation; oxidation and reduction; viscosity control for starch and cellulose derivatives; refining and cleaning metals; bleaching and oxidizing agent in foods; neutralizing agent in wine distillation; seed disinfectant; substitute for chlorine in water and sewage treatment. (EPA, 1998)	1.0	2.5	5.0	559.0	36.0	200.0	80.0	74.0	61.0	4.0	22.0	9.0	8.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
125	METHYL TERT-BUTYL ETHER	1,1-DIMETHYLETHYL METHYL ETHER|ETHER, TERT-BUTYL METHYL|2-METHOXY-2-METHYL PROPANE|2-METHOXY-2-METHYLPROPANE|METHYL 1,1-DIMETHYLETHYL ETHER|METHYL TERT BUTYL ETHER|METHYL TERT-BUTYL ETHER|METHYL TERTIARY BUTYL ETHER|2-METHYL-2-METHOXY PROPANE|2-METHYL-2-METHOXYPROPANE|MTBE|T-BUTYL METHYL ETHER|TERT-BUTOXYMETHANE|TERT-BUTYL METHYL ETHER	1634-04-4	A colorless liquid with a distinctive anesthetic-like odor. Vapors are heavier than air and narcotic. Boiling point 131Â°F. Flash point 18Â°F. Less dense than water and miscible in water. Used as a octane booster in gasoline.	2.5	5.0	2.5	567.0	36.0	200.0	80.0	74.0	62.0	4.0	22.0	9.0	8.0	INHALATION: remove from exposure; begin artificial respiration if breathing has ceased. INGESTION: induce vomiting, followed by prompt and complete gastric lavage, catharsis, and demulcents. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
126	NATURAL GAS, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	NATURAL GAS, LIQUIFIED|NATURAL GAS, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|NATURAL GAS, [REFRIGERATED LIQUID]	8006-14-2	A flammable liquefied gaseous mixture of straight chain hydrocarbons, predominately methane.	5.0	1.0	1.0	575.0	36.0	200.0	80.0	74.0	63.0	4.0	22.0	9.0	8.0	(BLOB)	Violent reaction with water. Toxic and irritating hydrogen chloride and phosgene may be formed in fires. Difficult to extinguish, re-ignition may occur. Flashback along vapor trail may occur. Containers may explode in fire. Vapor may explode if ignited in enclosed area. When heated to decomposition or on contact with acids or acid fumes, chloride fumes are emitted. Reacts with surface moisture, releasing hydrogen chloride, which will corrode common metals and form flammable hydrogen gas. Avoid contact with water; it readily hydrolyzes, liberating hydrochloric acid. Hazardous polymerization may not occur. (EPA, 1998)	Use acid-vapor-type respirator, rubber gloves, chemical worker's goggles, and other protective equipment as necessary to protect skin and eyes. Extinguish with dry chemicals or carbon dioxide. Do not use water or foam. Cool exposed containers with water. Water spray, fog, or foam may be required to fight large fires. However, trimethylchlorosilane may react violently with water. Do not get water inside containers. (EPA, 1998)
127	NITROUS OXIDE	DINITROGEN MONOXIDE|HYPONITROUS ACID ANHYDRIDE|LAUGHING GAS|NITROUS OXIDE|NITROUS OXIDE, COMPRESSED|NITROUS OXIDE, [COMPRESSED]	10024-97-2	Nitrous oxide is a colorless, sweet-tasting gas. It is also known as "laughing gas". Continued breathing of the vapors may impair the decision making process. It is noncombustible but it will accelerate the burning of combustible material in a fire. It is soluble in water. Its vapors are heavier than air. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket. It is used as an anesthetic, in pressure packaging, and to manufacture other chemicals.	5.0	1.0	1.0	575.0	36.0	200.0	80.0	74.0	63.0	4.0	22.0	9.0	8.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)
128	NITROUS OXIDE, REFRIGERATED LIQUID	DINITROGEN MONOXIDE|DINITROGEN OXIDE|DINITROGEN OXIDE (N2O)|LAUGHING GAS|NITROUS OXIDE|NITROUS OXIDE, REFRIGERATED LIQUID|NITROUS OXIDE, [REFRIGERATED LIQUID]	10024-97-2	A colorless liquid. Density 1.22 g / cm3 at its boiling point of -89Â°C. Boils to give a colorless gas that is sweet-smelling and moderately toxic. The gas has narcotic effects when inhaled (laughing gas). Shipped under refrigeration. Vapor pressure is at about 745 psig at 70Â°F. Used to freeze foods and to manufacture other chemicals.	2.5	5.0	2.5	583.0	36.0	200.0	80.0	74.0	64.0	4.0	22.0	9.0	8.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting, followed by prompt and complete gastric lavage, catharsis, and demulcents. EYES or SKIN: wash immediately with large volumes of water. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
123	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 8% BUT LESS THAN 20% HYDROGEN PEROXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to prolonged exposure to air. Insoluble in water.	O-CRESIDINE neutralizes acids in weakly exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Reacts with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 235															(NTP, 1992)			124 to 129
124	HYDROGEN PEROXIDE, STABILIZED	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIISOOCTYL ACID PHOSPHATE is an organophosphate ester, and behaves as an acid. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
125	METHYL TERT-BUTYL ETHER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Water soluble.	Acidic inorganic salts, such as ZINC AMMONIUM CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
126	NATURAL GAS, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Fumes in air. Reacts vigorously and exothermically with water. Products of the reaction include hydrogen chloride. The heat may be sufficient to ignite nearby combustible materials. Trimethylchlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.3 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	TRIMETHYLCHLOROSILANE reacts vigorously and exothermically with water to produce hydrogen chloride.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1298 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(EPA, 1998)		0		(EPA, 1998)		1.8		%	(NTP, 1992)		39		%	(USCG, 1999)		743		(EPA, 1998)		-72	
127	NITROUS OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRI-N-AMYLAMINE may react with oxidizing agents. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate flammable gaseous hydrogen in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		215																
128	NITROUS OXIDE, REFRIGERATED LIQUID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Chemical goggles or face shield; rubber gloves; dust mask (USCG, 1999)	Hygroscopic. Water soluble	Acidic inorganic salts, such as ZINC BROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
123	HYDROGEN PEROXIDE, AQUEOUS SOLUTION, WITH NOT LESS THAN 8% BUT LESS THAN 20% HYDROGEN PEROXIDE																				(NTP, 1992)			482 to 486	760		(NTP, 1992)		137.18						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Poison	C8H11NO		36.0	3.0	150.0	5.0	8.0
124	HYDROGEN PEROXIDE, STABILIZED																																								Corrosive	C16H35O4P		36.0	3.0	150.0	5.0	8.0
125	METHYL TERT-BUTYL ETHER														(USCG, 1999)		1.81		68		(USCG, 1999)	(sublimes)	644		760		(USCG, 1999)		296.8											ZAC	Corrosive	Cl4Zn.2H4N(ClSZn.3H4N		37.0	3.0	102.0	5.0	8.0
126	NATURAL GAS, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	(NTP, 1992)	; 40 mm Hg at 11.5Â° F; 100 mm Hg at 42.8Â° F	608		68		mm Hg	(EPA, 1998)		3.7				(EPA, 1998)		0.854		77		(EPA, 1998)		135		760		(EPA, 1998)		108.66						(NTP, 1992)	Decomposes				TMC	Flammable Liquid|Corrosive	C3H9ClSi	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	32.0	3.0	104.0	5.0	8.0
127	NITROUS OXIDE	(NTP, 1992)		7		79		mm Hg	(NTP, 1992)		7.83				(NTP, 1992)		0.7907		68		(NTP, 1992)			464 to 473	760		(NTP, 1992)		227.44						(NTP, 1992)	Insoluble (<1 mg/ml)					Combustible Liquid	C15H33N	Mineral-Based & Clay-Based Absorbents	43.0	4.0	73.0	4.0	8.0
128	NITROUS OXIDE, REFRIGERATED LIQUID														(USCG, 1999)		4.22		68								(USCG, 1999)		225.18											ZBR	Class 9	Br2Zn		43.0	4.0	73.0	4.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
129	PHTHALIC ANHYDRIDE	ARALDITE HT 901|1,2-BENZENEDICARBOXYLIC ACID ANHYDRIDE|1,2-BENZENEDICARBOXYLIC ANHYDRIDE|1,3-DIHYDRO-1,3-DIOXOISOBENZOFURAN|1,3-DIOXOPHTHALAN|ESEN|HT 901|1,3-ISOBENZOFURANDIONE|NCI-C03601|PAN|PHTHALANDION E|1,2-PHTHALANDIONE|PHTHALANHYDRIDE|PHTHALIC ACID ANHYDRIDE|PHTHALIC ANHYDRIDE|RETARDER AK|RETARDER B-C|RETARDER ESEN|RETARDER PD|SCONOC 7|TGL 6525|VULKALENT B/C	85-44-9	A colorless to white lustrous solid in the form of needles with a mild distinctive odor. Moderately toxic by inhalation or ingestion and a skin irritant. Melting point 64Â°F Flash point 305Â°F. Forms a corrosive solution when mixed with water. Used in the manufacture of materials such as artificial resins.	1.0	2.5	5.0	583.0	36.0	200.0	80.0	74.0	64.0	4.0	22.0	9.0	8.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
130	POTASSIUM CHLORIDE	CHLOROPOTASSURIL|CHLOROVESCENT|ENSEAL|ENSEAL KCL|K-CONTIN|K-DUR|KALCORID|KALITABS|KAON-CL|KLOTRIX|MURIATE OF POTASH|NEOBAKASAL|PETER-KAL|POTASH MURIATE|POTASSIUM CHLORIDE|POTASSIUM CHLORIDE KC|POTASSIUM MONOCHLORIDE|POTASSIUM MURIATE|POTAVESCENT|REKAWAN|REPONE K|SALT SUBSTITUTE|SLOW K|SLOW-K-TABLETS|SPAN-K|SUPER K|SUPER K (SALT)	7447-40-7	PHYSICAL DESCRIPTION: White colorless cubic crystals. Strong saline taste. (NTP, 1992)	1.0	2.5	5.0	591.0	36.0	200.0	88.0	74.0	65.0	4.0	22.0	10.0	8.0	Call a physician. EYES: Wash with water. SKIN: Wash with water. INGESTION: Induce vomiting. (USCG, 1999)		
131	RESIDUAL ACETONE	RESIDUAL ACETONE	67-64-1	A clear colorless liquid with a pleasant odor. Vapors are heavier than air. Used to make other chemicals, in paint and nail polish removers, as a solvent, and for other uses.	2.5	5.0	2.5	591.0	36.0	200.0	88.0	82.0	65.0	4.0	22.0	10.0	9.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
132	SILICA, AMORPHOUS	(BLOB)	7631-86-9	Transparent to gray, odorless powder. Irritating to the skin and eyes on contact. Inhalation will cause irritation in the respiratory tract. [Note: Amorphous silica is the non-crystalline form of SiO2.]	1.0	2.5	5.0	591.0	36.0	200.0	88.0	82.0	65.0	4.0	22.0	10.0	9.0	INHALATION: remove victim from exposure; oxygen can be used for pulmonary symptoms with decongestants; enforce complete rest, because effects may be delayed 24 hours; similar to phosgene poisoning. EYES: flush thoroughly with water and seek medical attention; apply Pontocaine drops (1/2%) and cortisone ointment (1%). SKIN: wash thoroughly with soap and water. INGESTION: give large amounts of water; induce vomiting; get medical attention; enforce rest for 24-36 hours. (USCG, 1999)	Combustible. POISONOUS GASES ARE PRODUCED IN FIRE. Oxides of sulfur, phosphorus; hydrogen chloride and phosgene. Contact with water applied to adjacent fires will produce irritating fumes of hydrogen chloride. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
133	SODIUM BICARBONATE	BAKING SODA|BICARBONATE OF SODA|CARBONIC ACID MONOSODIUM SALT|CARBONIC ACID SODIUM SALT (1:1)|CARBONIC ACID, MONOSODIUM SALT|COL-EVAC|DP 35/22|EXTINBJ|JUSONIN|MEYLON|MONOSODIUM CARBONATE|MONOSODIUM HYDROGEN CARBONATE|NEUT|SODA|SODA MINT|SODIUM ACID CARBONATE|SODIUM BICARBONATE|SODIUM CARBONATE (NA(HCO3))|SODIUM HYDROCARBONATE|SODIUM HYDROGEN CARBONATE|SODIUM MONOHYDROGEN CARBONATE|SOLUDAL	144-55-8	PHYSICAL DESCRIPTION: Odorless white crystalline powder or lumps. Slightly alkaline (bitter) taste. pH (of freshly prepared 0.1 molar aqueous solution): 8.3 at 77Â°F. pH (of saturated solution): 8-9. Non-toxic.	1.0	2.5	5.0	591.0	36.0	200.0	88.0	82.0	65.0	4.0	22.0	10.0	9.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
134	SODIUM SILICATE	(BLOB)	6834-92-0	A powdered or flaked solid substance. Strong irritant to skin, eyes, and mucous membranes. May be toxic by ingestion. Concentrated aqueous solutions used as a glue.	1.0	2.5	5.0	599.0	36.0	200.0	88.0	82.0	66.0	4.0	22.0	10.0	9.0	INHALATION: Remove to fresh air. SKIN OR EYES: Immediately flush with plenty of water. Remove contaminated clothing and shoes. (USCG, 1999)	Combustible: Carbon dioxide and carbon monoxide may be produced in a fire. (USCG, 1999)	Combustible: Extinguish with dry chemical, alcohol foam, or carbon dioxide. Cool exposed containers with water. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
129	PHTHALIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store at or below ambient; protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Slightly soluble in water.	Halogenated aliphatic compounds, such as BETA-BHC, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Dehydrochlorination occurs in the presence of alkalis.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		594	
130	POTASSIUM CHLORIDE			Water soluble.	Salts, basic, such as COPPER GLYCINATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																						(USCG, 1999)		253.4	
131	RESIDUAL ACETONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Exposure to light and air can cause gradual oxidation. Insoluble in water.	RIDDELLINE reacts readily with oxidizing agents (slowly with atmospheric oxygen). On contact with bases, hydrolysis will probably occur (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		369	
132	SILICA, AMORPHOUS	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear goggles and self-contained breathing apparatus. (USCG, 1999)	Reacts with water to form hydrogen chloride(hydrochloric acid)	An acid halide and organothiophosphate. Acid halides are water reactive; some are violently reactive. They are incompatible with strong oxidizing agents, alcohols, amines, alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		203																		(USCG, 1999)		less than -58	
133	SODIUM BICARBONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable				2	0	0	0		(NTP, 1992)			greater than 200													(NTP, 1992)		less than 32	
134	SODIUM SILICATE	Remove all ignition sources; call fire department; avoid contact with liquid; notify local health and pollution control agencies; protect water intakes. (USCG, 1999)	Approved respirator; rubber gloves; clothing to prevent body contact wiht liquid. (USCG, 1999)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	Ethers, such as ETHYLENE GLYCOL PROPYL ETHER can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		120		(USCG, 1999)	1.26% k 69Â°C	1.26		%	(USCG, 1999)	15.8% k 127Â° C	15.8		%							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
129	PHTHALIC ANHYDRIDE														(NTP, 1992)		1.89		66								(NTP, 1992)		290.82													Poison	C6H6Cl6		36.0	3.0	116.0	5.0	8.0
130	POTASSIUM CHLORIDE																				(USCG, 1999)	Decomposes with gas evolution.					(USCG, 1999)	229.67 monohydrate; 247.69 dihydrate	211.66										CPG		C4H8CuN2O4		34.0	3.0	157.0	5.0	8.0
131	RESIDUAL ACETONE																										(NTP, 1992)		349.42						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Poison	C18H23NO6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	31.0	3.0	131.0	5.0	8.0
132	SILICA, AMORPHOUS	(USCG, 1999)		1.45		70		mm Hg							(USCG, 1999)		1.35		68		(USCG, 1999)		342		760		(USCG, 1999)		163											EPD	Poison Inhalation Hazard|Corrosive	C2H5Cl2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	30.0	3.0	131.0	5.0	8.0
133	SODIUM BICARBONATE														(NTP, 1992)		1.122				(NTP, 1992)			509 to 518	760		(NTP, 1992)		192.22						(NTP, 1992)	Slightly soluble (1-10 mg/ml)						C11H12O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	30.0	3.0	138.0	5.0	8.0
134	SODIUM SILICATE								(USCG, 1999)		3.6				(USCG, 1999)		0.908		73		(USCG, 1999)		301		760		(USCG, 1999)		104.15											EGP	Flammable Liquid	C5H12O2		39.0	3.0	147.0	5.0	8.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
135	TITANIUM DIOXIDE	(BLOB)	13463-67-7	PHYSICAL DESCRIPTION: Odorless white powder. Tasteless. pH 7.5. Occurs in three crystalline forms. (NTP, 1992)	1.0	2.5	5.0	607.0	36.0	200.0	88.0	82.0	67.0	4.0	22.0	10.0	9.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting if large amounts have been swallowed. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)		
136	TITANIUM SPONGE GRANULES	ALPASTE RTA 030|C.P. TITANIUM|DENTCRAFT TITAN INGOT|ELGARD 210|M 350|M 350 (METAL)|SMELLOFF-CUTTER TITANIUM|TG-TV|TIMET 115|TITANIUM ELEMENT|TITANIUM FULLERIDE (TIC20)|TITANIUM SPONGE GRANULES|TITANIUM SPONGE POWDERS|TITANIUM SPONGE, [GRANULES OR POWDER]|TP270H|TPS 350|TR 28C|VENTRON 00901	7440-32-6	A white-colored solid. Insoluble in water and denser than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion. May ignite and burn with an intense flame if exposed to high temperatures or flame.	1.0	2.5	5.0	615.0	36.0	200.0	88.0	82.0	68.0	4.0	22.0	10.0	9.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
137	ZINC OXIDE, CRUDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	ZINC OXIDE|ZINC OXIDE, CRUDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)|ZINC PEROXIDE	1314-13-2	Crude zinc oxide is a yellow-gray granular solid with no odor. It is insoluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. Prolonged inhalation of the dust may result in metal fume fever with symptoms of chills, fever, muscular pain, nausea and vomiting.	1.0	2.5	5.0	623.0	36.0	200.0	88.0	82.0	69.0	4.0	22.0	10.0	9.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
138	ZINC SULFATE	BONAZEN|BUFOPTO ZINC SULFATE|COMPLEXONAT|HONNY FRESH 10P|OP-THAL-ZIN|OPTRAEX|SULFURIC ACID ZINC SALT|VERAZINC|WHITE VITRIOL|ZINC SULFATE|ZINC SULFATE (1:1)|ZINC SULFATE (ZNSO4)|ZINC SULFATE HEPTAHYDRATE|ZINC SULPHATE|ZINC VITRIOL|ZINC(II) SULFATE|ZINCOMED	7733-02-0	Anhydrous zinc sulfate is a colorless crystalline solid. Zinc sulfate is also obtained as a hexahydrate, ZnSO4.6H2O, and as a heptahydrate ZnSO4.7H2O. All forms are soluble in water. All are noncombustible. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in the production of rayon, as a feed supplement, and as a fertilizer ingredient.	1.0	2.5	5.0	623.0	36.0	200.0	88.0	82.0	69.0	4.0	22.0	10.0	9.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
139	ZINC SULFATE AND FERRIC SULFATE, [SOLID]	ZINC SULFATE AND FERRIC SULFATE, [SOLID]	7446-20-0	A light colored solid. Denser than water and insoluble in water. May be powdered. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment. May irritate skin, eyes and respiratory system.	1.0	2.5	5.0	631.0	36.0	200.0	88.0	82.0	70.0	4.0	22.0	10.0	9.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
140	ALUMINUM CHLOROHYDRATE SOLUTION	ALUMINUM CHLOROHYDRATE SOLUTION	1327-41-9	A clear amber liquid with little or no odor. Denser than water. May severely irritate skin, eyes or mucous membrane. Used in commercial antiperspirants and deodorants.	2.5	5.0	2.5	631.0	36.0	200.0	88.0	82.0	70.0	4.0	22.0	10.0	9.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Decomposes above 356F. Avoid strong alkalies. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
135	TITANIUM DIOXIDE		Goggles or face shield; dust mask; rubber gloves (USCG, 1999)	Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																								
136	TITANIUM SPONGE GRANULES	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Slowly decomposed by water with the evolution of gaseous chlorine and heat. Experimental work at Argonne National Laboratory has determined that there is essentially no Cl2 gas formation; the substance is quite unreactive in water. This does not prevent Cl2 formation by a catalytic mechanism, but under normal conditions calcium hypochlorite is quite unreactive. The hydration reaction was rapid and quite exothermic. The small change in gas volume was attributed to this heating. (Argonne Report ANL/DIS-00-1, October 2000).	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																								
137	ZINC OXIDE, CRUDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dilution with water may generate enough heat to cause steaming or spattering.	CESIUM HYDROXIDE,SOLUTION neutralizes acids exothermically to form salts plus water. Reacts with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. May serve as a catalyst. Reacts when heated above about 84Â° C with aqueous solutions of reducing sugars other than sucrose, to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
138	ZINC SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	FUMARONITRILE can react with strong acids, strong bases, strong oxidizing agents and strong reducing agents. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		206.2	
139	ZINC SULFATE AND FERRIC SULFATE, [SOLID]	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in moist air. The liquid very slowly reacts exothermically with water to form hydrogen chloride. Experimental work at Argonne National Laboratory has determined that there is essentially no HCl gas formation; the substance is quite unreactive in water. This does not prevent HCl formation by a catalytic mechanism, but under normal conditions fumaryl chloride is quite unreactive (Argonne Report ANL/DIS-00-1, October 2000).	FUMARYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, amines and other bases. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
140	ALUMINUM CHLOROHYDRATE SOLUTION	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as LEPTOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)			158 to 159

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
135	TITANIUM DIOXIDE														(USCG, 1999)		1.5		68								(USCG, 1999)	(approx.)	470												FCP		C3H9O6P . 2[3 Fe		30.0	3.0	165.0	5.0	8.0
136	TITANIUM SPONGE GRANULES																																								Oxidizer|Corrosive	Ca(ClO)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	141.0	5.0	31.0	3.0	8.0
137	ZINC OXIDE, CRUDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)																																								Corrosive	CsOH (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	35.0	3.0	211.0	5.0	8.0
138	ZINC SULFATE														(NTP, 1992)		0.9416		232		(NTP, 1992)		367		760		(NTP, 1992)		78.07						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C4H2N2	Dirt/Earth	33.0	3.0	159.0	5.0	8.0
139	ZINC SULFATE AND FERRIC SULFATE, [SOLID]																																								Corrosive	C4H2Cl2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	33.0	3.0	159.0	5.0	8.0
140	ALUMINUM CHLOROHYDRATE SOLUTION														(EPA, 1998)		1.53		77								(EPA, 1998)		412.07												Poison	C13H10BrCl2O2PS		36.0	3.0	97.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
141	ALUMINUM OXIDE	ALPHA-ALUMINA|ALUMINA|ALUMINUM OXIDE|ALUMINUM OXIDE (FIBROUS FORMS)|ALUMINUM TRIOXIDE	1344-28-1	White odorless crystalline powder. Water insoluble. Properties (both physical and chemical) vary according to the method of preparation; different methods give different crystalline modifications. The variety formed at very high temperature is quite inert chemically.	1.0	2.5	5.0	631.0	36.0	200.0	88.0	89.0	70.0	4.0	22.0	10.0	10.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
142	AMMONIUM CHLORIDE	AMCHLOR|AMCHLORIDE|AMMONERIC|AMMONIUM CHLORIDE|AMMONIUM CHLORIDE (NH4CL)|AMMONIUM CHLORIDE FUME|AMMONIUM MURIATE|AMMONIUM MURIATE FUME|DARAMMON|SAL AMMONIAC|SAL AMMONIAC FUME|SALMIAC	12125-02-9	Ammonium chloride is a white crystalline solid. It is soluble in water(37%). The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to make other ammonium compounds, as a soldering flux, as a fertilizer, and for many other uses.	1.0	2.5	5.0	638.0	36.0	200.0	88.0	89.0	71.0	4.0	22.0	10.0	10.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
143	BORIC ACID	BASILIT B|BORACIC ACID|BORIC ACID|BORIC ACID (B(OH)3)|BOROFAX|BORON TRIHYDROXIDE|DIA FLEA-MATE|DR.'S 1 FLEA TERMINATOR DF|DR.'S 1 FLEA TERMINATOR DFPBO|DR.'S 1 FLEA TERMINATOR DTPBC|DR.'S 1 FLEA TERMINATOR DTPBO|FLEA PRUFE|HYDROGEN ORTHOBORATE|NCI-C56417|ORTHOBORIC ACID|ORTHOBORIC ACID (B(OH)3)|ORTHOBORIC ACID (H3BO3)|SUPER FLEA ELIMINATOR|THREE ELEPHANT|TRIHYDROXYBORANE	10043-35-3	Odorless white solid. Melting point 171Â°C. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	645.0	36.0	200.0	88.0	89.0	72.0	4.0	22.0	10.0	10.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
144	BUTANE	BUTANE|BUTANE MIXTURE|BUTYL HYDRIDE|DIETHYL|LIQUEFIED PETROLEUM GAS|LPG|METHYLETHYLMETHANE|N-BUTANE|NORMAL-BUTANE|R 600|R 600 (ALKANE)	106-97-8	Butane is a colorless gas with a faint petroleum-like odor. For transportation it may be stenched. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air. Any leak can be either liquid or vapor. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used as a fuel, an aerosol propellant, in cigarette lighters, and to make other chemicals.	5.0	1.0	1.0	652.0	43.0	207.0	88.0	96.0	73.0	5.0	23.0	10.0	11.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
145	BUTANE MIXTURE	BUTANE MIXTURE	106-97-8	Contains isobutane and n-butane, which are chemically similar. An colorless gas with a faint disagreeable odor. Easily liquefied under pressure. Mildly toxic by inhalation. Causes drowsiness.	5.0	1.0	1.0	652.0	43.0	207.0	88.0	96.0	73.0	5.0	23.0	10.0	11.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
141	ALUMINUM OXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hygroscopic. Soluble in water.	CUPFERRON may be sensitive to prolonged exposure to air. Incompatible with strong oxidizing agents, strong acids and strong bases. Forms unstable solutions with thorium, titanium and zirconium salts. (NTP, 1992)									0																				(NTP, 1992)			325 to 327
142	AMMONIUM CHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Stable at pHs between 5.0 and 9.0, but is hydrolyzed by strong acids and bases.	A triazine derivative.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
143	BORIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
144	BUTANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Aqueous solutions are neutral to litmus (NTP, 1992).	URETHANE is incompatible with alkalis, acids, chloral hydrate, camphor, menthol and thymol. Also incompatible with antipyrine and salol. May react with strong oxidizing agents. Liquefies with benzoic acid, resorcinol and salicylic acid. Reacts with phosphorus pentachloride to form an explosive product (NTP, 1992).						0		(NTP, 1992)		198																(NTP, 1992)			118 to 122
145	BUTANE MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A mixture of chlorinated benzene polymeric material and inorganic sulfides. The chlorinated polymer may be rather inert, whereas, inorganic sulfides are generally basic and therefore incompatible with acids. Many of these compounds are reducing agents and therefore react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Simple salts of sulfides (such as sodium, potassium, and ammonium sulfide) react vigorously with acids to release hydrogen sulfide gas.						0																				(NTP, 1992)			536 to 545

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	molwgt_note	tdlh_source	tdlh_value	tdlh_range	tdlh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chem_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
141	ALUMINUM OXIDE	(NTP, 1992)	Negligible																								(NTP, 1992)	155.16							(NTP, 1992)	at 65.3Â° F		less than 1	mg/mL				Cellulose-Based Absorbents|Expanded Polymeric Absorbents	25.0	2.0	128.0	5.0	7.0
142	AMMONIUM CHLORIDE																										(NTP, 1992)	181.15							(NTP, 1992)	at 72Â° F		less than 1	mg/mL			Poison	C9H13Cl N6	Mineral-Based & Clay-Based Absorbents	25.0	2.0	141.0	5.0	7.0
143	BORIC ACID																										(NTP, 1992)								(NTP, 1992)	at 72Â° F		less than 1	mg/mL			Poison	C8H7NO 4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	22.0	2.0	107.0	5.0	7.0
144	BUTANE	(NTP, 1992)	: 10 mm Hg at 172.6Â° F; 20 mm Hg at 195.6Â° F	5		150.4		mm Hg	(NTP, 1992)		3.07				(NTP, 1992)		0.9862		70		(NTP, 1992)			360 to 363	760		(NTP, 1992)								(NTP, 1992)	at 72Â° F	greater than or equal to 100	mg/mL			C3H7NO 2		30.0	3.0	69.0	4.0	7.0
145	BUTANE MIXTURE																										(NTP, 1992)	Unspecified							(NTP, 1992)	at 68Â° F	less than 1	mg/mL			(C6H14Cl2 .C6H3Cl3 .N2S)x		30.0	3.0	69.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
146	CALCIUM SULFATE	A 30|A 30 (SULFATE)|ANHYDRITE|ANHYDROUS CALCIUM SULFATE|ANHYDROUS GYPSUM|ANHYDROUS SULFATE OF LIME|BASIC CALCIUM SULFATE|CA 5|CA 5 (SULFATE)|CALCIUM SALT OF SULFURIC ACID|CALCIUM SULFATE|CALCIUM SULFATE (1:1)|CALCIUM SULFATE (CASO4)|CALCIUM SULPHATE|CAS 20|CAS 20-4|CRYSALBA|D 101A|D 101A (SULFATE)|DEAD-BURNED GYPSUM|DENKA SIGMA 1000|DRIERITE|FRANKLIN FIBER H 45|KARSTENITE|MURIACITE|OPAREX 10|OSTEOSET|SSS-A|SULFURIC ACID CALCIUM SALT|SULFURIC ACID CALCIUM(2+) SALT (1:1)|THIOLITE	7778-18-9	Odorless, white powder or colorless, crystalline solid. Crystals sometimes have a blue, gray or reddish tinge or can be brick red. Density: 2.96 g cm-3.	1.0	2.5	5.0	659.0	43.0	214.0	88.0	96.0	74.0	5.0	24.0	10.0	11.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
147	CITRIC ACID	ACILETTEN|ANHYDROUS CITRIC ACID|BETA-HYDROXY-TRICARBOXYLIC ACID|BETA-HYDROXYTRICARBALLYLIC ACID|CHEMFILL|CITRETTEN|CITRIC ACID|CITRO|HYDROCEROL A|2-HYDROXY-1,2,3-PROPANE-TRICARBOXYLIC ACID|2-HYDROXY-1,2,3-PROPANETRICARBOXYLIC ACID	77-92-9	Colorless, odorless crystals with an acid taste. Denser than water. (USCG, 1999)	1.0	2.5	5.0	659.0	43.0	214.0	88.0	96.0	74.0	5.0	24.0	10.0	11.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
148	COCO AMIDES	ARMID C|COCAMIDE|COCO AMIDES|COCO FATTY ACID AMIDES|COCODIETHANOLAMIDE|COCONUT OIL AMIDES|COCONUT OIL DIETHANOLAMINE CONDENSATE|COCONUT OIL, REACTION PRODUCTS WITH DIETHANOLAMINE|DIETHANOLAMINE CONDENSATE OF COCONUT OIL|WITCAMIDE 128T	8051-30-7	PHYSICAL DESCRIPTION: Clear viscous amber oil. pH (1% solution) 9-10.5. Fatty odor. (NTP, 1992)	2.5	5.0	2.5	659.0	43.0	214.0	88.0	96.0	74.0	5.0	24.0	10.0	11.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
149	COCONUT OIL ACID DIETHANOLAMINE CONDENSATE (2/1)	(BLOB)	68603-42-9	PHYSICAL DESCRIPTION: Viscous amber or yellow liquid. pH (1% aqueous solution) 9. (NTP, 1992)	2.5	5.0	2.5	659.0	43.0	214.0	88.0	96.0	74.0	5.0	24.0	10.0	11.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
150	COPPER SELENATE	COPPER SELENATE|SELENIC ACID (H2SEO4), COPPER SALT	70027-50-8	Light blue crystals. Soluble in acids, water, ammonium hydroxide. Used as a colorant.	1.0	2.5	5.0	659.0	43.0	214.0	88.0	96.0	74.0	5.0	24.0	10.0	11.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
151	COPPER SULFATE PENTAHYDRATE	BLUE COPPER AS|BLUE VITRIOL|BLUESTONE|COPPER (2+) SULFATE PENTAHYDRATE|COPPER (II) SULFATE PENTAHYDRATE|COPPER (II) SULFATE PENTAHYDRATE (1:1:5)|COPPER SULFATE|COPPER SULFATE (CUSO4) PENTAHYDRATE|COPPER SULFATE PENTAHYDRATE|COPPER SULPHATE|COPPER(2+) SULFATE PENTAHYDRATE|COPPER(II) SULFATE PENTAHYDRATE|COPPERFINE-ZINC|CSP|CUPRIC SULFATE PENTAHYDRATE|NATURAL CHALCANTHITE|ROMAN VITRIOL|SALZBURG VITRIOL|SULFURIC ACID, COPPER (2+) SALT (1:1), PENTAHYDRATE|SULFURIC ACID, COPPER (2+) SALT, PENTAHYDRATE|TRIANGLE	7758-99-8	PHYSICAL DESCRIPTION: Blue crystalline granules or powder. Melting point 110Â°C (with decomposition). Non-combustible. Nauseating metallic taste. Odorless. White when dehydrated. (NTP, 1992)	1.0	2.5	5.0	666.0	43.0	214.0	88.0	96.0	75.0	5.0	24.0	10.0	11.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
146	CALCIUM SULFATE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
147	CITRIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and moisture, and store it under refrigerated temperatures. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound is hygroscopic and light sensitive. Insoluble in water.	4-NITROQUINOLINE-1-OXIDE reacts with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		309	
148	COCO AMIDES	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	The neat chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	Ketones, such as 1,2-NAPHTHOQUINONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(Decomposes)		293 to 297
149	COCONUT OIL ACID DIETHANOLAMINE CONDENSATE (2/1)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to air and light. Slighly water soluble (NTP, 1992).	An amine and ester. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		220																	(NTP, 1992)		75 to 77	
150	COPPER SELENATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		590	
151	COPPER SULFATE PENTAHYDRATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. About the same density as water and slowly dissolves in water. Slowly reacts with water to form phosphoric acid and corresponding organic alcohol.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for dibutyl phosphate, CAS number 109-47-7	3	2	0	2		(NFPA, 2010)		120																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
146	CALCIUM SULFATE																																								Flammable Liquid			29.0	2.0	102.0	5.0	7.0
147	CITRIC ACID																											(NTP, 1992)		190.17						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C9H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	25.0	2.0	135.0	5.0	7.0
148	COCO AMIDES														(NTP, 1992)		1.45										(NTP, 1992)		158.16						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C10H6O2		31.0	3.0	84.0	4.0	7.0
149	COCONUT OIL ACID DIETHANOLAMINE CONDENSATE (2/1)														(NTP, 1992)		1.1682		50		(NTP, 1992)		493		760		(NTP, 1992)		151.17						(NTP, 1992)	Slightly soluble						C8H9NO2		31.0	3.0	84.0	4.0	7.0
150	COPPER SELENATE																											(NTP, 1992)		191						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C4H3BrN2O2	Dirt/Earth	25.0	2.0	149.0	5.0	7.0
151	COPPER SULFATE PENTAHYDRATE																																								Corrosive	C8H19O3P		25.0	2.0	149.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
152	CUPRIC SULFATE	BLUE COPPER|BLUE STONE|BLUE VITRIOL|COPPER MONOSULFATE|COPPER SULFATE|COPPER SULFATE (1:1)|COPPER SULFATE (CUSO4)|COPPER SULFATE PENTAHYDRATE|COPPER(2+) SULFATE|COPPER(2+) SULFATE (1:1)|COPPER(II) SULFATE|CUPRIC SULFATE|CUPRIC SULFATE ANHYDROUS|CUPRIC SULPHATE|HYLINEC|INCRACIDE 10A|INCRACIDE E 51|MAC 570|MONOCOPPER SULFATE|ROMAN VITRIOL|SULFATE OF COPPER|SULFURIC ACID, COPPER(2+) SALT (1:1)	7758-98-7	A white or off-white solid. Melting point 200Â°C with decomposition. Non-combustible.	1.0	2.5	5.0	666.0	43.0	214.0	88.0	96.0	75.0	5.0	24.0	10.0	11.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
153	DI(2-ETHYLHEXYL) PHTHALATE	(BLOB)	117-81-7	Colorless to pale yellow oily liquid. Nearly odorless. (USCG, 1999)	2.5	5.0	2.5	673.0	43.0	221.0	88.0	96.0	76.0	5.0	25.0	10.0	11.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
154	DI-N-OCTYL PHTHALATE	BENZENEDICARBOXYLIC ACID, DI-N-OCTYL ESTER|1,2 BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER|BIS-(2-ETHYLHEXYL)PHTHALATE|CELLUFLEX DOP|DI-(2-ETHYLHEXYL) PHTHALATE|DI-N-OCTYL PHTHALATE|DINOPOL NOP|DIOCTYL O-BENZENEDICARBOXYLATE|DIOCTYL O-PHTHALATE|DIOCTYL PHTHALATE|DNOP|DOP|N-DIOCTYL PHTHALATE|N-DIOCTYLPHTHALATE|N-OCTYL PHTHALATE|O-BENZENEDICARBOXYLIC ACID, DIOCTYL ESTER|OCTOIL|OCTYL PHTHALATE|PHTHALIC ACID DIOCTYL ESTER|PHTHALIC ACID, BIS (2-ETHYLHEXYL ESTER)|PHTHALIC ACID, DIOCTYL ESTER|POLYCIZER 162|PX-138|VINICIZER 85|VINYCIZER 85	117-84-0	A clear liquid with a mild odor. Slightly less dense than water and insoluble in water. Hence floats on water. Flash point 430Â°F. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. As a liquid, can easily penetrate the soil and contaminate groundwater and nearby streams. Eye contact may produce severe irritation and direct skin contact may produce mild irritation. Used in the manufacture of a variety of plastics and coating products.	2.5	5.0	2.5	673.0	43.0	221.0	88.0	96.0	76.0	5.0	25.0	10.0	11.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
155	ETHYL ACETATE	ACETIC ACID, ETHYL ESTER|ACETIC ESTER|ACETIC ETHER|ACETIDIN|ACETOXYETHANE|ETHYL ACETATE|ETHYL ACETIC ESTER|ETHYL ESTER OF ACETIC ACID|ETHYL ETHANOATE|ETOAC|VINEGAR NAPHTHA	141-78-6	A clear colorless liquid with a fruity odor. Flash point 24Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	673.0	43.0	221.0	95.0	96.0	76.0	5.0	25.0	11.0	11.0	(BLOB)	Vapor forms explosive mixtures with air. Vapor is heavier than air and may travel a considerable distance to source of ignition and flash back. Liquid may explode when heated under confinement. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire and explosion. May explode at 68F in presence of air or oxygen. Avoid contact with heat, acid or acid fumes as these cause the emission of highly toxic fumes. Avoid contact with air, ignition sources and vapors entering a confined space. (EPA, 1998)	Material is too dangerous to health to expose fire fighters. A few whiffs of the vapor could cause death. If liquid or vapor penetrates fire fighter's protective gear it will cause fatality. Normal full protective gear available to the average fire department will not provide adequate inhalation or skin protection. Use water, alcohol foam, carbon dioxide, dry chemical. Use water in flooding quantities as fog. Solid streams of water may be ineffective. (EPA, 1998)
156	ETHYLENE OXIDE	12/88|ALPHA, BETA-OXIDOETHANE|AMPROLENE|ANPROLENE|ANPROLINE|CIBA-GEIGY 9138|DIHYDROOXIRENE|DIMETHYLENE OXIDE|E O|E.O.|ENT-26263|1,2-EPOXYETHANE|EPOXYETHANE|1,2-EPOXYETHANE|ETHENE OXIDE|ETHOX|ETHYLENE OXIDE|ETHYLENEOXY|ETO|FEMA NO. 2433|MERPOL|NCI-C50088|OXACYCLOPROPANE|OXANE|OXIDOETHANE|OXIRAN|OXIRANE|OXIRENE, DIHYDRO-|OXYFUME|OXYFUME 12|STERILIZING GAS ETHYLENE OXIDE 100%|T-GAS	75-21-8	A clear colorless gas with an ethereal odor with a flash point below 0Â°F. Liquid less dense than water. Vapors heavier than air. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Vapors very toxic. Vapors irritate the eyes, skin, and respiratory system. Prolonged skin contact may result in delayed burns. Used to make other chemicals, as a fumigant and industrial sterilant.	5.0	1.0	1.0	680.0	43.0	228.0	95.0	96.0	77.0	5.0	26.0	11.0	11.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents: Small fires: dry chemicals, CO 2 , water spray or alcohol foam. Large fires: water spray, fog or alcohol foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
152	CUPRIC SULFATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	5-DIMETHYLAMINO-2-NITROSO-4-METHYLPHENOL may react with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides.							0																					
153	DI(2-ETHYLHEXYL) PHTHALATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	METHYL PROPIONATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		28		(NTP, 1992)		2.5		%	(NTP, 1992)		13		%	(NTP, 1992)		873		(NTP, 1992)		-125	
154	DI-N-OCTYL PHTHALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)					0																					(NTP, 1992)		243 to 244
155	ETHYL ACETATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable over a wide range of vapor-air concentrations. Is peroxidized by air to give a solid deposit that tends to decompose and ignite. Insoluble in water.	NICKEL CARBONYL is easily oxidized. Presents a very serious fire hazard if exposed to heat, flame, sparks, oxidizing agents. Explodes when heated to about 60Â°C. Reacts explosively with bromine (liquid), oxygen in the presence of mercury, or hydrocarbons (butane) mixed with oxygen. Undergoes violent reactions with air, oxygen, dinitrogen tetraoxide. Caused an explosion when added to an n-butane-oxygen at 20-40Â°C [J. Am. Chem. Soc. 70:2055-6. 1948]. Reacts with tetrachloropropadiene to form an extremely explosive dinickel chloride dimer. Emits highly toxic fumes of carbon monoxide when heated to decomposition or in contact with mineral acids or acid fumes [Bretherick, 5th ed., 1995, p. 1734]. Vapor explodes in air or oxygen at 20Â°C and a partial pressure of 15 mm.	Pyrophoric; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1259 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	3	6		(EPA, 1998)	Less than 18C		(EPA, 1998)	Flammable and burns with a yellow flame.	2		%	(EPA, 1998)	Flammable and burns with a yellow flame.				(USCG, 1999)		less than 200	(EPA, 1998)		-2.2	
156	ETHYLENE OXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	VINYL NEODECANOATE is an ester. The monomer is supplied in bulk or resin lined drums, and could be safely stored in tin-lined or stainless steel containers. Storage in plastic or other vessels is not recommended. Copper will inhibit polymerization, and zinc will promote discoloration. Polymerization: Commercial application is a modifying monomer in polymerization reactions (USCG, 1999).	Highly Flammable; Polymerizable	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 175												(USCG, 1999)		588		(USCG, 1999)		-4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
152	CUPRIC SULFATE																										(NTP, 1992)		180.21														C9H12N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	25.0	2.0	149.0	5.0	7.0
153	DI(2-ETHYLHEXYL) PHTHALATE	(NTP, 1992)		40		52		mm Hg	(NTP, 1992)		3.03				(NTP, 1992)		0.937		39		(NTP, 1992)		175.5		760		(NTP, 1992)		88.12						(NTP, 1992)	at 72Â° F		50 to 100	mg/mL		Flammable Liquid	C4H8O2		35.0	3.0	86.0	4.0	7.0
154	DI-N-OCTYL PHTHALATE																										(NTP, 1992)		310.42														C20H22O3		35.0	3.0	86.0	4.0	7.0
155	ETHYL ACETATE	(EPA, 1998)		400		78.44		mm Hg	(EPA, 1998)		5.89				(EPA, 1998)		1.318		62.6		(EPA, 1998)		109		760		(EPA, 1998)		170.75		(NIOSH, 2003)	; A potential human carcinogen.	2	ppm	(NIOSH, 2003)		0.05		%	NKC	Poison Inhalation Hazard|Flammable Liquid	Ni(CO)4		28.0	2.0	121.0	5.0	7.0
156	ETHYLENE OXIDE																										(USCG, 1999)		198.3											VND	Class 9	C12H22O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	33.0	3.0	84.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
157	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 7.9% ETHYLENE OXIDE	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 7.9% ETHYLENE OXIDE|PENTAFLUOROETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 7.9% ETHYLENE OXIDE	75-21-8	A colorless nonflammable mixture of gases. Denser than air. Ethylene oxide boils at 11Â°C and is a confirmed carcinogen. Mixture may asphyxiate by the displacement of air in confined places. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	680.0	43.0	228.0	95.0	96.0	77.0	5.0	26.0	11.0	11.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
158	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, WITH NOT MORE THAN 30% ETHYLENE OXIDE	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, WITH NOT MORE THAN 30% ETHYLENE OXIDE|ETHYLENE OXIDE-PROPYLENE OXIDE MIXTURE|PROPYLENE OXIDE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 30% ETHYLENE OXIDE	75-21-8	Clear colorless to light-colored liquids. About the same density as water. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	680.0	43.0	228.0	95.0	96.0	77.0	5.0	26.0	11.0	11.0	(BLOB)	Behavior in Fire: Containers may explode (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
159	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 5.6% ETHYLENE OXIDE	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 5.6% ETHYLENE OXIDE|TETRAFLUOROETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 5.6% ETHYLENE OXIDE	75-21-8	A nonflammable gas. Vapors heavier than air. Ethylene oxide boils at 11Â°C and is a confirmed carcinogen. Mixture may asphyxiate by the displacement of air especially in confined places. Under prolonged exposure to fire or intense heat the container may violently rupture and rocket.	5.0	1.0	1.0	680.0	43.0	228.0	95.0	96.0	77.0	5.0	26.0	11.0	11.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
160	ETHYLENE OXIDE WITH NITROGEN	ETHYLENE OXIDE WITH NITROGEN	75-21-8	A nonflammable colorless gas. Vapors heavier than air. May asphyxiate by the displacement of air, especially in confined places.	5.0	1.0	1.0	687.0	43.0	228.0	95.0	96.0	78.0	5.0	26.0	11.0	11.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
161	FUEL OIL, [NO. 1]	FUEL OIL, [NO. 1]|FUEL OILS,JP-1|KEROSENE|KEROSINE|OILS, FUEL: NO. 1|RANGE OIL	8008-20-6	A watery colorless liquid with a kerosene odor. Less dense than water and insoluble in water. (USCG, 1999)	2.5	5.0	2.5	694.0	43.0	228.0	95.0	96.0	79.0	5.0	26.0	11.0	11.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
157	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 7.9% ETHYLENE OXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Soluble in water [Hawley]. Polymerizes readily with heat or moisture.	TRIETHYLENEMELAMINE polymerizes readily with heat or moisture. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides.	Polymerizable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)	(decomposes)	282	
158	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, WITH NOT MORE THAN 30% ETHYLENE OXIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	(BLOB)	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	4	7		(NTP, 1992)		95		(NTP, 1992)		7.3		%						(USCG, 1999)		785		(NTP, 1992)		-20	
159	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 5.6% ETHYLENE OXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Amine-type canister; goggles or face shield; rubber gloves. (USCG, 1999)	Soluble in water.	TRIETHYLENETETRAMINE is a strong base; reacts violently with strong oxidants; attacks aluminum, zinc, copper and its alloys. Handling Chemicals Safely 198. p. 934).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		275												(USCG, 1999)		640		(NTP, 1992)		54	
160	ETHYLENE OXIDE WITH NITROGEN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Soluble in water.	TRIFLUOROACETIC ACID is a strong acid; attacks many metals [Handling Chemicals Safely 1980. p. 935]. A 30% solution of hydrogen peroxide in trifluoroacetic acid is often used to destructively oxidize aromatic rings in preference to the side chains. Explosions have occurred, if the excess peroxide is not catalytically destroyed, prior to removal of solvent, [Tetrahedron Lett., 1977, 1703-1704]. The reduction of amides of trifluoroacetic acid with lithium aluminum hydride are dangerous at all phases of the process, explosions have occurred, [Chem. Eng. News, 1955, 33, 1368].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
161	FUEL OIL, [NO. 1]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A nitrated amine. Amines are combustible. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
157	ETHYLENE OXIDE AND PENTAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 7.9% ETHYLENE OXIDE																										(NTP, 1992)		204.23						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C9H12N6	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	33.0	3.0	84.0	4.0	7.0
158	ETHYLENE OXIDE AND PROPYLENE OXIDE MIXTURE, WITH NOT MORE THAN 30% ETHYLENE OXIDE	(NTP, 1992)		27.8		68		mm Hg	(NTP, 1992)		2.11				(USCG, 1999)		1.139		68		(NTP, 1992)		214.2		760		(NTP, 1992)		61.04		(NIOSH, 2003)		750	ppm	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	NMT	Flammable Liquid	CH3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	33.0	3.0	84.0	4.0	7.0
159	ETHYLENE OXIDE AND TETRAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 5.6% ETHYLENE OXIDE	(NTP, 1992)			less than 0.01	68		mm Hg							(USCG, 1999)		0.982		68		(NTP, 1992)			511 to 513	760		(NTP, 1992)		146.26						(NTP, 1992)	at 68.4Â° F		greater than or equal to 100	mg/mL	TET	Corrosive	C6H18N4	Mineral-Based & Clay-Based Absorbents	33.0	3.0	84.0	4.0	7.0
160	ETHYLENE OXIDE WITH NITROGEN																																								Corrosive	C2HF3O2		33.0	3.0	84.0	4.0	7.0
161	FUEL OIL, [NO. 1]														(NTP, 1992)		1.0874				(NTP, 1992)		266		760		(NTP, 1992)		150.2						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	37.0	3.0	96.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
162	GLYPHOSATE	ACCORD|(CARBOXYMETHYLAMINO)METHYLPHOSPHONIC ACID|CARBOXYMETHYLAMINOMETHANEPHOSPHINIC ACID|FOLUSEN|FORSAT|GLIALKA|GLIALKA 36|GLIFONOX|GLYCINE, N-(PHOSPHONOMETHYL)-|GLYPHODINA|GLYPHOSATE|GLYPHOSATE CT|HERBATOP|HOCKEY|LANCER|MON 0573|MON 2139|MON 6000|N-(PHOSPHONOMETHYL)GLYCINE|N-PHOSPHOMETHYLGLYCINE|N-PHOSPHONOMETHYLGLYCINE|PHORSAT|PHOSPHONOMETHYLGLYCINE|PHOSPHONOMETHYLIMINOACETIC ACID|REBEL GARDEN|RODEO|ROUNDUP|SONIC|SPASOR|STING|TUMBLEWEED	1071-83-6	PHYSICAL DESCRIPTION: Odorless white powder. Decomposition begins at approximately 419Â°F (darkens). pH (1% solution in water) 2.5. (NTP, 1992)	1.0	2.5	5.0	701.0	43.0	228.0	95.0	96.0	80.0	5.0	26.0	11.0	11.0	Get medical attention after all exposures to this compound. INHALATION: remove from exposure; support respiration. EYES: flush with water 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors of hydrogen chloride and phosgene may form. Behavior in Fire: Difficult to extinguish. Re-ignition may occur. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
163	GYPSUM	CALCIUM(II) SULFATE DIHYDRATE|COCOAT T|CRYSTACAL R|DURACAL CEMENT|G 16|G 16 (GYPSUM)|G 6|G 6 (REFRACTORY)|G 75|G 75 (MINERAL)|G-7A|GIPS|GYPSITE|GYPSUM|GYPSUM STONE|HYDRATED CALCIUM SULFATE|HYDROCAL|LANDPLASTER|MINERAL WHITE|PE 20A|PRIMOPLAST|SK|SK (MINERAL)|TIGER KENCOAT	13397-24-5	White or nearly white, odorless, crystalline solid.	1.0	2.5	5.0	701.0	43.0	228.0	95.0	96.0	80.0	5.0	26.0	11.0	11.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
164	HYDROFLUORIC ACID	ALSURF 45|ANHYDROUS HYDROFLUORIC ACID|ANHYDROUS HYDROGEN FLUORIDE|ANTISAL 2B|AQUEOUS HYDROGEN FLUORIDE (I.E., HYDROFLUORIC ACID)|FLUORHYDRIC ACID|FLUORIC ACID|FLUORINE HYDRIDE (FH)|FLUORINE MONOHYDRIDE|HF-A|HYDROFLUORIC ACID|HYDROFLUORIC ACID (CONC. 50% OR GREATER)|HYDROFLUORIC ACID GAS|HYDROFLUORIC ACID, SOLUTION|HYDROGEN FLUORIDE (HF)|HYDROGEN FLUORIDE (HYDROFLUORIC ACID)|HYDROGEN MONOFLUORIDE	7664-39-3	A colorless fuming mobile aqueous solution with a pungent odor. Corrosive to metals and tissue. Highly toxic by ingestion and inhalation. Exposure to fumes or very short contact with liquid may cause severe painful burns; penetrates skin to cause deep-seated ulceration that may lead to gangrene.	2.5	5.0	2.5	708.0	50.0	228.0	95.0	103.0	81.0	6.0	26.0	11.0	12.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
165	HYDROFLUORIC ACID AND SULFURIC ACID MIXTURE	HYDROFLUORIC ACID AND SULFURIC ACID MIXTURE|HYDROFLUORIC ACID AND SULPHURIC ACID MIXTURE|HYDROFLUORIC-SULFURY|ACID MIXTURE|SULFURIC ACID AND HYDROFLUORIC ACID MIXTURES|SULPHURIC ACID AND HYDROFLUORIC ACID MIXTURES	7664-39-3	A clear colorless liquid with a pungent odor. Corrosive to metals and tissue. Exposure to the fumes or brief contact can cause severe burns as mixture penetrates to cause deep-seated ulceration that is sometimes complicated by gangrene.	2.5	5.0	2.5	715.0	50.0	228.0	95.0	103.0	82.0	6.0	26.0	11.0	12.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
166	HYDROGEN FLUORIDE, ANHYDROUS	ALSURF 45|ANHYDROUS HYDROFLUORIC ACID|ANHYDROUS HYDROGEN FLUORIDE|ANTISAL 2B|AQUEOUS HYDROGEN FLUORIDE (I.E., HYDROFLUORIC ACID)|FLUORHYDRIC ACID|FLUORIC ACID|FLUORINE HYDRIDE (FH)|FLUORINE MONOHYDRIDE|HF-A|HYDROFLUORIC ACID|HYDROFLUORIC ACID GAS|HYDROFLUORIC ACID, ANHYDROUS|HYDROGEN FLUORIDE|HYDROGEN FLUORIDE (ANHYDROUS)|HYDROGEN FLUORIDE (HF)|HYDROGEN FLUORIDE (HYDROFLUORIC ACID)|HYDROGEN FLUORIDE, ANHYDROUS|HYDROGEN MONOFLUORIDE	7664-39-3	A colorless fuming liquid boiling at 67Â°F. Shipped as a liquid confined under its own vapor pressure. Corrosive to metals and tissue. Very short contact with fumes or small quantities of the liquid can cause severe, painful burns. Vapors are heavier than air. Density 8.2 lb / gal. Used as a catalyst and raw material in chemical manufacture. Rate of onset: Immediate & Delayed Persistence: Minutes to hours Odor threshold: 0.4 ppm Source/use/other hazard: Aluminum and other metal industries; insecticide manufacturing-corrosive liq.	2.5	5.0	2.5	722.0	50.0	228.0	95.0	103.0	83.0	6.0	26.0	11.0	12.0	(BLOB)	Special Hazards of Combustion Products: May contain toxic chloride fumes. Behavior in Fire: Container may explode in heat of fire. Vapor may travel to a source of ignition and flashback. Vapor explosion hazard indoors, outdoors or in sewer. Toxic chloride fumes may be produced. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
162	GLYPHOSATE	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical goggles; other equipment necessary to protect skin and eyes. (USCG, 1999)	Highly flammable. Reacts violently with water, steam, moist air, alcohols, acetone and light metals, generating heat, combustible hydrogen gas and corrosive HCl gas. On contact with air, it gives off HCl gas [Handling Chemicals Safely 1980. p. 924]. Allyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.29 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as ALLYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Polymerizable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1724 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(USCG, 1999)		95																			
163	GYPSUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	DIGLYCIDYL RESORCINOL ETHER is an alkylating agent. Reacts with compounds having a labile hydrogen (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		350																	(NTP, 1992)			98 to 115
164	HYDROFLUORIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air and darkens on exposure to light. Insoluble in water.	O-CHLOROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		208																	(NTP, 1992)			28.5
165	HYDROFLUORIC ACID AND SULFURIC ACID MIXTURE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The cyano group can be readily hydrolyzed in the presence of mineral acids to produce stable, moderately toxic benzoic acid . When heated to decomposition, it emits highly toxic fumes of nitrogen oxides and hydrogen cyanide [Sax, 9th ed., 1996, p. 353]. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
166	HYDROGEN FLUORIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Slightly water soluble.	O-CHLOROTOLUENE may be incompatible with strong oxidizing and reducing agents. Also may be incompatible with amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Reacts violently with dimethyl sulfoxide (NTP, 1992).		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		126											(USCG, 1999)	calculated	1.36		%				(NTP, 1992)		-31.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
162	GLYPHOSATE														(USCG, 1999)		1.215		68		(USCG, 1999)		241		760		(USCG, 1999)		175.5											ATC	Corrosive|Flammable Liquid	C3H5Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	24.0	2.0	105.0	5.0	7.0
163	GYPSUM	(NTP, 1992)	: 54.6 mm Hg at 108Â° F	40.7		77		mm Hg							(NTP, 1992)		1.21		77		(NTP, 1992)		342		0.8		(NTP, 1992)		222.26						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C12H14O4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	29.0	2.0	102.0	5.0	7.0
164	HYDROFLUORIC ACID	(NTP, 1992)	: 5 mm Hg at 162.1Â° F; 760 mm Hg at 407.8Â° F	1		115.3		mm Hg	(NTP, 1992)		4.4				(NTP, 1992)		1.213		68		(NTP, 1992)			406 to 410	760		(NTP, 1992)		127.57						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H6ClN		28.0	2.0	108.0	5.0	7.0
165	HYDROFLUORIC ACID AND SULFURIC ACID MIXTURE																																								Poison	ClC6H4CHC(CN)2		28.0	2.0	108.0	5.0	7.0
166	HYDROGEN FLUORIDE, ANHYDROUS	(NTP, 1992)		10		109.8		mm Hg							(USCG, 1999)		1.0825		68		(NTP, 1992)		318.15		760		(NTP, 1992)		126.58						(NIOSH, 2003)	at 77Â° F	0.009		%	CTO	Flammable Liquid	C7H7Cl		28.0	2.0	108.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
167	IRON OXIDE, SPENT	(BLOB)	1309-37-1	Product from the iron-oxide process for the removal of sulfides from gases. In this process gases are passed over a mixture of iron(III) oxide and wood shavings. Liable to spontaneous heating. This heat may cause ignition. Easily ignited by sparks or heat from external sources. Used for precipitating copper or lead from solutions of their salts and in electric furnace steel operations.	5.0	1.0	1.0	722.0	50.0	228.0	95.0	103.0	83.0	6.0	26.0	11.0	12.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
168	ISOPROPANOL	ALCOJEL|ALCOSOLVE|ALCOSOLVE 2|AUTOSEPT|AVANTIN|AVANTINE|CHROMAR|COMBI-SCHUTZ|DIMETHYL CARBINOL|DIMETHYLCARBINOL|HARTOSOL|2-HYDROXYPROPANE|IMSOLA|IPA|IPS 1|IPS 1 (ALCOHOL)|ISO-PROPANOL|ISO-PROPYL ALCOHOL|ISOHOL|ISOPROPANOL|ISOPROPYL ALCOHOL|ISOPROPYL ALCOHOL (MFG-STRONG ACID PROCESS)|LUTOSOL|1-METHYLETHANOL|1-METHYLETHYL ALCOHOL|N PROPAN-2-OL|PETROHOL|PRO|PROPAN-2-OL|2-PROPANOL|PROPOL|2-PROPYL ALCOHOL|RUBBING ALCOHOL|SEC-PROPANOL|SEC-PROPYL ALCOHOL|SPECTRAR|STERISOL HAND DISINFECTANT|TAKINEOCOL	67-63-0	Volatile, colorless liquid with a sharp musty odor like rubbing alcohol. Flash point of 53Â°F. Vapors are heavier than air and mildly irritating to the eyes, nose, and throat. Density approximately 6.5 lb / gal. Used in making cosmetics, skin and hair preparations, pharmaceuticals, perfumes, lacquer formulations, dye solutions, antifreezes, soaps, window cleaners. Sold in 70% aqueous solution as rubbing alcohol.	2.5	5.0	2.5	729.0	50.0	228.0	95.0	110.0	84.0	6.0	26.0	11.0	13.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
169	ISOPROPANOL, TALLOW ALKYL AMINE (FLAMMABLE LIQUID, CORROSIVE, N.O.S.)	ISOPROPANOL, TALLOW ALKYL AMINE (FLAMMABLE LIQUID, CORROSIVE, N.O.S.)	67-63-0	An amber liquid with an alcohol odor. Insoluble in water and less dense than water. Hence floats on water. Vapors heavier than air and may travel to a source of ignition. Contact may severely irritate skin, eyes, and mucous membranes. May be toxic by skin ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	729.0	50.0	228.0	95.0	110.0	84.0	6.0	26.0	11.0	13.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
170	KEROSENE	AF 100 (PESTICIDE)|AVTUR|AVTUR (PESTICIDE)|BAYOL 35|BITUMEN CUTTER|COAL OIL|ESCAID 100|ESCAID 110|EXXSOL D 200/240|FUEL OIL NO. 1|FUEL OIL, NO.5|FUELS, KEROSINE|ILLUMINATING OIL|INK OIL|JET FUEL: JP-1|KEROSENE|KEROSINE|KEROSINE {FUEL OIL #1}|KO 30 (SOLVENT)|NCI-C54784|NEOCHIOZOL|NYSOLVIN 75A|ODORLESS SOLVENT 3440|PEGASOL 3040|PETROLEUM FUEL|RANGE OIL|RESIDUAL OIL NO.5|SHELL 140|SHELLSOL 2046|SX 12|SX 7	8008-20-6	A clear colorless to light amber liquid with a petroleum odor. Flash point 100Â°F. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	729.0	50.0	228.0	95.0	110.0	84.0	6.0	26.0	11.0	13.0	(BLOB)	Special Hazards of Combustion Products: Generates poisonous gases (USCG, 1999)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
171	MAGNESIUM OXIDE, [SLURRY]	MAGNESIA FUME|MAGNESIUM OXIDE FUME|MAGNESIUM OXIDE, [SLURRY]	1309-48-4	Finely divided white particulate dispersed in air. (Note: Exposure may occur when magnesium is burned, thermally cut, or welded upon.). (NIOSH, 1997)	1.0	2.5	5.0	729.0	50.0	228.0	95.0	110.0	84.0	6.0	26.0	11.0	13.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
172	NAPHTHALENE	ALBOCARBON|CAMPHOR TAR|DEZODORATOR|MIGHTY 150|MIGHTY RD1|MOTH BALLS|MOTH FLAKES|NAPHTHALENE|NAPHTHALENE, CRUDE|NAPHTHALENE, REFINED|NAPHTHALIN|NAPHTHALINE|NAPHTHENE|NCI-C52904|WHITE TAR	91-20-3	A white crystalline volatile solid with a strong coal-tar odor. The solid is denser than water and insoluble in water. Burns, but may be difficult to ignite. . In the molten form it is very hot. Exposure to skin must be avoided. Also the vapors given off by the material may be toxic. Used as a moth repellent, fumigant, lubricants, and to make other chemicals, and for many other uses	1.0	2.5	5.0	736.0	50.0	235.0	95.0	110.0	85.0	6.0	27.0	11.0	13.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
167	IRON OXIDE, SPENT	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This compound readily forms salts with acids. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		390 to 397
168	ISOPROPANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. You should protect this chemical from exposure to light. (NTP, 1992)	Self-contained breathing apparatus; neoprene gauntlets; safety goggles; rubber or neoprene sealed-tongue work shoes and apron; close-weave cotton coveralls capable of closing at wrist and ankle (USCG, 1999)	Insoluble in water.	O-NITROANILINE may be sensitive to prolonged exposure to light. Mixtures of this chemical with magnesium are hypergolic on contact with nitric acid. It forms extremely explosive addition compounds with hexanitroethane. It has a vigorous reaction with sulfuric acid above 392Â° F. It is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroanilines, CAS number 100-01-6.	3	1	2	3		(NTP, 1992)		335											(USCG, 1999)		970		(NTP, 1992)		160.7	
169	ISOPROPANOL, TALLOW ALKYL AMINE (FLAMMABLE LIQUID, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																				(NTP, 1992)		349.9	
170	KEROSENE	Neutralizing Agents for Acids and Caustics: Lime or soda ash (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Water soluble. Hygroscopic	OXALIC ACID is hygroscopic and sensitive to heat. This compound may react violently with furfuryl alcohol, silver, sodium, perchlorate, sodium hypochlorite, strong oxidizers, sodium chlorite, acid chlorides, metals and alkali metals. (NTP, 1992). The heating of mixtures of Oxalic acid and urea has lead to explosions. This is due to the rapid generation of the gases CO2, CO, and NH3 [Praxis Naturwiss. Chem., 1987, 36(8). 41-42]. Oxalic acid and urea react at high temperatures to form toxic and flammable ammonia and carbon monoxide gases, and inert CO2 gas [Von Bentzinger, R. et al., Praxis Naturwiss. Chem., 1987, 36(8), 41-42].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																(USCG, 1999)	Not flammable			(NTP, 1992)	(Decomposes)	372	
171	MAGNESIUM OXIDE, [SLURRY]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	1,8-P-MENTHANEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		200															(NTP, 1992)		-49	
172	NAPHTHALENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	DIPROPYL KETONE is incompatible with the following: Oxidizers (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NIOSH, 2003)		120													(NIOSH, 2003)		-27	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
167	IRON OXIDE, SPENT																									(NTP, 1992)		290.36						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C14H18N4O3	Mineral-Based & Clay-Based Absorbents	25.0	2.0	125.0	5.0	7.0
168	ISOPROPANOL	(NTP, 1992)	; <0.1 mm Hg at 86Â° F	1		219.2		mm Hg	(NTP, 1992)		4.77				(USCG, 1999)		1.44		68		(NTP, 1992)		543		760		(NTP, 1992)		138.13						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL	NTA	Poison	C6H6N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	24.0	2.0	115.0	5.0	7.0
169	ISOPROPANOL, TALLOW ALKYL AMINE (FLAMMABLE LIQUID, CORROSIVE, N.O.S.)																				(NTP, 1992)		603		760		(NTP, 1992)		166.15						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C7H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	24.0	2.0	115.0	5.0	7.0
170	KEROSENE	(NTP, 1992)		0.001		68		mm Hg	(NTP, 1992)		4.3				(USCG, 1999)		1.9		59		(NIOSH, 2003)	Sublimes					(NTP, 1992)		90.04		(NIOSH, 2003)		500	mg/m3	(NTP, 1992)	at 75Â° F		50 to 100	mg/mL	OXA	Corrosive	C2H2O4		37.0	3.0	96.0	4.0	7.0
171	MAGNESIUM OXIDE, [SLURRY]														(NTP, 1992)		0.914		68		(NTP, 1992)			225 to 259	10		(NTP, 1992)		170.34						(NTP, 1992)	Slightly soluble					Poison	C10H22N2	Mineral-Based & Clay-Based Absorbents	28.0	2.0	131.0	5.0	7.0
172	NAPHTHALENE	(NIOSH, 2003)		5				mm Hg							(NIOSH, 2003)		0.82				(NIOSH, 2003)		291		760		(NIOSH, 2003)		114.2						(NIOSH, 2003)	Insoluble					Flammable Liquid	C7H14O		25.0	2.0	103.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
173	NAPHTHALENE, METHYLNAPHTHALENES, CONTAINS (CORROSIVE LIQUIDS, N.O.S.)	NAPHTHALENE, METHYLNAPHTHALENES, CONTAINS (CORROSIVE LIQUIDS, N.O.S.)	91-20-3	A black liquid with the odor of coal tar. Negligibly soluble in water. Slightly denser than water. Vapors, fumes or direct contact may irritate the eyes. Direct skin contact may produce severe burns. Inhalation may produce mucous irritation, dizziness, loss of coordination, cardiovascular collapse and death.	2.5	5.0	2.5	736.0	50.0	235.0	95.0	110.0	85.0	6.0	27.0	11.0	13.0	(BLOB)	Shock can shatter containers, releasing the contents. When heated to decomposition, toxic fumes of sulfur oxides, phosphorus oxides, and nitrogen oxides are emitted. Hydrolyzed in water and alkalies. (EPA, 1998)	(Non-Specific -- Organophosphorous Pesticide) Wear positive pressure self-contained breathing apparatus. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorous Pesticide) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
174	N-BUTYL ALCOHOL	BUTANOL|1-BUTANOL [BUTYL ALCOHOL]|1-BUTANOL|BUTANOLS|BUTYL ALCOHOL|1-BUTYL ALCOHOL|BUTYL HYDROXIDE|CCS 203|HEMOSTYP|1-HYDROXYBUTANE|METHYLOLPROPANE|N-BUTANOL|N-BUTYL ALCOHOL|N-PROPYL CARBINOL|N-PROPYLCARBINOL|PROPYL CARBINOL	71-36-3	Colorless liquid. Used in organic chemical synthesis, plasticizers, detergents, etc.	2.5	5.0	2.5	736.0	50.0	235.0	95.0	110.0	85.0	6.0	27.0	11.0	13.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
175	O-XYLENE	BENZENE, O-DIMETHYL-|1,2-DIMETHYLBENZENE|2-METHYLTOLUENE|O-DIMETHYLBENZENE|O-METHYLTOLUENE|O-XYLENE|O-XYLOL|ORTHO-XYLENE|ORTHOXYLENE|1,2-XYLENE|XYLENES (ORTHO-XYLENE)|XYLOL	95-47-6	A colorless watery liquid with a sweet odor. Less dense than water. Insoluble in water. Irritating vapor. (USCG, 1999)	2.5	5.0	2.5	743.0	50.0	235.0	95.0	110.0	86.0	6.0	27.0	11.0	13.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
176	PHENOL SOLUTION, [AQUEOUS]	LIQUID TAR ACID, [CONTAINING > 50 % PHENOL]|PHENOL SOLUTION|PHENOL SOLUTION, [AQUEOUS]	108-95-2	White crystalline mass dissolved in an aqueous solution. Solution may be colorless to slightly pink in color with a distinctive phenol odor; sharp burning taste. Aqueous solution will be acidic and act as such. Toxic by ingestion, inhalation and skin absorption; strong irritant to tissues.	1.0	2.5	5.0	743.0	50.0	235.0	95.0	110.0	86.0	6.0	27.0	11.0	13.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
177	PHENOL, LIQUID	BAKER'S P AND S LIQUID AND OINTMENT|BENZENOL|CARBOLIC ACID|CARBOLIC OIL (MIXTURE)|ENT 1814|HYDROXYBENZENE|LIQUEFIED PHENOL|MIDDLE OIL|MONOHYDROXYBENZENE|MONOPHENOL|NCI-C50124|OXYBENZENE|PHENIC ACID|PHENOL|PHENOL (CARBOLIC ACID)|PHENOL ALCOHOL|PHENOL, LIQUID|PHENOL, MOLTEN|PHENOL, [LIQUID]|PHENYL ALCOHOL|PHENYL HYDRATE|PHENYL HYDROXIDE|PHENYLIC ACID|PHENYLIC ALCOHOL	108-95-2	A colorless liquid when pure, otherwise pink or red. Combustible. Flash point 175Â°F. Must be heated before ignition may occur easily. Vapors are heavier than air. Corrosive to skin but because of anesthetic qualities will numb rather than burn. Upon contact skin may turn white. May be lethal by skin absorption. Does not react with water. Stable in normal transportation. Reactive with various chemicals and may be corrosive to lead, aluminum and its alloys, certain plastics, and rubber. Freezing point about 105Â°F. Density 8.9 lb / gal. Used to make plastics, adhesives and other chemicals.	2.5	5.0	2.5	750.0	50.0	242.0	95.0	110.0	87.0	6.0	28.0	11.0	13.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
178	PHENOL, MOLTEN	PHENOL|PHENOL (CARBOLIC ACID)|PHENOL, MOLTEN|PHENOL, [MOLTEN]	108-95-2	Phenol, molten is the white crystalline solid shipped at an elevated temperature to form a semi-solid. It is very hot and may cause burns from contact and also may cause the ignition of combustible materials. It is toxic by ingestion, and inhalation of its fumes, and skin absorption. It may also be very irritating to skin and eyes. It is used to make other chemicals.	1.0	2.5	5.0	757.0	50.0	242.0	95.0	110.0	88.0	6.0	28.0	11.0	13.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
173	NAPHTHALENE, METHYLNAPHTHALENES, CONTAINS (CORROSIVE LIQUIDS, N.O.S.)	Caution : Phorate will form toxic mixtures of sulfur oxides, phosphorus oxides, and nitrogen oxides when heated to decomposition. Avoid sources of extreme heat. (Non-Specific -- Organophosphorus Pesticide) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	This compound is incompatible with the following: Water, alkalis [Note: Hydrolyzed in the presence of moisture and by alkalis.] (NIOSH, 1997).	Organothiophosphates, such as PHORATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		320														(EPA, 1998)		-45	
174	N-BUTYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	This material may be sensitive to prolonged exposure to air, light and ambient temperatures. It may also be subject to autooxidation. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
175	O-XYLENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slight solubility in water (7.55 mg /mL of cold water).	POTASSIUM PERCHLORATE is a strong oxidizing agent. Explosively decomposes at or over 400Â°C. Decomposed by organic matter (reducible material) and on concussion [Merck 11th ed. 1989]. Mixture with powdered magnesium is a friction-sensitive explosive [Safety Eng. Reports 1947]. Incompatible with reducing agents, such as: metal powders, aluminum, titanium, barium, magnesium, nickel, various metal hydrides, and sulfur.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
176	PHENOL SOLUTION, [AQUEOUS]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	BENZYL SALICYLATE may hydrolyze in aqueous acid or basic solutions. It can react with oxidizing materials. (NTP, 1992)			(NFPA, 2010)		0	1	0	1																		(NTP, 1992)		75	
177	PHENOL, LIQUID	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	PROPANETHIOLS are flammable, moderately toxic liquid, stench. Explosive in the form of vapor when exposed to heat, flame or sparks. When heated to decomposition it emits toxic fumes of oxides of sulfur. Violent reaction and flash fire on contact with calcium hypochlorite [Stephenson, F. G., Chem. Eng. News, 1973, 51(26), p. 14].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
178	PHENOL, MOLTEN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly reacts with water to form sulfur dioxide and diol; reaction is more rapid under basic or acidic conditions. Practically insoluble in water.	ENDOSULFAN MIXTURE, [LIQUID] is a sulfite ester. It is incompatible with strong oxidizing and reducing agents. May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. As an ester, it will hydrolyze to form sulfur dioxide and diol; reaction is more rapid under basic conditions.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
173	NAPHTHALENE, METHYLNAPHTHALENES, CONTAINS (CORROSIVE LIQUIDS, N.O.S.)	(EPA, 1998)		0.00084		68		mm Hg							(EPA, 1998)		1.156		77		(EPA, 1998)			257 to 261		2	(EPA, 1998)		260.39						(NIOSH, 2003)		0.005		%		Poison	C7H17O2PS3		25.0	2.0	103.0	5.0	7.0
174	N-BUTYL ALCOHOL																									(NTP, 1992)		504.62												Poison|Corrosive	C28H40O8	Cellulose-Based Absorbents|Dirt/Earth	26.0	2.0	106.0	5.0	7.0
175	O-XYLENE																																							Oxidizer	KClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	32.0	3.0	75.0	4.0	7.0
176	PHENOL SOLUTION, [AQUEOUS]														(NTP, 1992)		1.175		68		(NTP, 1992)		406		26		(NTP, 1992)		228.24						(NTP, 1992)	Slightly soluble						C14H12O3		26.0	2.0	129.0	5.0	7.0
177	PHENOL, LIQUID																																							Flammable Liquid	C3H8S		26.0	2.0	129.0	5.0	7.0
178	PHENOL, MOLTEN																																							Poison	C9H6Cl6O3S	Dirt/Earth	26.0	2.0	129.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
179	PHENOL, SOLID	BENZENOL|CARBOLIC ACID|HYDROXYBENZENE|IZAL|MONOHYDROXYBENZENE|MONOPHENOL|NCI-C50124|OXYBENZENE|PHENIC ACID|PHENOL|PHENOL (CARBOLIC ACID)|PHENOL, SOLID|PHENOL, [SOLID]|PHENYL ALCOHOL|PHENYL HYDRATE|PHENYL HYDROXIDE|PHENYLIC ACID|PHENYLIC ALCOHOL	108-95-2	A solid melting at 110Â°F. Colorless if pure, otherwise pink or red. Flash point 175Â°F. Density 9.9 lb / gal. Vapors are heavier than air Corrosive to the skin (turning skin white) but because of its anesthetic quality numbs rather than burn. Lethal amounts can be absorbed through the skin. Used to make plastics and adhesives.	1.0	2.5	5.0	757.0	57.0	242.0	95.0	110.0	88.0	7.0	28.0	11.0	13.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
180	POLYETHYLENE GLYCOL 200	(BLOB)	25322-68-3	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	757.0	57.0	242.0	95.0	110.0	88.0	7.0	28.0	11.0	13.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
181	POTASSIUM HYDROXIDE, [CONTAINING CORROSIVE LIQUID]	POTASSIUM HYDROXIDE|POTASSIUM HYDROXIDE, [CONTAINING CORROSIVE LIQUID]	1310-58-3	A clear sometimes syrupy liquid. Corrosive to metal and tissue. Noncombustible. Used in chemical manufacturing, petroleum refining, cleaning formulations.	2.5	5.0	2.5	757.0	57.0	242.0	95.0	110.0	88.0	7.0	28.0	11.0	13.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
182	POTASSIUM HYDROXIDE, [DRY SOLID, FLAKE, BEAD, OR GRANULAR]	BATTERY|CAUSTIC POTASH|CAUSTIC POTASH, DRY, SOLID|LYE|POTASSA|POTASSIUM HYDRATE|POTASSIUM HYDROXIDE|POTASSIUM HYDROXIDE (LYE)|POTASSIUM HYDROXIDE, DRY, SOLID|POTASSIUM HYDROXIDE, FLAKE|POTASSIUM HYDROXIDE, SOLID|POTASSIUM HYDROXIDE, [DRY SOLID, FLAKE, BEAD, OR GRANULAR]	1310-58-3	A white solid. Corrosive to metals and tissue. Used in soap manufacture, bleach, as an electrolyte in alkaline batteries, and as a food additive.	1.0	2.5	5.0	764.0	57.0	242.0	95.0	110.0	89.0	7.0	28.0	11.0	13.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
183	POTASSIUM HYDROXIDE, SOLUTION	CAUSTIC POTASH|CAUSTIC POTASH SOLUTION|CAUSTIC POTASH, LIQUID|CYANTEK CC 723|LYE|POTASH|POTASSIUM HYDROXIDE|POTASSIUM HYDROXIDE (LYE)|POTASSIUM HYDROXIDE SOLUTION|POTASSIUM HYDROXIDE, SOLUTION|POTASSIUM HYDROXIDE, [LIQUID]	1310-58-3	An clear aqueous solution. Density 12.8 lb / gal. Corrosive to metals and tissue. Noncombustible. Used in chemical manufacturing, petroleum refining, cleaning compounds.	2.5	5.0	2.5	771.0	57.0	242.0	95.0	110.0	90.0	7.0	28.0	11.0	13.0	SKIN OR EYES: wash exposed skin areas with soap and water; thoroughly flush eyes with water to remove any splashes; launder contaminated clothing before reuse. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
184	POTASSIUM NITRATE	COLLO-BO|DEXOL STUMP REMOVER|NITER|NITRE|NITRIC ACID POTASSIUM SALT (1:1)|NITRIC ACID, POTASSIUM SALT|POTASH NITRATE|POTASSIUM NITRATE|SALTPETER	7757-79-1	A white to dirty gray crystalline solid. Water soluble. Noncombustible, but accelerates the burning of combustible materials. If large quantities are involved in fire or the combustible material is finely divided an explosion may result. May explode under prolonged exposure to heat or fire. Toxic oxides of nitrogen are produced in fires. Used in solid propellants, explosives, fertilizers.	1.0	2.5	5.0	771.0	57.0	242.0	95.0	110.0	90.0	7.0	28.0	11.0	13.0	In case of contact with eyes, immediately flush with plenty of water for at least 15 min.; get medical attention. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents: Carbon dioxide or dry chemical for small fires; alcohol foam and water for large fires. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
179	PHENOL, SOLID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	BENZYLDIMETHYL(MIXED ALKYL)AMMONIUM CHLORIDE is incompatible with anionic detergents and nitrates. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
180	POLYETHYLENE GLYCOL 200	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PUROMYCIN DIHYDROCHLORIDE is sensitive to prolonged exposure to heat. (NTP, 1992). Behaves as a very weak acid in solution. [[Details on specifics of reactivity not yet available.]]						0																								
181	POTASSIUM HYDROXIDE, [CONTAINING CORROSIVE LIQUID]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	May be deliquescent.	Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction. Amine N-oxides are mild oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
182	POTASSIUM HYDROXIDE, [DRY SOLID, FLAKE, BEAD, OR GRANULAR]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very soluble in water.	BIS-HEXAMETHYLENE TRIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
183	POTASSIUM HYDROXIDE, SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved organic vapor respirator or air-line mask; protective goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	1--HEXENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		-15		(USCG, 1999)	(est.)	1.2		%	(USCG, 1999)	not listed				(USCG, 1999)		521		(USCG, 1999)		-219.6	
184	POTASSIUM NITRATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Plastic gloves; goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ETHOXYLATED TRIDECANOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		385																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
179	PHENOL, SOLID																									(NTP, 1992)			281 to 422					(NTP, 1992)	Soluble (>=10 mg/ml at 63Â° F)					Corrosive	C9H13N-RCl R=Mixed Alkyls		26.0	2.0	129.0	5.0	7.0
180	POLYETHYLENE GLYCOL 200																									(NTP, 1992)		544.44						(NTP, 1992)	Soluble						C22H29N7O5.2ClH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	25.0	2.0	128.0	5.0	7.0
181	POTASSIUM HYDROXIDE, [CONTAINING CORROSIVE LIQUID]																									(EPA, 1998)		140.11													Poison	C5H4N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	24.0	2.0	107.0	5.0	7.0
182	POTASSIUM HYDROXIDE, [DRY SOLID, FLAKE, BEAD, OR GRANULAR]																																								Corrosive	C12H29N3	Mineral-Based & Clay-Based Absorbents	24.0	2.0	107.0	5.0	7.0
183	POTASSIUM HYDROXIDE, SOLUTION															(USCG, 1999)		0.673		68		(USCG, 1999)		146.3		760		(USCG, 1999)		84.16										HXE	Flammable Liquid	C6H12	Dirt/Earth	24.0	2.0	107.0	5.0	7.0
184	POTASSIUM NITRATE															(USCG, 1999)		1		59		(USCG, 1999)	Very high					(USCG, 1999)		464										ETD	Class 9		Cellulose-Based Absorbents	24.0	2.0	117.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
185	POTASSIUM NITRATE AND SODIUM NITRATE MIXTURE	POTASSIUM NITRATE AND SODIUM NITRATE MIXTURE|SODIUM NITRATE AND POTASSIUM NITRATE MIXTURE|SODIUM NITRATE-POTASSIUM NITRATE MIXTURE	7757-79-1	Sodium nitrate and potassium nitrate is a white crystalline solid. The material is soluble in water. It is noncombustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.	1.0	2.5	5.0	778.0	57.0	249.0	95.0	110.0	91.0	7.0	29.0	11.0	13.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
186	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE|POTASSIUM NITRATE-SODIUM NITRITE MIXTURE	7757-79-1	A white crystalline solid. Noncombustible but will accelerate the burning of combustible material. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. If contaminated by ammonium compounds, spontaneous decomposition can occur and the resulting heat may ignite surrounding combustible material. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires.	1.0	2.5	5.0	778.0	64.0	249.0	95.0	117.0	91.0	8.0	29.0	11.0	14.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
187	POTASSIUM NITRITE	KLEAR|POTASSIUM NITRITE	7758-09-0	A yellowish white crystalline solid. Noncombustible but accelerates the burning of all combustible material. If large quantities are involved in fire or if the combustible material is finely divided, an explosion may result. May explode under prolonged exposure to heat. Toxic oxides of nitrogen are produced in fires. Used to make other chemicals and in chemical analysis.	1.0	2.5	5.0	785.0	64.0	256.0	95.0	117.0	92.0	8.0	30.0	11.0	14.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
188	PROPYLENE GLYCOL	ALPHA-PROPYLENE GLYCOL|ALPHA-PROPYLENEGLYCOL|1,2-DIHYDROXYPROPANE|DL-1,2-PROPANEDIOL|DL-PROPYLENE GLYCOL|DOWFROST|2-HYDROXYPROPANOL|ISOPROPYLENE GLYCOL|METHYL GLYCOL|METHYLETHYL GLYCOL|METHYLETHYLENE GLYCOL|MONOPROPYLENE GLYCOL|PG 12|1000PG|PROPANE-1,2-DIOL|(+-)-1,2-PROPANEDIOL|1,2-PROPANEDIOL|2,3-PROPANEDIOL|PROPYLENE GLYCOL|PROPYLENE GLYCOL USP|(+-)-PROPYLENE GLYCOL|1,2-PROPYLENE GLYCOL|(RS)-1,2-PROPANEDIOL|1,2-(RS)-PROPANEDIOL|SIRLENE|SOLAR WINTER BAN|SOLARGARD P|TRIMETHYL GLYCOL|UCAR 35	57-55-6	Thick odorless colorless liquid. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	785.0	64.0	256.0	95.0	117.0	92.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
189	P-XYLENE	BENZENE, P-DIMETHYL-|1,4-DIMETHYL BENZENE|1,4-DIMETHYLBENZENE|4-METHYLTOLUENE|P-DIMETHYLBENZENE|P-METHYLTOLUENE|P-PHENYLENEBIS(METHYLENE)|P-XYLENE|P-XYLOL|PARA-XYLENE|1,4-XYLENE|XYLENES (PARA-XYLENE)|XYLOL	106-42-3	A colorless watery liquid with a sweet odor. Less dense than water. Insoluble in water. Irritating vapor. Freezing point is 56Â°F. (USCG, 1999)	2.5	5.0	2.5	785.0	64.0	256.0	95.0	117.0	92.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
185	POTASSIUM NITRATE AND SODIUM NITRATE MIXTURE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	ETHOXYPROPYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
186	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Polymerizes and darkens in color on exposure to light and air. Insoluble in water.	ETHOXYQUIN may undergo a hazardous polymerization at temperatures above 320Â°F. Tends to polymerize and darken in color on exposure to light and air. Not compatible with oxidizing agents and with strong acids (NTP, 1992).	Polymerizable						0		(NTP, 1992)		225																(NTP, 1992)			less than 32
187	POTASSIUM NITRITE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ETHYL 2-CHLOROPROPIONATE is a halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
188	PROPYLENE GLYCOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time PVA Edmont 25-545 0.33 mm 240 min Viton North F-091 0.24 mm 240 min Unknown North 0.10 mm 240 min Silvershield (NTP, 1992)	Insoluble in water.	QUINTOZENE is hydrolyzed by alkalis. Is incompatible with strong oxidizing agnets. Also incompatible with strong bases. Corrosive to unlined metal containers (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		295	
189	P-XYLENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	The neat material darkens slowly on exposure to light. In solution this occurs more rapidly. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(in vacuum)		460 to 462

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_unote	molwgt_range	fdlh_source	fdlh_note	fdlh_value	fdlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chiris_codes	clot_labels	formulas	incompatible_abbr	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
185	POTASSIUM NITRATE AND SODIUM NITRATE MIXTURE																																							Flammable Liquid	C7H14O3		24.0	2.0	117.0	5.0	7.0
186	POTASSIUM NITRATE AND SODIUM NITRITE MIXTURE	(NTP, 1992)	1.000256 mm Hg at 77A° F	1.82E-05		32		mm Hg	(NTP, 1992)		7.48				(NTP, 1992)			1.029 to 1.031	77					253 to 257	2											(NTP, 1992)	less than 1	mg/mL				Mineral-Based & Clay-Based Absorbents(Dirt Earth	24.0	2.0	117.0	5.0	7.0
187	POTASSIUM NITRITE																																							Flammable Liquid	C5H9ClO2		25.0	2.0	111.0	5.0	7.0
188	PROPYLENE GLYCOL	(NTP, 1992)		0.013		77		mm Hg	(NTP, 1992)		10.2				(NTP, 1992)		1.718		77		(NTP, 1992)	(with some decomposition)	622		760		(NTP, 1992)	295.34							(NTP, 1992)	less than 1	mg/mL	at 72Â° F			Cellulose-Based Absorbents[Expanded Polymeric Absorbents	C6GENO2		25.0	2.0	115.0	5.0	7.0
189	P-XYLENE																																							Poison	C5H12N2O3	Mineral-Based & Clay-Based Absorbents(Dirt Earth	33.0	3.0	84.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
190	SILVER	AG-C-GS|AG-CO|AG-E 350|AGC-A|ALGAEDYN|ARGENTUM|ASTROFLAKE 5|AX 10C|AY 6010|AY 6080|C 200|C 200 (METAL)|C.I. 77820|C.I. 77870|CAREY LEA SILVER|D 25|D 25 (METAL)|1520D|DEGUSSA 67|DEGUSSA 80|DOTITE XA 208|E 20|E 20 (METAL)|FA 312|G 13|G 13 (METAL)|HCF 38|ELCON SH 1|KS|KS (METAL)|L 3|L 3 (ELEMENT)|L-3|LS 500|METZ 25B|METZ 3000-1|METZ 56|MMC-SF 25|MMC-SF 53|PS 652|PUFF SILVER X 1200|QS 175|RT 1710S|RT 1710S-C1|SD|SD (METAL)|SF 135|SFR-AG|SHELL SILVER|SILBEST TCG 1|SILCOAT AGC-A|SILCOAT AGC-B|SILCOAT AGC-GS|SILCOAT AGC-O|SILFLAKE 135|SILPOWDER 130|SILVER|SILVER ATOM|SILVER ELEMENT|SILVER	7440-22-4	PHYSICAL DESCRIPTION: Silvery metallic solid. (NTP, 1992)	1.0	2.5	5.0	792.0	64.0	256.0	95.0	117.0	93.0	8.0	30.0	11.0	14.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
191	SODIUM NITRATE	CHILE SALTPETER|NITER|NITRATINE|NITRIC ACID SODIUM SALT (1:1)|NITRIC ACID, SODIUM SALT|SALTPETER (CHILE)|SODA NITER|SODIUM NITRATE	7631-99-4	A white crystalline solid. Noncombustible but accelerates the burning of combustible materials. If large quantities are involved in fire or the combustible material is finely divided an explosion may result. May explode under prolonged exposure to heat or fire. Toxic oxides of nitrogen are produced in fires. Used in solid propellants, explosives, fertilizers, and for many other uses.	1.0	2.5	5.0	799.0	64.0	256.0	95.0	117.0	94.0	8.0	30.0	11.0	14.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
192	SODIUM PHOSPHATE, DIBASIC	(BLOB)	10039-32-4	A colorless to white crystalline solid. Soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Used as a fertilizer, in pharmaceuticals, in food processing, and for many other uses.	1.0	2.5	5.0	799.0	64.0	256.0	95.0	117.0	94.0	8.0	30.0	11.0	14.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
193	SODIUM PHOSPHATE, TRIBASIC	(BLOB)	10101-89-0	A colorless to white crystalline solid. Noncombustible.	1.0	2.5	5.0	799.0	64.0	256.0	95.0	117.0	94.0	8.0	30.0	11.0	14.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
194	SODIUM SULFITE	ANHYDROUS SODIUM SULFITE|DISODIUM SULFITE|DISODIUM SULFITE (NA2SO3)|EXSICCATED SODIUM SULFITE|S-WAT|SODIUM SULFITE|SODIUM SULFITE (NA2SO3)|SODIUM SULFITE ANHYDROUS|SODIUM SULPHITE|SULFTECH|SULFUROUS ACID, SODIUM SALT (1:2)	7757-83-7	White odorless powder. Density 2.633 g / cm3. Moderately toxic. Sinks in water and dissolves slowly. Also transported as a heptahydrate Na2SO3.7H2O.	1.0	2.5	5.0	799.0	64.0	256.0	95.0	117.0	94.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
190	SILVER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
191	SODIUM NITRATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	ETHYLENE GLYCOL DIETHYL ETHER can react with oxidizers. It is incompatible with strong acids. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		95											(USCG, 1999)		406		(NTP, 1992)		-101	
192	SODIUM PHOSPHATE, DIBASIC	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Water soluble.	ETHYLENE GLYCOL MONOMETHYL ETHER is incompatible with oxygen and strong oxidizing agents. Contact with bases may result in decomposition. Incompatible with acid chlorides and acid anhydrides. (NTP, 1992). It forms explosive peroxides.	Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3		(NTP, 1992)		107		(NTP, 1992)		2.5		%	(NTP, 1992)		14		%	(USCG, 1999)		551		(NTP, 1992)		-121.2	
193	SODIUM PHOSPHATE, TRIBASIC	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Water soluble. Reacts slowly in water to form acetic acid and methyl alcohol; the reaction is not violent.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		111		(NTP, 1992)		1.7		%	(NTP, 1992)		8.2		%	(USCG, 1999)		740		(NTP, 1992)		-85	
194	SODIUM SULFITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	C.I. DIRECT BLACK 38 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases may form with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases form with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Incompatible with strong acids [NTP, 1992)].	Explosive					0																					(NTP, 1992)	Decomposes		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chemicodes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
190	SILVER																																											32.0	3.0	97.0	4.0	7.0
191	SODIUM NITRATE	(NTP, 1992)	; 40 mm Hg at 65.5Â° F	20		58.5		mm Hg	(NTP, 1992)		4.1				(USCG, 1999)		0.8484		68		(NTP, 1992)		250.5		760		(NTP, 1992)		118.2		(NOSH, 2003)			(NTP, 1992)	at 66Â° F	greater than or equal to 100	mg/mL	EEE	Flammable Liquid	NaNO3		23.0	2.0	124.0	5.0	7.0
192	SODIUM PHOSPHATE, DIBASIC	(NTP, 1992)	; 10 mm Hg at 71.6Â° F	6.2		68		mm Hg	(NTP, 1992)		2.62				(USCG, 1999)		0.966		68		(NTP, 1992)		257		768		(NTP, 1992)		76.11		(NOSH, 2003)		200	ppm	(NTP, 1992)	at 70Â° F	greater than or equal to 100	mg/mL	EME	Flammable Liquid	Na2HPO4	Cellulose-Based Absorbents	23.0	2.0	127.0	5.0	7.0
193	SODIUM PHOSPHATE, TRIBASIC	(NTP, 1992)		2		68		mm Hg	(NTP, 1992)		4.07				(USCG, 1999)		1.006		68		(NTP, 1992)		293		760		(NTP, 1992)		118.13		(NOSH, 2003)		200	ppm	(NTP, 1992)	at 68Â° F	greater than or equal to 100	mg/mL	EGT	Flammable Liquid	Na3PO4		25.0	2.0	137.0	5.0	7.0
194	SODIUM SULFITE																				(NTP, 1992)	Decomposes					(NTP, 1992)		781.78		(NOSH, 2003)			(NTP, 1992)	at 68Â° F	1 to 5	mg/mL			C3H12N2O3S2.2Na		20.0	2.0	105.0	5.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
195	STEARIC ACID	(BLOB)	57-11-4	White solid with a mild odor. Floats on water. (USCG, 1999)	1.0	2.5	5.0	799.0	64.0	256.0	95.0	117.0	94.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
196	STYRENE MONOMER, INHIBITED	CINNAMENE|CINNAMENOL|CINNAMOL|DIAREX HF 77|ETHENYL BENZENE|ETHENYLBENZENE|NCI-C02200|PHENETHYLENE|PHENYLETHENE|PHENYLETHYLENE|STYRENE|STYRENE MONOMER|STYRENE MONOMER, INHIBITED|STYRENE MONOMER, [INHIBITED]|STYRENE, MONOMER, INHIBITED|STYROL|STYROLE|STYROLENE|STYRON|STYROPOL|STYROPOL SO|STYROPOR|VINYL BENZENE|VINYLBENZENE|VINYLBENZOL	100-42-5	A clear colorless to dark liquid with an aromatic odor. Vapors heavier than air and irritating to the eyes and mucous membranes. Subject to polymerization. If the polymerization takes place inside a closed container, the container may rupture violently. Less dense than water and insoluble in water. Used to make plastics, paints, and synthetic rubber.	2.5	5.0	2.5	806.0	64.0	256.0	95.0	117.0	95.0	8.0	30.0	11.0	14.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
197	XYLENE, [MIXED ISOMERS]	COMPONENT 1 (83%): XYLENES|COMPONENT 2 (17%): ETHYL BENZENE|DILAN|DIMETHYL BENZENE|DIMETHYLBENZENES|XYLENE|XYLENE (MIXED ISOMERS)|XYLENE, [MIXED ISOMERS]|XYLENES|XYLENES (ORTHO-XYLENE, META-XYLENE, PARA-XYLENE)|XYLOL	1330-20-7	A clear colorless liquid with a characteristic aromatic odor consisting of a mixture of the three isomers (ortho-, meta- and para-). The latter two predominate. Flash point 81-115Â°F. Less dense (at 7.2 lb / gal) than water and insoluble in water. Hence floats on water. May be toxic by ingestion. Vapors heavier than air and may be narcotic in high concentrations. Used as a solvent for paints and adhesives, and to make other chemicals.	2.5	5.0	2.5	806.0	64.0	256.0	95.0	117.0	95.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
198	XYLENESULFONIC ACID, SODIUM SALT	ALKATROPE SX-40|BENZENESULFONIC ACID, DIMETHYL-, SODIUM SALT|CALSOFT SXS 96|CARBOSULF SXS|CONCO SXS|CYCLOPHIL SXS 30|CYCLOPHIL SXS30|DIMETHYLBENZENESULFONIC ACID, SODIUM SALT|ELTESOL SX 30|ELTESOL SX93|HYDROTROPE|KEMMAT SN 18|NAXONATE|NAXONATE 4L|NAXONATE G|NAXONATE SX|NCI-C55403|REWORYL NXS40|RICHONATE SXS|SODIUM DIMETHYLBENZENESULFONATE|SODIUM XYLENE SULFONATE|SODIUM XYLENESULFONATE|STEPANATE SXS|STEPANATE X|SURCO SXS|SXS 40|ULTRAWET 40SX|WITCONATE SXS|XYLENESULFONIC ACID, SODIUM SALT	1300-72-7	PHYSICAL DESCRIPTION: Odorless white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	806.0	64.0	256.0	95.0	117.0	95.0	8.0	30.0	11.0	14.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapor generated in fires (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
199	ZINC DUST	ASARCO L 15|BLUE POWDER|ECKA 4|F 1000|F 1000 (METAL)|F 2000|F 2000 (METAL)|LS 2|LS 2 (ELEMENT)|LS 4|LS 5|RHEINZINK|UF|UF (METAL)|VM 4P16|ZINC|ZINC (FUME OR DUST)|ZINC DUST|ZINC METAL, [POWDER OR DUST]|ZINC POWDER	7440-66-6	A grayish powder. Insoluble in water. May produce toxic zinc oxide fumes when heated to very high temperatures or when burned. Used in paints, bleaches and to make other chemicals.	1.0	2.5	5.0	813.0	64.0	256.0	95.0	117.0	96.0	8.0	30.0	11.0	14.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
195	STEARIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	C.I. DIRECT VIOLET 32 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							(NTP, 1992)	(decomposes)		561 to 572
196	STYRENE MONOMER, INHIBITED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	SELENIUM, silicon, or sulfur ignites in fluorine gas at ordinary temperatures [Mellor 2:11-13 1946-47]. A mixture of barium carbide and selenium heated to 150Â° C becomes incandescence [Mellor 5:862 1946-47]. Calcium carbide and selenium vapor react with incandescence [Mellor 5:862 1946-47]. A moist mixture of selenium and chlorates, except the alkali chlorates, becomes incandescent. Selenium reacts violently with chromium trioxide [Mellor 11:233 1946-47]. Reaction of selenium and silver bromate (also potassium bromate) is violently explosive [Mellor 2, Supp1:763 1956]. Freshly reduced selenium reacts vigorously with nitric acid. Trace amounts of organic matter probably influenced the reaction [J. Chem. Soc. 1938 p.391]. The reaction between zinc and selenium or tellurium is accompanied by incandescence [Mellor 4:476-480 1946-47].	Strong Reducing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		392	
197	XYLENE, [MIXED ISOMERS]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to heat, air and light during long-term storage (NTP, 1992). Insoluble in water.	SULFATHIAZOLE is an amino acid.						0																							(NTP, 1992)	396.5Â° F (Form I); 347Â° F (Form II)		
198	XYLENESULFONIC ACID, SODIUM SALT	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Fumes in air. Soluble in water with release of heat.	FORMIC ACID reacts exothmerically with all bases, both organic (for example, the amines) and inorganic. Reacts with active metals to form gaseous hydrogen and a metal salt. Reacts with cyanide salts to generate gaseous hydrogen cyanide. Reacts with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable or toxic gases. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate carbon dioxide but still heat. Can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. May initiate polymerization reactions or catalyze other chemical reactions. A mixture with furfuryl alcohol exploded [Chem. Eng. News 18:72(1940)].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		156		(NTP, 1992)	(90% solution)	18		%	(NTP, 1992)	(90% solution)	57		%	(USCG, 1999)		1114		(NTP, 1992)		47.1	
199	ZINC DUST	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Cesium is spontaneously flammable in air at room temperature, if the surface is clean [Merck 11th ed. 1989]. Reacts with water to generate enough heat to ignite the hydrogen produced during the reaction, and to generate caustic cesium hydroxide [Mellor 2 419 1946-47].	CESIUM METAL reacts violently with oxidizing agents, even weaker ones. Reacts with boron trifluoride with incandescence when heated [Merck 11th ed. 1989]. Reacts explosively with maleic anhydride [Chem Safety Data Sheet SD-88 1962; Chem. Haz. Info. Series C-71 1960]. Burns in chlorine with a luminous flame [Mellor 2 Supp. 1:380 1956]. Reacts violently with most acids. Reacts violently with fluorine, chlorine, bromine and iodine. Reacts with incandescence with sulfur and phosphorus. Burns vigorously in air.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_unite	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
195	STEARIC ACID																											(NTP, 1992)	757.71							(NTP, 1992)	at 63Â° F							C34H27N5O9S2.2Na		26.0	2.0	105.0	5.0	7.0
196	STYRENE MONOMER, INHIBITED	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)						(NIOSH, 2003)		1265		760		(NIOSH, 2003)	79			(NIOSH, 2003)	(as Se)	1	mg/m3	(NIOSH, 2003)	Insoluble		1 to 10	mg/mL		Poison	Se		28.0	2.0	104.0	5.0	7.0
197	XYLENE, [MIXED ISOMERS]														(NIOSH, 2003)		4.28										(NTP, 1992)	255.32							(NTP, 1992)	Insoluble (< 1 mg/ml at 70Â° F)						C9H9N3O2S2	Mineral-Based & Clay-Based Absorbents	32.0	3.0	76.0	4.0	7.0
198	XYLENESULFONIC ACID, SODIUM SALT	(NTP, 1992)	; 200 mm Hg at 142.5Â° F	35		68		mm Hg	(NTP, 1992)		1.6				(USCG, 1999)		1.22		68		(NTP, 1992)		213.3		760		(NTP, 1992)	46.02			(NIOSH, 2003)		30	ppm	(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	FMA	Corrosive| Flammable| Liquid	CH2O2		32.0	3.0	76.0	4.0	7.0
199	ZINC DUST																																								Dangerous When Wet	Cs		31.0	3.0	90.0	4.0	7.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
200	ZINC STEARATE	ACF|AFCO-DISPER ZD|COAD 20|DERMARONE|DIBASIC ZINC STEARATE|DISPERSOD|DLG 20|EFUKOKEMU ZNS-P|F 115|F 155|F 155 (SALT)|F 930|GF 200|HIDORIN D 523|HIDORIN E 366|HIDORIN E 619|HIDORIN F 115|HIDORIN F 930|HIDORIN SZ 40|HIDORIN Z 7|HIDORIN Z 7-30|HYMICRON F 930|HYMICRON LH|HYMICRON ZK 349|KV 85A1|LIQUAZINC AQ 90|LUBRAZINC W|METALLAC|METASAP 576|MR 450|PETRAC ZN 44HS|PG 2000|R 1004|RSN 131HS|SAK-ZS-P|SAK-ZS-PLB|STAVINOR CECAVON ZN|STAVINOR ZN-E|STEARATES (DOES NOT INCLUDE STEARATES OF TOXIC METALS)|STEARIC ACID, ZINC SALT|SYNPRO ABG|SYNPRO ACF|SYNPRO DLG 20|SYNPRO STEARATE|SZ 2000|SZ-DF 2|SZ-DF-PE|SZ-DFE|SZ-P|SZ-	557-05-1	White, hydrophobic powder with a slight, characteristic odor. Mp: 130Â°C. Density: 1.1 g cm-3. Insoluble in water, ethyl alcohol and diethyl ether. Soluble in acids. Non-toxic. In technical grades, the percentage of zinc may vary according to the intended use. Products with less than the theoretical amount of zinc are more acidic.	1.0	2.5	5.0	813.0	64.0	256.0	95.0	117.0	96.0	8.0	30.0	11.0	14.0	(BLOB)	Flash point data for this compound is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
201	2-ETHYL HEXANOL	2-ETHYL HEXANOL|(+-)-2-ETHYL-1-HEXANOL|2-ETHYL-1-HEXANOL|ETHYLHEXANOL|2-ETHYLHEXANOL|2-ETHYLHEXYL ALCOHOL|OCTYL ALCOHOL	104-76-7	A dark brown liquid with an aromatic odor. Insoluble in water and less dense than water. Flash point between 140 - 175Â°F. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	813.0	64.0	262.0	95.0	117.0	96.0	8.0	31.0	11.0	14.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
202	2-METHYL-6-NITROANILINE	1-AMINO-2-METHYL-6-NITROBENZENE|2-AMINO-3-METHYLNITROBENZENE|2-AMINO-3-NITROTOLUENE|6-METHYL-2-NITROANILINE|2-METHYL-6-NITROANILINE|3-NITRO-2-AMINOTOLUENE|2-NITRO-6-METHYLANILINE|6-NITRO-O-TOLUIDINE|O-TOLUIDINE, 6-NITRO-	570-24-1	PHYSICAL DESCRIPTION: Orange-yellow prisms or brown granular powder. (NTP, 1992)	1.0	2.5	5.0	813.0	64.0	262.0	95.0	117.0	96.0	8.0	31.0	11.0	14.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
203	4-HYDROXYACETANILIDE	(BLOB)	103-90-2	PHYSICAL DESCRIPTION: Odorless white crystalline solid. Bitter taste. pH (saturated aqueous solution) about 6. (NTP, 1992)	1.0	2.5	5.0	819.0	64.0	262.0	95.0	117.0	97.0	8.0	31.0	11.0	14.0	INHALATION: move to fresh air; if breathing has stopped, begin artificial respiration and call a doctor. INGESTION: give large amount of water; induce vomiting; call a doctor. EYES: flush with water for at least 15 min.; consult a physician if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cobalt oxide fumes may form in fire. (USCG, 1999)	
204	ACRYLAMIDE	ACRYLAMIDE|ACRYLAMIDE MONOMER|ACRYLAMIDE SOLUTION|ACRYLIC ACID AMIDE (50%)|ACRYLIC AMIDE|ACRYLIC AMIDE 50%|ETHYLENE CARBOXAMIDE|ETHYLENECARBOXAMIDE|PROPENAMIDE|PROPENAMIDE (50%)|2-PROPENAMIDE|PROPENOIC ACID, AMIDE|VINYL AMIDE	79-06-1	White crystalline solid shipped either as a solid or in solution. A confirmed carcinogen. Toxic by skin absorption. Less dense than water and soluble in water. May be toxic by ingestion. Used for sewage and waste treatment, to make dyes, adhesives. The solid is stable at room temperature, but upon melting may violently polymerize. Toxic, irritating to skin, eyes, etc.	1.0	2.5	5.0	819.0	64.0	262.0	95.0	123.0	97.0	8.0	31.0	11.0	15.0	(BLOB)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) This material may burn but does not ignite readily. Fire and runoff from fire control water may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Container may explode in heat of fire. Enolic form of compound has acidic properties and can form salts with metals. (EPA, 1998)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. (EPA, 1998)
205	ACRYLAMIDE SOLUTION, [AQUEOUS]	ACRYLAMIDE|ACRYLAMIDE SOLUTION|ACRYLAMIDE SOLUTION, [AQUEOUS]|ACRYLIC AMIDE|ETHYLENECARBOXAMIDE|PROPENAMIDE|VINYL AMIDE	79-06-1	A colorless aqueous solution of a solid. Often at a concentration of 40% (w/v). Spills can easily penetrate the soil and contaminate groundwater and nearby streams. Used for sewage and waste treatment and to make dyes and adhesives. Toxic, irritating to skin, eyes, etc. Produce toxic oxides of nitrogen when burned.	1.0	2.5	5.0	825.0	64.0	262.0	95.0	123.0	98.0	8.0	31.0	11.0	15.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
200	ZINC STEARATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLORAMBEN reacts with sodium hypochlorite solutions (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			381 to 387
201	2-ETHYL HEXANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	IRON DEXTRAN is unstable at a pH of 5 and decomposes at 149-158Â° F. It may be sensitive to prolonged exposure to air. (NTP, 1992)						0		(NTP, 1992)		greater than 200																			
202	2-METHYL-6-NITROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)			365 to 372
203	4-HYDROXYACETANILIDE		Bu. Mines approved respirator; goggles; protective gloves (USCG, 1999)	Water soluble.	Acidic salts, such as COBALT SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																									
204	ACRYLAMIDE	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water spray to reduce vapors. With clean shovel place material into clean, dry container and cover. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Ketones, such as COUMATETRALYL, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		349	
205	ACRYLAMIDE SOLUTION, [AQUEOUS]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			309 to 313

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
200	ZINC STEARATE	(NTP, 1992)		0.007		212		mm Hg																			(NTP, 1992)		206.03						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Class 9	C7H5Cl2NO2	Mineral-Based & Clay-Based Absorbents	28.0	2.0	110.0	5.0	7.0
201	2-ETHYL HEXANOL																									(NTP, 1992)	approximately	180000						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL					24.0	2.0	56.0	4.0	6.0
202	2-METHYL-6-NITROANILINE																									(NTP, 1992)		178.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C9H10N2S	Mineral-Based & Clay-Based Absorbents	11.0	1.0	224.0	5.0	6.0
203	4-HYDROXYACETANILIDE														(USCG, 1999)		1.948		68							(USCG, 1999)		281.1											CBS		CoSO4		20.0	2.0	95.0	4.0	6.0
204	ACRYLAMIDE																									(EPA, 1998)		292.35											Poison		C19H16O3	Cellulose-Based Absorbents	21.0	2.0	71.0	4.0	6.0
205	ACRYLAMIDE SOLUTION, [AQUEOUS]																									(NTP, 1992)		181.15						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H7NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	21.0	2.0	71.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
206	ACRYLAMIDE SOLUTION, [FLAMMABLE LIQUID LABEL]	ACRYLAMIDE SOLUTION, [FLAMMABLE LIQUID LABEL]	79-06-1	A solution of a colorless crystalline solid. Flash point depends on the solvent but below 141Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used for sewage and waste treatment, to make dyes and adhesives.	1.0	2.5	5.0	831.0	70.0	262.0	95.0	129.0	99.0	9.0	31.0	11.0	16.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
207	ACRYLIC ACID, [WASTE]	ACRYLIC ACID|ACRYLIC ACID, [WASTE]	79-10-7	A colorless liquid with a distinctive acrid odor. Combustible. Flash point 130Â°F. Boiling point 286Â°F. Freezing point 121Â°F. Corrosive to metals and tissue. May polymerize under prolonged exposure to fire or heat. If polymerization occurs in a container violent rupture may occur. Generally shipped with an inhibitor such as hydroquinone to prevent polymerization.	2.5	5.0	2.5	831.0	70.0	262.0	95.0	129.0	99.0	9.0	31.0	11.0	16.0	(BLOB)	Flash point data for this mixture are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
208	ACRYLIC ACID, INHIBITED	ACROLEIC ACID|ACRYLIC ACID|ACRYLIC ACID, GLACIAL|ACRYLIC ACID, INHIBITED|AQUEOUS ACRYLIC ACID (TECHNICAL GRADE IS 94%)|ETHYLENE CARBOXYLIC ACID|ETHYLENECARBOXYLIC ACID|GLACIAL ACRYLIC ACID|GLACIAL ACRYLIC ACID (98% IN AQUEOUS SOLUTION)|PROPENE ACID|PROPENOIC ACID|2-PROPENOIC ACID|VINYL FORMIC ACID|VINYLFORMIC ACID	79-10-7	Acrylic acid is a colorless liquid with a distinctive acrid odor. Flash point 130Â°F. Boiling point 286Â°F. Freezing point 53Â°F. Corrosive to metals and tissue. Prolonged exposure to fire or heat can cause polymerization. If polymerization takes place in a closed container, violent rupture may occur. The inhibitor (usually hydroquinone) greatly reduces the tendency to polymerize.	2.5	5.0	2.5	837.0	70.0	262.0	95.0	129.0	100.0	9.0	31.0	11.0	16.0	(BLOB)	Behavior in Fire: May cause dust explosion. (USCG, 1999)	Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam, water spray. (USCG, 1999)
209	AIR, COMPRESSED	AIR, COMPRESSED|AIR, [COMPRESSED]	132259-10-0	Ordinary air, compressed and shipped in cylinders under pressure. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	843.0	70.0	262.0	95.0	129.0	101.0	9.0	31.0	11.0	16.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
210	AIR, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	AIR, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|AIR, REFRIGERATED LIQUID (CRYOGENIC LIQUID), NON-PRESSURIZED|AIR, [REFRIGERATED LIQUID]	132259-10-0	Ordinary air liquefied. Shipped unconfined at its boiling point (approx 300Â°F). Noncombustible but promotes the burning of other materials. Can cause serious injury by freezing exposed skin.	5.0	1.0	1.0	843.0	70.0	262.0	95.0	129.0	101.0	9.0	31.0	11.0	16.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
211	AMMONIUM BICARBONATE	ACID AMMONIUM CARBONATE|AMMONIUM BICARBONATE|AMMONIUM HYDROGEN CARBONATE|CARBONIC ACID, MONOAMMONIUM SALT|MONOAMMONIUM CARBONATE	1066-33-7	A white crystalline solid having the odor of ammonia. Soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Used to make other ammonium compounds, in food processing, and for other uses.	1.0	2.5	5.0	849.0	70.0	262.0	101.0	129.0	102.0	9.0	31.0	12.0	16.0	Call a physician. EYES: Flush with water. SKIN: Wash with water. INGESTION: Induce vomiting and administer gastric lavage. Give saline cathartic. (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
206	ACRYLAMIDE SOLUTION, [FLAMMABLE LIQUID LABEL]		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	This compound is incompatible with the following: Strong oxidizers, acids When heated to decomposition, it emits very toxic fumes of Cl2 and SOx (Hazardous Chemicals Reference Desk p. 349 (1987).								0																				(NIOSH, 2003)	(Decomposes)	473	
207	ACRYLIC ACID, [WASTE]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, protect it from moisture, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	GLYCEROL is hygroscopic. It reacts violently or explosively with many oxidizing agents. It can react violently with acetic anhydride, (aniline + nitrobenzene), Ca(OCl)2, CrO3, Cr2O3, (F2 +PbO), (HClO4 + PbO), KMnO4, K2O2, AgClO4, Na2O2 and NaH. Contact with strong oxidizing agents such as potassium chlorate may produce an explosion. It reacts with HCl to form glycerol chlorohydrin. Contact with solid calcium hypochlorite may result in ignition within a few minutes, accompanied by irritant smoke. It has reacted with liquid chlorine when in a confined stainless steel bomb at 158-176Â° F. Mixtures of glycerol with nitric acid and hydrofluoric acid have ruptured a closed plastic container in four hours. It is also incompatible with strong bases. (NTP, 1992)								0																												
208	ACRYLIC ACID, INHIBITED	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate solution; flush with water. (USCG, 1999)	Respirator, chemical safety goggles, boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	(BLOB)								0		(NTP, 1992)		235																		(NTP, 1992)		111	
209	AIR, COMPRESSED	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Store it under refrigerated temperatures, and keep it away from oxidizing materials and alkalies. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,2,4,5-TETRACHLOROBENZENE is incompatible with strong oxidizing agents. Reacts violently with sodium hydroxide in methanol. Several explosions have occurred during alkaline hydrolysis. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		311																		(NTP, 1992)		280 to 284	
210	AIR, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 1,2,4,5-TETRAMETHYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(NFPA, 2010)		130																		(NTP, 1992)		174.6	
211	AMMONIUM BICARBONATE			Insoluble in water.	Acidic salts, such as CUPRIC TARTRATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.								0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value tempDegF	vp_range tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value tempDegF	vd_range tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value tempDegF	sg_range tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value presMMH g	bp_range presMMH g	melwgt_source	melwgt_note	melwgt_value	melwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solhby_source	solhby_note	solhby_value	solhby_range	chrcs_coef	chrcs_unit	dot_labels	formulas	incompatible_ab sorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
206	ACRYLAMIDE SOLUTION, [FLAMMABLE LIQUID LABEL]	(NIOSH, 2003)		0.1				mm Hg							(NIOSH, 2003)	1.7					(NIOSH, 2003)	Decomposes	437		100	760	(NIOSH, 2003)		309.1		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	at 77Å° F	26									21.0	2.0	71.0	4.0	6.0
	ACRYLIC ACID, [WASTE]																																														
207	ACRYLIC ACID, INHIBITED																																															
208	ACRYLIC ACID, INHIBITED	(NTP, 1992)	; 5 mm Hg at 165.11° F; 760 mm Hg at 570.6A° F	1		250		mm Hg							(USCG, 1999)		0.883				(NTP, 1992)		437		100	760	(NTP, 1992)		309.1		(NTP, 1992)		500	mg/m3	(NTP, 1992)	at 70Å° F	less than 1	mg/mL	LRA			C12H24O2	Cellulose-Based AbsorbentsMin eral-Based & Clay-Based Absorbents	21.0	2.0	71.0	4.0	6.0
209	AIR, COMPRESSED	(NTP, 1992)	; 40 mm Hg at 295A° F	less than 0.1		77		mm Hg	(NTP, 1992)		7.4				(USCG, 1999)		1.858		70		(NTP, 1992)		464 to 475		760		(NTP, 1992)		215.89		(NTP, 1992)		77		(NTP, 1992)	at 70Å° F	less than 1	mg/mL			Class 9	C6H2Cl4		31.0	3.0	40.0	3.0	6.0
210	AIR, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	(NTP, 1992)		0.8875		68									(NTP, 1992)						(USCG, 1999)	Tribrodnate decomposes on heating					(NTP, 1992)		134.22		(USCG, 1999)	265.66 tribytate					Flammable Solid	C10H14		31.0	3.0	40.0	3.0	6.0
211	AMMONIUM BICARBONATE																																							CTT		Cellulose-Based Absorbents	15.0	1.0	100.0	5.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
212	ANILINE	AMINOBENZENE|AMINOPHEN|ANILINE|ANILINE (AND HOMOLOGS)|ANILINE OIL|ANILINE OIL, LIQUID|ANYVIM|ARYLAMINE|BENZENAMINE|BENZENE, AMINO|BENZENE, AMINO-|BENZIDAM|BLUE OIL|C.I. 76000|C.I. OXIDATION BASE 1|CI 76000|CI OXIDATION BASE 1|CYANOL|KRYSTALLIN|KYANOL|NCI 176889|NCI-C03736|PHENYLAMINE	62-53-3	A yellowish to brownish oily liquid with a musty fishy odor. Melting point -6Â°C; boiling point 184Â°C; flash point 158Â°F. Denser than water (8.5 lb / gal) and slightly soluble in water. Vapors heavier than air. Toxic by skin absorption and inhalation. Produces toxic oxides of nitrogen during combustion. Used to manufacture other chemicals, especially dyes, photographic chemicals, agricultural chemicals and others.	2.5	5.0	2.5	855.0	70.0	262.0	101.0	129.0	103.0	9.0	31.0	12.0	16.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
213	BARIUM SULFATE	(BLOB)	7727-43-7	White or yellowish odorless powder or small crystals. Mp: 1580Â°C (with decomposition). Density: 4.25 -4.5 g cm-3. Insoluble in water, dilute acids, alcohol. Soluble in hot concentrated sulfuric acid. Used as a weighting mud in oil-drilling, in paints, paper coatings, linoleum, textiles, rubber. Administered internally (âœbarium cocktailâ€)as a radio-opaque diagnostic aid.	1.0	2.5	5.0	855.0	70.0	262.0	101.0	129.0	103.0	9.0	31.0	12.0	16.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
214	BENZOYL PEROXIDE	(BLOB)	94-36-0	Odorless white powder or granules. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	855.0	70.0	262.0	101.0	129.0	103.0	9.0	31.0	12.0	16.0	(BLOB)	This material detonates at 428F or more; ignites by impact. Emits highly toxic fumes of bromides when heated to decomposition. Reacts vigorously with oxidizing materials. Becomes shock-sensitive when mixed with chloropicrin. Unstable, avoid heat, flame, shock, and other chemicals (EPA, 1998)	Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if you can do it without risk. Do not get water inside container. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. To extinguish fire use water, foam, carbon dioxide, or dry chemical. (EPA, 1998)
215	BENZOYL PEROXIDE, [<= 77% WITH WATER]	BENZOYL PEROXIDE|BENZOYL PEROXIDE, [<= 77% WITH WATER]	94-36-0	White, odorless powder. Moderately toxic. Keep in a cool place in isolation, out of the sunlight and away from heat.	1.0	2.5	5.0	855.0	70.0	262.0	101.0	129.0	103.0	9.0	31.0	12.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
216	BENZOYL PEROXIDE, [> 77% BUT < 95% WITH WATER]	BENZOYL PEROXIDE|BENZOYL PEROXIDE, [> 77% BUT < 95% WITH WATER]	94-36-0	White, odorless powder, moderately toxic.	1.0	2.5	5.0	855.0	70.0	262.0	101.0	129.0	103.0	9.0	31.0	12.0	16.0			
217	BIS(2-ETHYLHEXYL) ADIPATE	ADIMOLL DO|ADIPIC ACID, BIS (2-ETHYLHEXYL) ESTER|ADIPIC ACID, BIS(2-ETHYLHEXYL) ESTER|ADIPOL 2EH|ADO|ADO (LUBRICATING OIL)|BEHA|BIS(2-ETHYLHEXYL) ADIPATE|BISOFLEX DOA|CRODAMOL DOA|DEHA|DI (2-ETHYLHEXYL) ADIPATE|DI(2-ETHYLHEXYL) ADIPATE|DI-(2-ETHYLHEXYL) ADIPATE|DI-2-ETHYLHEXYL ADIPATE|DIACIZER DOA|DIETHYLHEXYL ADIPATE|DIOCTYL ADIPATE|DOA|EFFEMOLL DOA|EFFOMOLL DA|EFFOMOLL DOA|ERGOPLAST ADDO|FLEXOL A 26|FLEXOL PLASTICIZER 10-A|FLEXOL PLASTICIZER A-26|HATCOL 2908|HEXANEDIOIC ACID, BIS(2-ETHYLHEXYL)	103-23-1	Colorless to straw-colored liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	861.0	70.0	262.0	101.0	129.0	104.0	9.0	31.0	12.0	16.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
218	BLUE 15 B	(BLOB)	147-14-8	PHYSICAL DESCRIPTION: Bright blue crystals with purple luster. (NTP, 1992)	1.0	2.5	5.0	861.0	70.0	262.0	101.0	129.0	104.0	9.0	31.0	12.0	16.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
212	ANILINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dilution with water may generate enough heat to cause steaming or spattering.	LITHIUM HYDROXIDE SOLUTION neutralizes acids exothermically to form salts plus water. Reacts with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. May serve as a catalyst. Reacts when heated above about 84ÂºC with aqueous solutions of reducing sugars other than sucrose, to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
213	BARIUM SULFATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	CYCLOTETRAMETHYLENE TETRANITRAMINE, [WET WITH >= 10% WATER] is a high explosive. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water. Presence of metal oxides increases thermal sensitivity. Wetting reduces sensitivity toward detonation.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									
214	BENZOYL PEROXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Insoluble in water.	3-BROMOPROPYNE is soluble in alcohol, ether, chloroform, carbon tetrachloride and carbon disulfide. It is highly flammable and a dangerous fire risk, sensitive to shock. It is used in organic syntheses, preparation of resins and perfume intermediates [Hawley]. There is a high danger of formation of explosive metal acetylides, when this compound comes in contact with copper, high-copper alloys, mercury, or silver.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	4	7		(EPA, 1998)		50		(EPA, 1998)		3		%					(EPA, 1998)		-77.9	
215	BENZOYL PEROXIDE, [<= 77% WITH WATER]	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	3-CARBETHOXYPSORALEN is sensitive to exposure to light. (NTP, 1992)							0																							
216	BENZOYL PEROXIDE, [> 77% BUT < 95% WITH WATER]			No rapid reaction with air. No rapid reaction with water.	3-CHLORO-1,1,1-TRIFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Undergoes oxidation with strong oxidizing agents and under extremes of temperature.							0																							
217	BIS(2-ETHYLHEXYL) ADIPATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water. This material is likely to generate heat spontaneously, especially when wet. The heat may be sufficient to ignite the material. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	The BPS Pesticide incident in Helena resulted in an explosion and death of three firemen. The burning of a 1,000 pound sack of Azinphos Methyl or the flashing of Maneb which was present on the facility may have caused the explosion.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
218	BLUE 15 B	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters, such as 3-METHYL-3-PHENYLGLYCIDIC ACID ETHYL ESTER, react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)			greater than 200																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
212	ANILINE																																								Corrosive	HLiO (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	20.0	2.0	66.0	4.0	6.0
213	BARIUM SULFATE																																								Explosive 1.1D	C4H8N8O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	20.0	2.0	88.0	4.0	6.0
214	BENZOYL PEROXIDE								(EPA, 1998)		4.1				(EPA, 1998)			1.564 to 1.57			(EPA, 1998)			190 to 194	760		(EPA, 1998)		118.97											Flammable Liquid	C3H3Br	Dirt/Earth	22.0	2.0	70.0	4.0	6.0
215	BENZOYL PEROXIDE, [<= 77% WITH WATER]																										(NTP, 1992)		258.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C14H10O5		22.0	2.0	70.0	4.0	6.0
216	BENZOYL PEROXIDE, [> 77% BUT < 95% WITH WATER]																																									C3H4ClF3		22.0	2.0	70.0	4.0	6.0
217	BIS(2-ETHYLHEXYL) ADIPATE																																								Spontaneously Combustible|Dangerous When Wet	C4H6MnN2S4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	24.0	2.0	60.0	4.0	6.0
218	BLUE 15 B														(NTP, 1992)			1.104 to 1.123	68		(NTP, 1992)			522 to 527	760		(NTP, 1992)		206.26						(NTP, 1992)	Insoluble (<1 mg/ml at 68Â° F)						C12H14O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	19.0	1.0	134.0	5.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
219	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)|BORAX PENTAHYDRATE|BORIC ACID (H2B4O7), DISODIUM SALT, PENTAHYDRATE|SODIUM BORATE (NA2B4O5(OH)4) TRIHYDRATE|SODIUM BORATE PENTAHYDRATE|SODIUM TETRABORATE PENTAHYDRATE	12179-04-3	White odorless crystals or free-flowing powder. Density: 1.82 g cm-3. Soluble in water (38 g / L H2O at 20Â°C). Used in the manufacture of fiberglass insulation and sodium perborate bleach.	1.0	2.5	5.0	867.0	70.0	262.0	101.0	129.0	105.0	9.0	31.0	12.0	16.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
220	BUTYL ACETATE	ACETIC ACID N-BUTYL ESTER|ACETIC ACID, BUTYL ESTER|ACETIC ACID, N-BUTYL ESTER|1-ACETOXYBUTANE|BUTYL ACETATE|BUTYL ACETATE (N)|1-BUTYL ACETATE|BUTYL ACETATES|BUTYL ETHANOATE|N-BUTYL ACETATE|N-BUTYL ESTER OF ACETIC ACID	123-86-4	A clear colorless liquid with a fruity odor. Flash point 72 - 88Â°F. Density 7.4 lb / gal (less than water). Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	867.0	70.0	262.0	101.0	129.0	105.0	9.0	31.0	12.0	16.0			
221	C.I. PIGMENT GREEN 7	(BLOB)	1328-53-6	PHYSICAL DESCRIPTION: Green powder. (NTP, 1992)	1.0	2.5	5.0	867.0	70.0	262.0	107.0	129.0	105.0	9.0	31.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
222	CALCIUM HYPOCHLORITE	CALCIUM HYPOCHLORITE	7778-54-3	A white granular solid (or tablets compressed from the granules) with an odor of chlorine. Toxic, irritating to the skin. Noncombustible, but will accelerate the burning of combustible materials. Prolonged exposure to fire or heat may result in the vigorous decomposition of the material and rupture of the container. Diluted samples may undergo reactions as described above if they contain less than 39% available chlorine but take longer to become involved and react less vigorously. Used for water purification, disinfectant for swimming pools, for bleaching paper and textiles.	1.0	2.5	5.0	867.0	70.0	262.0	107.0	129.0	105.0	9.0	31.0	13.0	16.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
223	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 10% BUT NOT MORE THAN 39% AVAILABLE CHLORINE	CALCIUM HYPOCHLORITE|CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 10% BUT NOT MORE THAN 39% AVAILABLE CHLORINE|CALCIUM HYPOCHLORITE MIXTURE, [DRY, WITH > 10% BUT <= 39% AVAILABLE CHLORINE]	7778-54-3	Calcium hypochlorite is a white granular solid or tablets compressed from the granules with an odor of chlorine. It is noncombustible but it will accelerate the burning of combustible materials. It is decomposed by water with evolution of chlorine gas and heat. Prolonged exposure to fire or heat may result in the vigorous decomposition of the material and the rupture of its container. Material containing less than 39 percent available chlorine will undergo reactions as described above though it may take longer to initiate and the resulting reactions may not be as vigorous. It is used in water purification, as a swimming pool disinfectant, as a bleaching compound, and for other uses.	1.0	2.5	5.0	867.0	70.0	262.0	107.0	129.0	105.0	9.0	31.0	13.0	16.0	INHALATION: Call for medical aid. Remove to fresh air. If not breathing, give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. INGESTION: If conscious, have victim drink 2 glasses of water and immediately induce vomiting. EYES: Irrigate with water for at least 15 minutes. SKIN: Wash off in flowing water or shower. (USCG, 1999)		Fire Extinguishing Agents: Water fog, alcohol foam, carbon dioxide, dry chemical. (USCG, 1999)
224	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 39% AVAILABLE CHLORINE (8.8% AVAILABLE OXYGEN)	B-K POWDER|BLEACHING POWDER|CALCIUM HYPOCHLORITE|CALCIUM HYPOCHLORITE (BLEACHING POWDER)|CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 39% AVAILABLE CHLORINE (8.8% AVAILABLE OXYGEN)|CALCIUM HYPOCHLORITE MIXTURE, [DRY, WITH >39% AVAILABLE CHLORINE]|CALCIUM HYPOCHLORITE, DRY|CALCIUM OXYCHLORIDE|CAPORIT|CHEMICHLON G|CHLORIDE OF LIME|CHLORINATED LIME|CHLORO LIME CHEMICAL|EUSOL BPC|HTH|HTH (BLEACHING AGENT)|HTH DRY CHLORINE|LIME CHLORIDE|LOSANTIN|NEUTRAL ANHYDROUS CALCIUM HYPOCHLORITE|NISSO HI-CHLON L|SOLVOX KST-	7778-54-3	A white granular solid with an odor of chlorine or tablets compressed from the granules. Prolonged exposure to fire or heat may result in the vigorous decomposition and the rupture of its container. Material containing less than 39 percent available chlorine will undergo reactions as described above though the reactions may take longer to initiate and may not be as vigorous. Used in water purification, as a swimming pool disinfectant, as a bleaching compound.	1.0	2.5	5.0	867.0	70.0	262.0	107.0	129.0	105.0	9.0	31.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
219	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water. Slowly hydrolyzed.	DAZOMET decomposes in water, dilute acids and alcohol. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)	248	
220	BUTYL ACETATE			Soluble in water.	A phenoxy aryloxyalkanoic acid derivative.								0																									
221	C.I. PIGMENT GREEN 7	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID is incompatible with iron. It forms sparingly water-soluble, crystalline salts with many bisquaternary ammonium bases. (NTP, 1992)						0																						(NTP, 1992)		greater than 617	
222	CALCIUM HYPOCHLORITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under refrigerated temperatures and protect from moisture, acids, bases and oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Soluble in water.	4-BUTYROLACTONE can react with oxidizing materials, inorganic acids and bases, alcohols and amines. Rapidly hydrolyzed by bases and slowly hydrolyzed by acids. It is volatile with steam. (NTP, 1992). The combination of the lactone, butanol, 2,4-dichlorophenol, and sodium hydroxide in the attempted synthesis of 2,4-dichlorophenoxybutyric acid caused a thermal runaway reaction that eventually exploded, [CISHC Chem. Safety Summ., 1977, 48, 3].			(NFPA, 2010)		1	2	0	2		(NTP, 1992)		209		(NTP, 1992)		1.4		%	(NTP, 1992)		6.9		%						(NTP, 1992)		-49	
223	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 10% BUT NOT MORE THAN 39% AVAILABLE CHLORINE		Chemical goggles, rubber boots and gloves, and self contained breathing apparatus. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164].	TRIPROPYLENE GLYCOL METHYL ETHER may react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(USCG, 1999)		232																(USCG, 1999)		-110	
224	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 39% AVAILABLE CHLORINE (8.8% AVAILABLE OXYGEN)	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	4-CHLORO-2-(2,4-DINITROANILINO)PHENOL is a chlorinated and nitrated amino acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. May be incompatible with isocyanates peroxides, epoxides, anhydrides, and acid halides.						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
219	BORATES, TETRA, SODIUM SALTS (PENTAHYDRATE)	(NTP, 1992)		2.77		68		mm Hg							(NTP, 1992)		1.3		68								(NTP, 1992)		162.27						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Class 9	C5H10N2S2	Mineral-Based & Clay-Based Absorbents	20.0	2.0	80.0	4.0	6.0
220	BUTYL ACETATE																																									C10H11ClO3		25.0	2.0	97.0	4.0	6.0
221	C.I. PIGMENT GREEN 7																											(NTP, 1992)		370.42						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C14H14N2O6S2	Dirt/Earth	12.0	1.0	109.0	5.0	6.0
222	CALCIUM HYPOCHLORITE	(NTP, 1992)		less than 1	77			mm Hg	(NTP, 1992)		3				(NTP, 1992)		1.1286		59		(NTP, 1992)			399 to 401	760		(NTP, 1992)		86.09						(NTP, 1992)	at 55Â° F		greater than or equal to 100	mg/mL			Ca4H6O2		21.0	2.0	82.0	4.0	6.0
223	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 10% BUT NOT MORE THAN 39% AVAILABLE CHLORINE														(USCG, 1999)		0.965				(USCG, 1999)			468	760		(USCG, 1999)		206.3										TGM			C10H22O4	Cellulose-Based Absorbents	21.0	2.0	82.0	4.0	6.0
224	CALCIUM HYPOCHLORITE MIXTURE, DRY, WITH MORE THAN 39% AVAILABLE CHLORINE (8.8% AVAILABLE OXYGEN)																											(NTP, 1992)		309.67													C12H8Cl3N3O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	21.0	2.0	82.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
225	CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, WITH NOT LESS THAN 5.5% BUT NOT MORE THAN 16% WATER	B-K POWDER|BLEACHING POWDER|CALCIUM HYPOCHLORITE|CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, WITH NOT LESS THAN 5.5% BUT NOT MORE THAN 16% WATER|CALCIUM HYPOCHLORITE, HYDRATED, WITH NOT LESS THAN 5.5% BUT NOT MORE THAN 16% WATER|CALCIUM HYPOCHLORITE, [HYDRATED >= 5.5% BUT <= 16% WATER, AND CONTAINING > 39% AVAILABLE CHLORINE]|CALCIUM OXYCHLORIDE|CAPORIT|CHEMICHLON C|CHLORIDE OF LIME|CHLORINATED LIME|CHLORO LIME CHEMICAL|EUSOL BPC|HTH|HTH (BLEACHING AGENT)|LIME CHLORIDE|LOSANTIN|NISSO HI-CHLON LC|SOLVOX KS|T-EUSOL	7778-54-3	Calcium hypochlorite, hydrated is a white granular solid or tablets compressed from the granules having an odor of chlorine. It is noncombustible, but it will accelerate the burning of combustible materials. It is decomposed by water with evolution of chlorine gas and heat. Prolonged exposure to fire or heat may result in the vigorous decomposition of the material and rupture of the container. Material containing less than 39% available chlorine may undergo reactions as described above though it may take longer to initiate, and the resulting reactions may not be as vigorous. It is used for water purification, disinfectant for swimming pools, for bleaching paper and textiles, and for many other uses.	1.0	2.5	5.0	867.0	70.0	262.0	107.0	129.0	105.0	9.0	31.0	13.0	16.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)
226	CALCIUM NITRATE	CALCIUM DINITRATE|CALCIUM NITRATE|CALCIUM NITRATE (CA(NO3)2)|CALCIUM NITRATE TETRAHYDRATE|NITRIC ACID CALCIUM SALT (2:1)|NORGE SALTPETER|NORWAY SALTPETER|NORWEGIAN SALTPETER|SYNFAT 1006	10124-37-5	White to light gray granular solid. May be either the anhydrous compound or the tetrahydrate. Used in fertilizers, explosives and pyrotechnics.	1.0	2.5	5.0	873.0	70.0	262.0	107.0	129.0	106.0	9.0	31.0	13.0	16.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
227	CELLULOSE	(BLOB)	9004-34-6	Odorless, white powdery fibers. Density: 1.5 g/cm3. The biopolymer composing the cell wall of vegetable tissues. Prepared by treating cotton with an organic solvent to de-wax it and removing pectic acids by extration with a solution of sodium hydroxide. The principal fiber composing the cell wall of vegetable tissues (wood, cotton, flax, grass, etc.). Technical uses depend on the strength and flexibility of its fibers. Insoluble in water. Soluble with chemical degradation in sulfuric aicd, and in concentrated solutions of zinc chloride. Soluble in aqueous solutions of cupric ammonium hydroxide (Cu(NH3)4(OH)2).	1.0	2.5	5.0	879.0	70.0	262.0	107.0	129.0	107.0	9.0	31.0	13.0	16.0	Get medical aid. INHALATION: Move to fresh air. Remove contaminated clothing. Keep warm and quiet. If breathing has stopped give artificial respiration. EYES AND SKIN: Wash with plenty of water. INGESTION: Give one or two glasses of water or milk. Induce vomiting. Give cathartics. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of fluoride (USCG, 1999)	Fire Extinguishing Agents: Alcohol foam; CO 2 ; Dry chemical (USCG, 1999)
228	CHLOROFORM	CHLOROFORM|FORMYL TRICHLORIDE|FREON 20|HCC 20|METHANE TRICHLORIDE|METHANE, TRICHLORO-|METHENYL CHLORIDE|METHENYL TRICHLORIDE|METHYL TRICHLORIDE|NCI-C02686|NCI-CO2686|R 20|R 20 (REFRIGERANT)|R 20|REFRIGERANT)|R-20|TCM|TRICHLOROFORM|TRICHLOROMETHANE	67-66-3	A clear colorless liquid with a characteristic odor. Denser (12.3 lb / gal) than watere and slightly soluble in water. Hence sinks in water. Nonflammable under most conditions, but burns under extreme conditions. May cause illness by inhalation, skin absorption or ingestion. Used as a solvent, to make other chemicals, as a fumigant.	2.5	5.0	2.5	879.0	70.0	262.0	107.0	129.0	107.0	9.0	31.0	13.0	16.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. (Non-Specific -- Phosphoramidothioic Acid, O-Ethyl S-Methyl Ester) Emits very toxic fumes of nitrogen oxides, phosphorus oxides, and sulfur oxides when heated to decomposition. Stable at neutral pH. Avoid strong acids or alkalis. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
229	COAL TAR OIL, [HEAVY DISTILLATE]	AMSCO H-J|AMSCO H-SB|COAL TAR OIL, [HEAVY DISTILLATE]|CRUDE SOLVENT COAL TAR NAPHTHA|EXXON NAPHTHA 5|HI-FLASH NAPHTHA|HIGH SOLVENT NAPHTHA|KWICK DRY|MIXTURE OF BENZENE, TOLUENE, XYLENES|NAPHTHA|NAPHTHA (COAL TAR)|NAPHTHA 5	8030-30-6	A clear colorless to dark brownish colored liquid with an aromatic odor. Less volatile fraction separated from coal tar by distillation. Contains naphthalene, acenaphthene, methylnaphthalenes, fluorene, phenol, cresols, pyridine, picolines, among other substances. Flash point greater than 100Â° F. Toxic by inhalation and skin absorption. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	885.0	70.0	262.0	107.0	129.0	108.0	9.0	31.0	13.0	16.0	INHALATION: Call for medical aid. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush eyes with copious amounts of water for at least 15 minutes. SKIN: Wash with soap and copious amounts of water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
230	COBALT	ACO 4|AQUACAT|C.I. 77320|CO 0138E|COBALT|COBALT ELEMENT|COBALT FULLERIDE (COC20)|COBALT METAL DUST|COBALT METAL FUME|COBALT-59|NCI-C60311|SUPER COBALT	7440-48-4	A black powder.	1.0	2.5	5.0	885.0	70.0	262.0	107.0	129.0	108.0	9.0	31.0	13.0	16.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
225	CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, WITH NOT LESS THAN 5.5% BUT NOT MORE THAN 16% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as TRI-P-TOLYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		171 to 172
226	CALCIUM NITRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-CHLORO-2-NITROANILINE forms explosive products on reaction with nitric acid. Can react with oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		241 to 243
227	CELLULOSE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respirator with proper filter, goggles (USCG, 1999)	Highly flammable.	4-FLUOROTOLUENE may be incompatible with strong oxidizing and reducing agents. May be incompatible with amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Products of combustion contain toxic fluoride fumes.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		105																(USCG, 1999)		-70.2	
228	CHLOROFORM	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as METHAMIDOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. Avoid strong acids or alkalis. [EPA, 1998].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		112	
229	COAL TAR OIL, [HEAVY DISTILLATE]	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respirator, chemical safety goggles, rubber boots and heavy rubber gloves. (USCG, 1999)	Very slightly soluble in water.	METHYL ACETOACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		158	(USCG, 1999)		3.1		%	(USCG, 1999)		16		%	(USCG, 1999)		536		(USCG, 1999)		-112	
230	COBALT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air, light and ambient temperatures. This compound will hydrolyze under alkaline or acidic conditions. (NTP, 1992)	4-O-METHYL-12-O-TETRADECANOYLPHORBOL-13-ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
225	CALCIUM HYPOCHLORITE, HYDRATED MIXTURE, WITH NOT LESS THAN 5.5% BUT NOT MORE THAN 16% WATER														(NTP, 1992)		1.247		77		(NTP, 1992)		435		3.5		(NTP, 1992)		368.37						(NTP, 1992)	Insoluble					Class 9	C21H21O4P		21.0	2.0	82.0	4.0	6.0
226	CALCIUM NITRATE																											(NTP, 1992)		172.57						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C6H5ClN2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	23.0	2.0	92.0	4.0	6.0
227	CELLULOSE	(USCG, 1999)		39.81				mm Hg							(USCG, 1999)		1.0007		68		(USCG, 1999)		241.9		760		(USCG, 1999)		110.13											FTU	Flammable Liquid	C7H7F		22.0	2.0	80.0	4.0	6.0
228	CHLOROFORM	(EPA, 1998)		0.0003		86		mm Hg							(EPA, 1998)		1.31		112.1		(EPA, 1998)	Decomposes					(EPA, 1998)		141.14												Poison	C2H8NO2PS		22.0	2.0	72.0	4.0	6.0
229	COAL TAR OIL, [HEAVY DISTILLATE]														(USCG, 1999)		1.076				(USCG, 1999)			336 to 338	760		(USCG, 1999)		116.12											MAE	Combustible Liquid	C5H8O3		26.0	2.0	59.0	4.0	6.0
230	COBALT																											(NTP, 1992)		630.89												Poison	C37H58O8	Cellulose-Based Absorbents|Dirt/Earth	22.0	2.0	56.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
231	CORN OIL	CORN GERM OIL|CORN OIL|FATS AND GLYCERIDIC OILS, CORN|LIPOMUL|MAISE OIL|MAYDOL|MAZOLA OIL|OILS, CORN|OILS, GLYCERIDIC, CORN	8001-30-7	PHYSICAL DESCRIPTION: Clear light yellow or yellow oily liquid. Faint taste. Faint odor. (NTP, 1992)	2.5	5.0	2.5	885.0	70.0	262.0	107.0	129.0	108.0	9.0	31.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
232	CYCLOHEXANE	BENZENE HEXAHYDRIDE|BENZENE, HEXAHYDRO-|BENZENE|HEXAHYDRIDE|CYCLOHEXANE|HEXAHYDROBENZENE|HEXAMETHYLENE|HEXANAPHTHENE	110-82-7	A clear colorless liquid with a petroleum-like odor. Used to make nylon, as a solvent, paint remover, and to make other chemicals. Flash point -4Â°F. Density 6.5 lb / gal (less than water) and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	885.0	70.0	268.0	107.0	129.0	108.0	9.0	32.0	13.0	16.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
233	CYCLOHEXANONE	ANON|ANONE|CYCLOHEXANONE|CYCLOHEXYL KETONE|HEXANON|HYTROL O|KETOCYCLOHEXANE|KETOHEXAMETHYLENE|NADONE|NCI-C55005|OXOCYCLOHEXANE|PIMELIC KETONE|PIMELIN KETONE|SEXTONE	108-94-1	A colorless to pale yellow liquid with a pleasant odor. Less dense than water . Flash point 111Â°F. Vapors heavier than air. Used to make nylon, as a chemical reaction medium, and as a solvent.	2.5	5.0	2.5	891.0	70.0	268.0	107.0	129.0	109.0	9.0	32.0	13.0	16.0	INHALATION: Call for medical aid. If not breathing give artificial respiration. If breathing is difficult give oxygen. SKIN: Wash with soap and copious amounts of water. EYES: Flush with copious amounts of water for at least 15 minutes. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water spray, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
234	DICHLOROMETHANE	AEROTHENE MM|DCM|DICHLOROMETHANE|DICHLOROMETHANE (METHYLENE CHLORIDE)|F 30|F 30 (CHLOROCARBON)|FREON 30|HCC 30|KHLADON 30|METACLEN|METHANE DICHLORIDE|METHYLENE BICHLORIDE|METHYLENE DICHLORIDE|NARKOTIL|NCI-C50102|R 30|R 30 (REFRIGERANT)|SOLAESTHIN|SOLEANA VDA|SOLMETHINE	75-09-2	A colorless liquid with a sweet, penetrating, ether-like odor. Noncombustible by if exposed to high temperatures may emit toxic chloride fumes. Vapors are narcotic in high concentrations. Used as a solvent and paint remover.	2.5	5.0	2.5	891.0	70.0	268.0	107.0	129.0	109.0	9.0	32.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
235	DIETHANOLAMINE	BIS(2-HYDROXYETHYL)AMINE|BIS(HYDROXYETHYL)AMINE|BIS-(2-HYDROXY)ETHYLAMINE|BIS-2-HYDROXYETHYLAMINE|DI(2-HYDROXYETHYL) AMINE|DI(BETA-HYDROXYETHYL)AMINE|DIETHANOLAMINE|DIETHYLOLAMINE|2,2'-DIHYDROXYDIETHYAMINE|2,2'-DIHYDROXYDIETHYLAMINE|2,2'-DIHYDROXYDIETHYLAMINE|DIOLAMINE|ETHANOL, 2,2'-IMINODI-|2-[(2-HYDROXYETHYL)AMINO]ETHANOL|2,2'-IMINOBISETHANOL|2,2'-IMINOBIS[ETHANOL]|2,2'-IMINODI-1-ETHANOL|IMINODIETHANOL|2,2'-IMINODIETHANOL|N,N'-IMINODIETHANOL|N,N-BIS(2-HYDROXYETHYL)AMINE|N,N-DIETHANOLAMINE|NCI-C55174	111-42-2	Oily colorless liquid or solid white crystals. Slight rotten fish or ammonia odor. Denser than water. (USCG, 1999)	2.5	5.0	2.5	897.0	70.0	268.0	107.0	129.0	110.0	9.0	32.0	13.0	16.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
231	CORN OIL	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Even pure methyl bromide is nonflammable over a wide range of concentrations in air. Thus this mixture presents practically no fire hazard. Slightly water soluble (NTP, 1992). Methyl bromide reacts with water to generate hydrobromic acid and methanol but the reaction is so slow that it can be disregarded for most practical purposes.	METHYL BROMIDE is incompatible with metals, dimethyl sulfoxide, ethylene oxide. [Lewis]. Can give flammable products if mixed with potassium hydroxide, sodium hydroxide and other strong bases. Methyl bromide in a steel tank reacted with an aluminum tube (part of the level gauge) producing methyl aluminum bromide. When the latter was subsequently exposed to air, enough heat was produced to ignite the methyl bromide-compressed air mixture above the liquid layer. The ensuing explosion shattered the tank (also incompatible with zinc, magnesium, and alloys)[Chem. Eng. Pro. 58(8). 1962]. A reaction between methyl bromide and dimethyl sulfoxide resulted in an explosion that shattered the apparatus [NFPA 491M. 1991].		Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1955 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for methyl bromide, CAS number 74 83-9.	3	1	0	1					(NTP, 1992)		13.5		%	(NTP, 1992)		14.5		%	(NTP, 1992)		999		(NTP, 1992)		-135	
232	CYCLOHEXANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. It burns in air with evolution of hydrogen fluoride.	Halogenated aliphatic compounds, such as METHYL FLUORIDE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. The prolonged mixing of halogenated solvents with metallic or other azides may cause the slow formation of explosive azides, for example methylene chloride and sodium azide, [Chem. Eng. News, 1986, 64(51)].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							
233	CYCLOHEXANONE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Highly flammable. Water insoluble.	Ketones, such as METHYL HEPTYL KETONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(USCG, 1999)		148																(USCG, 1999)		-5.8	
234	DICHLOROMETHANE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	METHYLENE BIS(PHENYLENEOXYMETHYLENE)BISOXIRANE is incompatible with strong oxidizers.					0																							
235	DIETHANOLAMINE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Pyrophoric, very reactive with water and moisture in air produces hydrochloric acid, [Merck 11th ed. 1989]. Ignites spontaneously on contact with air; decomposed by water and water vapor forming HCl. [Handling Chemcials Safely 1980. p. 905].	Acidic salts, such as TITANIUM TRICHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. Ethylene can polymerize at low pressure if catalyzed by titanium halides. (Sundaram, K. M, M. M. Shreehan, E. F. Olszewski. "Ethylene." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.)	Strong Reducing Agent; Water-Reactive; Air-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
231	CORN OIL	(NTP, 1992)		1250		68		mm Hg	(NTP, 1992)		3.3				(NTP, 1992)		1.6755		68		(NTP, 1992)		38.41		760		(NTP, 1992)		94.94						(NTP, 1992)	Slightly soluble					Poison Gas	CH3Br		22.0	2.0	59.0	4.0	6.0
232	CYCLOHEXANE																																									Flammable Gas	CH3F		27.0	2.0	80.0	4.0	6.0
233	CYCLOHEXANONE	(USCG, 1999)		1.6				mm Hg							(USCG, 1999)		0.832				(USCG, 1999)		377.6		743		(USCG, 1999)		142.24											MHK	Flammable Liquid	C9H18O		20.0	2.0	57.0	4.0	6.0
234	DICHLOROMETHANE																											(NTP, 1992)		312.37													C19H20O4	Mineral-Based & Clay-Based Absorbents(Dirt/Earth	24.0	2.0	85.0	4.0	6.0
235	DIETHANOLAMINE																																									Spontaneously Combustible|Corrosive	Cl3Ti		22.0	2.0	61.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
236	DIETHYLENE GLYCOL	BETA,BETA'-DIHYDROXYDIETHYL ETHER|BIS(2-HYDROXYETHYL) ETHER|BIS(BETA-HYDROXYETHYL) ETHER|BIS-(2-HYDROXYETHYL)ETHER|BRECOLANE NDG|CARBITOL|DEACTIVATOR E|DEACTIVATOR H|DEG|DICOL|DIETHYLENE GLYCOL|DIGENOS|DIGLYCOL|DIGOL|1,5-DIHYDROXY-3-OXAPENTANE|DIHYDROXY DIETHYL ETHER|2,2'-DIHYDROXYETHYL ETHER|DISSOLVANT APV|ETHYLENE DIGLYCOL|GLYCOL ETHER|GLYCOL ETHYL ETHER|2-(2-HYDROXYETHOXY)ETHANOL|2-HYDROXYETHOXYETHANOL|2-HYDROXYETHYL ETHER|3-OXA-1, 5-PENTANEDIOL|3-OXA-1,5-PENTANEDIOL|3-	111-46-6	A colorless liquid. Denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	897.0	70.0	268.0	107.0	129.0	110.0	9.0	32.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
237	DIMETHYL SULFOXIDE	A 10846|DELTAN|DEMASORB|DEMAVET|DEMESO|DEMSODROX|DERMASORB|DIMETHYL SULFOXIDE|DIMETHYL SULPHOXIDE|DIMEXIDE|DIMEXSORB|DLM|DIPIRARTRIL-TROPICO|DMS 70|DMS 90|DMS-70|DMS-90|DMSO|DOLICUR|DOLIGUR|DOMOSO|DROMISOL|DURASORB|GAMASOL 90|HYADUR|INFILTRINA|M 176|METHANE, SULFINYLBIS|METHYL SULFOXIDE|METHYLSULFINYLMETHANE|NSC-763|RIMSO-50|SOMIPRONT|SQ 9453|SULFINYLBIS(METHANE)|SULFINYLBISMETHANE|SYNTEXAN|TOPSYM	67-68-5	A clear liquid, essentially odorless. Closed cup flash point 192Â°F. Vapors are heavier than air. Contact with the skin may cause stinging and burning and lead to an odor of garlic on the breath. An excellent solvent that can transport toxic solutes through the skin. High vapor concentrations may cause headache, dizziness, and sedation.	2.5	5.0	2.5	897.0	70.0	274.0	107.0	129.0	110.0	9.0	33.0	13.0	16.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes under fire conditions. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
238	DINITROPHENOL, SOLUTION	DINITROPHENOL|DINITROPHENOL SOLUTION|DINITROPHENOL, SOLUTION	25550-58-7	A yellow colored liquid dissolved in an organic solvent. The flammability of the solution depends on the solvent. Dinitrophenol itself is combustible though it may require some effort to ignite. Toxic by skin absorption and inhalation. Prolonged exposure to fire or heat may result in the spontaneous decomposition and heating with a resultant explosion. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	897.0	70.0	274.0	107.0	129.0	110.0	9.0	33.0	13.0	16.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
239	DINITROPHENOL, WETTED WITH NOT LESS THAN 15% WATER	DINITROPHENOL|DINITROPHENOL, WETTED WITH NOT LESS THAN 15% WATER|DINITROPHENOL, [WET, WITH >= 15% WATER]	25550-58-7	A yellow crystalline solid. When not water wet a high explosive. Is easily ignited when dry and will burn very vigorously. Can burn when wet although some effort is required to ignite. Toxic oxides of nitrogen are produced when it burns. Used to make dyes, as a lumber preservative, and to make explosives.	1.0	2.5	5.0	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
240	DIOCTYL SODIUM SULFOSUCCINATE	AEROSOL SURFACTANT|ALROWET D65|BIS-(2-ETHYLHEXYL) SODIUM SULFOSUCCINATE|DI-(2-ETHYLHEXYL) SULFOSUCCIN-ATE, SODIUM SALT|DIOCTYL SODIUM SULFOSUCCINATE	577-11-7	Odorless colorless to white waxy solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
241	DODECYL SULFATE, [SODIUM SALT]	(BLOB)	151-21-3	White to pale yellow paste or liquid with a mild odor. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	The flash point of this material has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
236	DIETHYLENE GLYCOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to air and light.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		509 to 516
237	DIMETHYL SULFOXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus, rubber boots, heavy rubber gloves and protective clothing. (USCG, 1999)	Insoluble in water.	N,N-DIETHYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		185															(NTP, 1992)		-37.8	
238	DINITROPHENOL, SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		406	
239	DINITROPHENOL, WETTED WITH NOT LESS THAN 15% WATER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water. May be sensitive to air.	DICYCLOHEXYLAMINE reacts with oxidizing agents. Forms crystalline salts with many N-protected amino acids (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		greater than 210															(NTP, 1992)		68	
240	DIOCTYL SODIUM SULFOSUCCINATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Decomposed by water [Hawley].	ACETYL BENZOYL PEROXIDE SOLUTION [<= 40% PEROXIDE] is a powerful oxidizing agent. Reacts with reducing agents (including many common organic materials). These reactions may lead to ignition. Decomposes when heated.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
241	DODECYL SULFATE, [SODIUM SALT]	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	NEOHESPERIDIN DIHYDROCHALCONE is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																						(NTP, 1992)		313 to 313

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
236	DIETHYLENE GLYCOL																									(NTP, 1992)		654.76														Poison	C38H38O10	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	28.0	2.0	81.0	4.0	6.0
237	DIMETHYL SULFOXIDE	(NTP, 1992)		1		121.5		mm Hg							(USCG, 1999)		0.906				(NTP, 1992)	: 198Â° F at 10 mm Hg	419.9		760		(NTP, 1992)		149.24						(NTP, 1992)	at 76.1Â° F		less than 1	mg/mL	DMN	Poison	C10H15N		20.0	2.0	61.0	4.0	6.0
238	DINITROPHENOL, SOLUTION																									(NTP, 1992)		151.17								(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C8H9NO2		24.0	2.0	57.0	4.0	6.0
239	DINITROPHENOL, WETTED WITH NOT LESS THAN 15% WATER								(NTP, 1992)	mm Hg	6.25		68		(NTP, 1992)		0.913 to 0.919	59			(NTP, 1992)		492.4		760		(NTP, 1992)		181.31						(NTP, 1992)	Slightly soluble					Corrosive	C12H23N	Mineral-Based & Clay-Based Absorbents	24.0	2.0	57.0	4.0	6.0
240	DIOCTYL SODIUM SULFOSUCCINATE																																								Organic Peroxide	C6H5CO.O2.OCCH3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	23.0	2.0	61.0	4.0	6.0
241	DODECYL SULFATE, [SODIUM SALT]																									(NTP, 1992)		612.59						(NTP, 1992)	Insoluble (<1 mg/ml)						C28H36O15	Cellulose-Based Absorbents	26.0	2.0	94.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
242	DODECYLBENZENESULFONIC ACID	ABS 100|BIO-SOFT S 100|BIOSOFT S 126|CALSOFT LAS 99|CAT 6000|CATALYST 600|CATALYST 6000|CONOCO SA 597|CYCAT 600|DBS|DODECYLBENZENESULFONIC ACID|DODECYLBENZENESULPHONIC ACID|E 7256|ELFAN WA SULPHONIC ACID|LAS 99|LAURYLBENZENESULFONIC ACID|MARLON AS 3|N-DODECYLBENZENESULFONIC ACID|NACCONOL 988 A|NACCONOL 98SA|NACURE 5074|NACURE 5076|NANSA 1042|NANSA 1042P|NANSA SSA|P 3 VETRALAT|POLYSTEP A 13|RICHONIC ACID B|SULFOSOFT|SULFRAMIN 1298|SULFRAMIN ACID 1298	27176-87-0	Dodecylbenzenesulfonic acid is a colorless liquid. It is soluble in water. It is corrosive to metals and tissue. It is used to make detergents.	2.5	5.0	2.5	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	It is combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
243	ETHANOLAMINE	2-AMINO-1-ETHANOL|1-AMINO-2-HYDROXYETHANE|AMINOETHANOL|2-AMINOETHANOL (MONOETHANOLAMINE)|2-AMINOETHANOL|2-AMINOETHYL ALCOHOL|BETA-AMINOETHANOL|BETA-AMINOETHYL ALCOHOL|BETA-ETHANOLAMINE|BETA-HYDROXYETHYLAMINE|COLAMINE|ETHANOLAMINE|ETHANOLAMINE SOLUTION|ETHANOLAMINE, SOLUTION|2-ETHANOLAMINE|ETHYLOLAMINE|GLYCINOL|2-HYDROXYETHANAMINE|2-HYDROXYETHYLAMINE|MEA|MEA (ALCOHOL)|MONOETHANOLAMINE|OLAMINE|THIOFACOM-50|USAF EK-1597	141-43-5	A clear colorless liquid with an odor resembling that of ammonia. Flash point 185Â°F. May attack copper, brass, and rubber. Corrosive to tissue. Moderately toxic. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	Combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
244	ETHYLENE DICHLORIDE	ALPHA, BETA-DICHLOROETHANE|1,2-BICHLOROETHANE|BORER SOL|BROCIDE|DCE|1,2-DCE|DESTRUXOL BORER-SOL|DI-CHLOR-MULSION|DICHLOR-MULSION|DICHLOREMULSION|1,2-DICHLORETHANE|1, 2 DICHLOROETHANE (ETHYLENE DICHLORIDE)|1,2-DICHLOROETHANE|DUTCH LIQUID|DUTCH OIL|EDC|ENT 1,656|ETHANE DICHLORIDE|ETHYLENE CHLORIDE|ETHYLENE DICHLORIDE|1,2-ETHYLENE DICHLORIDE|FREON 150|GLYCOL DICHLORIDE|HCC 150|NCI-C00511|NU-G00511|SYM-DICHLOROETHANE	107-06-2	A clear colorless liquid with a chloroform-like odor. Flash point 56Â°F. Denser than water and insoluble in water. Vapors are heavier than air. Density 10.4 lb / gal.	2.5	5.0	2.5	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
245	FERRIC SULFATE	AMERSEP 5320|DIIRON TRISULFATE|DIIRON(3+) SULFATE|FERRIC SULFATE|FERRIC SULPHATE|IRON (III) SULFATE|IRON PERSULFATE|IRON SESQUISULFATE|IRON SULFATE (2:3)|IRON SULFATE (FE2(SO4)3)|IRON(3+) SULFATE|IRON(III) SULFATE	10028-22-5	A yellow crystalline solid or a grayish-white powder. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used for water purification, and as a soil conditioner.	1.0	2.5	5.0	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0			
246	FORMIC ACID	ADD-F|AMEISENSAURE|AMINIC ACID|BILORIN|COLLO-BUEGLATT|COLLO-DIDAX|FORMIC ACID|FORMIC ACID (85-95% IN AQUEOUS SOLUTION)|FORMIRA|FORMISOTON|FORMYLIC ACID|HYDROGEN CARBOXYLIC ACID|METHANOIC ACID|METHANOIC ACID MONOMER|MYRMICYL|SYBEST	64-18-6	A colorless liquid with a pungent odor. Flash point 156Â°F. Density 10.2 lb / gal. Corrosive to metals and tissue.	2.5	5.0	2.5	903.0	70.0	274.0	107.0	129.0	111.0	9.0	33.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
242	DODECYLBENZENESULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	NEOPENTYL GLYCOL DIGLYCIDYL ETHER is a ether-epoxide derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones.				0		(NTP, 1992)		greater than 200																			
243	ETHANOLAMINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-HEXADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		275												(NTP, 1992)		401		(NTP, 1992)		64.7	
244	ETHYLENE DICHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	NITROFEN is a nitrated and halogenated ether derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		158 to 160
245	FERRIC SULFATE			Water soluble.	A uracil derivative.								0																							
246	FORMIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	N-NITROSODIPHENYLAMINE may be sensitive to moisture at elevated temperatures in strongly acidic solutions. May react vigorously with oxidizing agents. May undergo trans-nitrosation reactions with secondary amines (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		151.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
242	DODECYLBENZENESULFONIC ACID																										(NTP, 1992)		216.31						(NTP, 1992)	at 68.9Â° F		5 to 10	mg/mL			C11H20O4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	29.0	2.0	65.0	4.0	6.0
243	ETHANOLAMINE								(NTP, 1992)		7.8				(NTP, 1992)		0.77331		68		(NTP, 1992)		549		760		(NTP, 1992)		226.45													C16H34		23.0	2.0	82.0	4.0	6.0
244	ETHYLENE DICHLORIDE	(NTP, 1992)		8.00E-06		104		mm Hg													(NTP, 1992)			356 to 374	0.25		(NTP, 1992)		284.1						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C12H7Cl2NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	23.0	2.0	53.0	4.0	6.0
245	FERRIC SULFATE																																									C9H13ClN2O2	Dirt/Earth	25.0	2.0	68.0	4.0	6.0
246	FORMIC ACID														(NTP, 1992)		1.23				(NTP, 1992)		198.24				(NTP, 1992)								(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Class 9	C12H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	25.0	2.0	84.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
247	FUMARIC ACID	ALLOMALEIC ACID|BOLETIC ACID|2-BUTENEDIOIC ACID (E)-|2-BUTENEDIOIC ACID, (E)-|(E)-1,2-ETHYLENEDICARBOXYLIC ACID|(E)-BUTENEDIOIC ACID|FUMARIC ACID|LICHENIC ACID|NSC-2752|TRANS-1,2-ETHENEDICARBOXYLIC ACID|TRANS-1,2-ETHYLENEDICARBOXYLIC ACID|TRANS-1,2-ETHYLENEDICCARBOXYLIC ACID|TRANS-2-BUTENEDIOIC ACID|TRANS-BUTENEDIOIC ACID|U-1149|USAF EK-P-583	110-17-8	A colorless crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Combustible, though may be difficult to ignite. Used to make paints and plastics, in food processing and preservation, and for other uses.	1.0	2.5	5.0	909.0	70.0	274.0	107.0	129.0	112.0	9.0	33.0	13.0	16.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
248	HEXAMETHYLENETETRAMINE	ACETO HMT|AMINOFORM|AMMOFORM|AMMONIOFORMALDEHYDE|ANTIHYDRAL|CYSTOGEN|DUIREXOL|EKAGOMH|FORMAMINE|FORMIN|FORMIN (HETEROCYCLE)|HA|HERAXUTS|HETERIN|HEXA|HEXA (VULCANIZATION ACCELERATOR)|HEXA-FLO-PULVER|HEXAFORM|HEXAMETHYLENAMINE|HEXAMETHYLENETETRAMINE|HEXAMINE|HEXAMINE (HETEROCYCLE)|HEXASAN|HMT|METHENAMIDE|METHENAMIN|METHENAMINE|METHENEAMINE|NOCCELERH|PREPARATION AF|S 4|S 4 (HETEROCYCLE)|SANCELERH|1,3,5,7-TETRAAZAADAMANTANE|URAMIN|URATRINE|URITONE|URODEINE|UROTROPIN|VULKACIT H 30|XAMETRIN	100-97-0	PHYSICAL DESCRIPTION: Odorless white crystalline powder or colorless lustrous crystals. Sublimes in a vacuum at about 505Â° F with some decomposition. Solutions are strong bases (pH of 0.2 molar aqueous solution is 8.4). (NTP, 1992)	1.0	2.5	5.0	909.0	70.0	274.0	107.0	129.0	112.0	9.0	33.0	13.0	16.0	SKIN AND EYES: Flush with water (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
249	ISOBUTANOL	FERMENTATION BUTYL ALCOHOL|1-HYDROXYMETHYLPROPANE|IBA|ISO-BUTYL ALCOHOL|ISOBUTANOL|1-ISOBUTANOL|ISOBUTYL ALCOHOL|ISOPROPYL CARBINOL|ISOPROPYLCARBINOL|2-METHYL PROPANOL|2-METHYL PROPYL ALCOHOL|2-METHYL-1-PROPANOL|2-METHYLPROPAN-1-OL|2-METHYLPROPYL ALCOHOL|1-PROPANOL, 2-METHYL	78-83-1	A clear colorless liquid with a sweet odor. Flash point 85 - 100Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	909.0	70.0	274.0	107.0	129.0	112.0	9.0	33.0	13.0	16.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
250	KAOLIN (Clay)	(BLOB)	1332-58-7	Odorless white to yellowish or grayish powder. Contains mainly the clay mineral kaolinite (Al2O3(SiO2)2(H2O)2), a hydrous aluminosilicate. Kaolinite has mp 740-1785Â°C and density 2.65 g/cm3. Kaoline is insoluble in water but darkens and develops a earthy odor when wet.	1.0	2.5	5.0	909.0	70.0	274.0	107.0	129.0	112.0	9.0	33.0	13.0	16.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
251	L-ASCORBIC ACID	(BLOB)	50-81-7	PHYSICAL DESCRIPTION: White to very pale yellow crystalline powder with a pleasant sharp acidic taste. Almost odorless. (NTP, 1992)	1.0	2.5	5.0	915.0	70.0	280.0	107.0	129.0	113.0	9.0	34.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
247	FUMARIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Partially soluble in water.	DIETHYLTOLUENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
248	HEXAMETHYLENETETRAMINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air-supplied mask for prolonged exposure; plastic gloves; goggles. (USCG, 1999)	Insoluble in water.	DIISOBUTYLCARBINOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		165		(USCG, 1999)		0.8		%	(USCG, 1999)		6.1		%	(USCG, 1999)		494			(USCG, 1999)		-85	
249	ISOBUTANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	OCTYL DECYL PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.						0		(NTP, 1992)		455																(USCG, 1999)		-40	
250	KAOLIN (Clay)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills; with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as AMITON OXALATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		208 to 210	
251	L-ASCORBIC ACID	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	DIMETHYL DISULFIDE is a reducing agent. A dangerous fire hazard when exposed to oxidizing materials. Emits toxic fumes of oxides of sulfur when heated to decomposition or on contact with acids [Sax, 9th ed., 1996, p. 1320].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		76																(NTP, 1992)		-120.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
247	FUMARIC ACID																																									Corrosive	C11H18N2		23.0	2.0	80.0	4.0	6.0
248	HEXAMETHYLENETETRAMINE	(USCG, 1999)		3.1				mm Hg							(USCG, 1999)		0.812		68		(USCG, 1999)		352		760		(USCG, 1999)		144.26											DBC	Flammable Liquid|Poison	C9H20O	Cellulose-Based Absorbents	20.0	2.0	60.0	4.0	6.0
249	ISOBUTANOL														(USCG, 1999)			0.972 to 0.976			(NTP, 1992)		462		4		(NTP, 1992)		418.3											ODP		C26H42O4		26.0	2.0	79.0	4.0	6.0
250	KAOLIN (Clay)																											(EPA, 1998)		359.42											Poison	C10H24NO3PS.C2H2O4	Mineral-Based & Clay-Based Absorbents	26.0	2.0	83.0	4.0	6.0
251	L-ASCORBIC ACID	(NTP, 1992)		28.6		77		mm Hg	(NTP, 1992)		3.24				(NTP, 1992)		1.065		68		(NTP, 1992)		229.5		760		(NTP, 1992)		94.2						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C2H6S2		21.0	2.0	96.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
252	LEAD	C.I. 77575|C.I. PIGMENT METAL 4|KS-4|LEAD|LEAD ELEMENT|LEAD FLAKE|LEAD METAL|LEAD S 2|LEAD SZ|PB-S 100|PLUMBUM|SSO 1	7439-92-1	PHYSICAL DESCRIPTION: Soft silver-bluish white to gray metal. (NTP, 1992)	1.0	2.5	5.0	915.0	70.0	280.0	107.0	129.0	113.0	9.0	34.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
253	LITHARGE	LEAD MONOXIDE|LEAD OXIDE YELLOW|LEAD PROTOXIDE|LITHARGE|MASSICOT|PLUMBOUS OXIDE	1317-36-8	Odorless gray or yellow green or red-brown solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	915.0	70.0	286.0	107.0	129.0	113.0	9.0	35.0	13.0	16.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
254	LITHIUM CARBONATE	LITHIUM CARBONATE	554-13-2	A white powder. Strong irritant when dissolved in water.	1.0	2.5	5.0	915.0	70.0	286.0	107.0	129.0	113.0	9.0	35.0	13.0	16.0	Not applicable (USCG, 1999)	Special Hazards of Combustion Products: Decomposes at 240 emitting phosphine and PO x . Phosphine is a very toxic gas which ignites spontaneously. Behavior in Fire: Decomposes when heated with evolution of phosphine which ignites spontaneously. (USCG, 1999)	Fire Extinguishing Agents: Carbon dioxide, dry chemical, or water spray (USCG, 1999)
255	MAGNESITE	APOLDA|C.I. 77713|CARBONATE MAGNESIUM|DCI LIGHT MAGNESIUM CARBONATE|DESTAB|GOLD STAR|GOLD STAR (CARBONATE)|GP 20|GP 20 (CARBONATE)|GP 30|GP 30 (CARBONATE)|HYDROMAGNESITE|KIMBOSH|MA 70 (CARBONATE)|MAGFY|MAGNESIA|MAGNESITE|MAGNESIUM CARBONATE|MAGNESIUM CARBONATE (1:1)|MAGNESIUM CARBONATE (MGCO3)|MAGNESIUM CARBONATE; (MAGNESITE)|MAGNESIUM(II) CARBONATE|STAN-MAG MAGNESIUM CARBONATE	546-93-0	White, yellowish, grayish-white or brown crystalline solid or crystalline powder. Density: 3-3.1 g cm-3. An important ore for magnesium. Used in the manufacture of materials capable of withstanding very high temperatures. Sometimes used to produce carbon dioxide.	1.0	2.5	5.0	921.0	70.0	292.0	107.0	129.0	114.0	9.0	36.0	13.0	16.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
256	MALEIC ANHYDRIDE	BM 10|CIS-BUTENEDIOIC ANHYDRIDE|CRYSTAL MAN|DIHYDRO-2,5-DIOXOFURAN|2,5-FURANDIONE|2,5-FURANEDIONE|LYTRON 810|LYTRON 820|MALEIC ACID ANHYDRIDE|MALEIC ANHYDRIDE|NCI-C54660|NOURYMIX MA 901|TOXILIC ANHYDRIDE	108-31-6	Colorless crystalline needles, flakes, pellets, rods, briquettes, lumps or a fused mass. Melts at 113Â°F. Shipped both as a solid and in the molten state. Vapors, fumes and dusts strong irritate the eyes, skin and mucous membranes. Flash point 218Â°F. Autoignition temperature 890Â°F. Used to make paints and plastics and other chemicals.	1.0	2.5	5.0	921.0	70.0	292.0	107.0	129.0	114.0	9.0	36.0	13.0	16.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
257	MANGANESE(II) SULFATE MONOHYDRATE	MANGANESE MESOSULFATE (MNSO4.H2O)|MANGANESE MONOSULFATE MONOHYDRATE|MANGANESE SULFATE (MNSO4) MONOHYDRATE|MANGANESE SULFATE MONOHYDRATE|MANGANESE(2+) SULFATE MONOHYDRATE|MANGANESE(II) SULFATE MONOHYDRATE|MANGANESE(II)SULFATE MONOHYDRATE|MANGANESE, MONOSULFATE, MONOHYDRATE|MANGANOUS SULFATE MONOHYDRATE|MANGANOUS(II)SULFATE MONOHYDRATE|SULFURIC ACID MANGANESE SALT (1:1) MONOHYDRATE|SULFURIC ACID, MANGANESE(2+) SALT (1:1), MONOHYDRATE	10034-96-5	PHYSICAL DESCRIPTION: Odorless pale red slightly efflorescent crystals or light pink powder. pH (5% solution) 3.7. (NTP, 1992)	1.0	2.5	5.0	921.0	70.0	292.0	107.0	129.0	114.0	9.0	36.0	13.0	16.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
252	LEAD	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	1,8,9-TRIHYDROXYANTHRACENE is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. This chemical is incompatible with strong oxidizing agents. (NTP, 1992).							0																							(NTP, 1992)			349 to 358
253	LITHARGE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble, with release of hydrogen sulfide, especially when acidified.	AMMONIUM HYDROSULFIDE, SOLUTION is a reducing agent. Reacts with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Reacts vigorously with acids to release hydrogen sulfide gas. Evolves poisonous ammonia on contact with strong bases.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
254	LITHIUM CARBONATE		Rubber gloves, safety glasses, and normal protective gear. (USCG, 1999)	Water soluble. It liberates spontaneously flammable phosphine at about 240Â°C [Mellor 8:880 1946-47].	AMMONIUM HYPOPHOSPHITE liberates spontaneously flammable phosphine at about 240Â°C [Mellor 8:880 1946-47]. Some inorganic materials, such as hypophosphites, tend to form explosive mixtures with perchloric acid when hot [Analyst 84:215 1959].	Strong Reducing Agent							0																							(USCG, 1999)		392	
255	MAGNESITE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	TERPINOLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
256	MALEIC ANHYDRIDE	(Nonspecific -- Phenylenediamine). Do not touch material; stop leak if it can be done without risk. Keep unnecessary people away. Isolate area and deny entry. Stay upwind and out of low areas. For small spills, use shovel to place material into clean, dry container and cover; move containers from spill area. For large spills, dike far ahead to collect for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	DIMETHYL-P-PHENYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Incompatible with strong oxidizers, strong acids and acid anhydrides. Also incompatible with alkalis (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		195																					(EPA, 1998)			106 to 127
257	MANGANESE(II) SULFATE MONOHYDRATE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIMYRISTYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
252	LEAD																									(NTP, 1992)		226.24						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C14H10O3		29.0	2.0	57.0	4.0	6.0
253	LITHARGE																																								Corrosive|Poison|Flammable Liquid	NH4SH (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	21.0	2.0	56.0	4.0	6.0
254	LITHIUM CARBONATE														(USCG, 1999)		1.634		68		(USCG, 1999)	Decomposes 464Â° F					(USCG, 1999)		83.0271										AHP		H6NO2P		20.0	2.0	54.0	4.0	6.0
255	MAGNESITE																																							Flammable Liquid	C10H16	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	21.0	2.0	96.0	4.0	6.0
256	MALEIC ANHYDRIDE								(NTP, 1992)		4.69				(EPA, 1998)		1.036		68		(EPA, 1998)		504		760		(EPA, 1998)		136.22						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H12N2		25.0	2.0	89.0	4.0	6.0
257	MANGANESE(II) SULFATE MONOHYDRATE																																							Organic Peroxide	C30H58O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	20.0	2.0	90.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
258	MELAMINE	AERO|AMMELIDE|CYANURAMIDE|CYANURIC TRIAMIDE|CYANUROTRIAMIDE|CYANUROTRIAMINE|CYANURTRIAMINE|CYMEL|DG 002|DG 002 (AMINE)|HICOPHORPR|ISOMELAMINE|MELAMINE|NCI-C50715|PLURAGARD|PLURAGARD C 133|S-TRIAMINOTRIAZINE|S-TRIAZINE, 4,6-DIAMINO-1,2-DIHYDRO-2-IMINO-|S-TRIAZINETRIAMINE|TEOHARN|THEOHARN|2,4,6-TRIAMINO SYM-TRIAZINE|2,4,6-TRIAMINO-1,3,5-TRIAZINE|TRIAMINO-S-TRIAZINE|2,4,6-TRIAMINO-S-TRIAZINE|TRIAMINOTRIAZINE|2,4,6-TRIAMINOTRIAZINE|1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIIMINE|1,3,5-TRIAZINE-2,4,6(1H,3H,5H)TRIIMINE|1,3,5-TRIAZINE-2,4,6-TRIAMINE|VIRSET 656-4	108-78-1	PHYSICAL DESCRIPTION: Colorless to white monoclinic crystals or prisms or white powder. Sublimes when gently heated. (NTP, 1992)	1.0	2.5	5.0	927.0	70.0	292.0	107.0	129.0	115.0	9.0	36.0	13.0	16.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
259	METAL CATALYST, WETTED	METAL CATALYST, WETTED|NICKEL CATALYST|NICKEL CATALYST, [FINELY DIVIDED] WET WITH >= 40% WATER|NICKEL METAL: ELEMENTAL NICKEL	7440-02-0	An extremely fine gray powder mixed with water. Insoluble in water and does not react with larger volumes of water.	1.0	2.5	5.0	927.0	70.0	292.0	107.0	129.0	115.0	9.0	36.0	13.0	16.0	Get medical attention. INHALATION: Move to fresh air. INGESTION: Give victim two glasses of water and induce vomiting. EYES: Flush with plenty of water for at least 15 min., lifting lids occasionally. SKIN: Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia, hydrogen sulfide, and oxides of nitrogen and sulfur may form in fires. (USCG, 1999)	Fire Extinguishing Agents: Use extinguishing agents appropriate for the surrounding fire. (USCG, 1999)
260	METHYL ETHYL KETONE	BUTANONE|2-BUTANONE|3-BUTANONE|ETHYL METHYL KETONE|ETHYL METHYL KETONE {METHYL ETHYL KETONE}|KETONE, ETHYL METHYL|MEETCO|MEK|METHYL ACETONE|METHYL ETHYL KETONE|METHYL ETHYL KETONE (MEK)	78-93-3	Colorless fairly volatile liquid with a pleasant pungent odor. Flash point 20Â°F. Vapors heavier than air. Does not react with water or many common materials. Stable in normal transportation. Irritates the nose, eyes, and throat. Combustion may produce toxic materials. Density 6.7 lb / gal. Used as a solvent, for making other chemicals, and for production of wax from petroleum.	2.5	5.0	2.5	933.0	70.0	292.0	107.0	129.0	116.0	9.0	36.0	13.0	16.0	INHALATION: remove victim from contaminated area; administer artificial respiration if necessary; call physician. EYES: flush with water for 15 min.; call a physician. SKIN: wipe off liquid; wash well with soap and water. INGESTION: induce vomiting; get medical attention. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
261	METHYL ETHYL KETONE, AND N-COCO-DIAMINO PROPANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	METHYL ETHYL KETONE, AND N-COCO-DIAMINO PROPANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	78-93-3	A light-yellow colored liquid with a pleasant odor. Less dense than water. Contact may irritate or cause burns.	2.5	5.0	2.5	939.0	70.0	292.0	107.0	129.0	117.0	9.0	36.0	13.0	16.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: When heated to decomposition toxic fumes of oxides of nitrogen released. Behavior in Fire: Decomposes explosively. Can be detonated by shock or heat under confinement that will permit high pressure buildup (USCG, 1999)	Fire Extinguishing Agents: Water, CO 2 , dry chemical or carbon tetrachloride (USCG, 1999)
262	METHYL SALICYLATE	ANALGIT|ANTHRAPOLEND|BENZOIC ACID, 2-HYDROXY-, METHYL ESTER|BENZOIC ACID, 2-METHOXY-|BETULA|BETULA OIL|BETULA OR GAULTHERIA OIL|2-CARBOMETHOXYPHENOL|EXAGIEN|FLUCARMIT|GAULTHERIA OIL|GAULTHERIA OIL, ARTIFICIAL|2-HYDROXYBENZOIC ACID METHYL ESTER|2-(METHOXYCARBONYL)PHENOL|METHYL 2-HYDROXYBENZOATE|METHYL O-HYDROXYBENZOATE|METHYL SALICYLATE|NATURAL WINTERGREEN OIL|O-ANISIC ACID|O-HYDROXYBENZOIC ACID METHYL ESTER|O-METHOXYBENZOIC ACID|OIL OF WINTERGREEN|SALICYLIC ACID, METHYL ESTER|SWEET BIRCH	119-36-8	Colorless yellowish or reddish liquid with odor of wintergreen. (USCG, 1999)	2.5	5.0	2.5	939.0	70.0	298.0	107.0	129.0	117.0	9.0	37.0	13.0	16.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
258	MELAMINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves (USCG, 1999)	Flammable. Soluble in water.	DI-N-BUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		125		(USCG, 1999)		1.1		%										(NTP, 1992)		-76 to -74
259	METAL CATALYST, WETTED		Wear chemical protective gloves to prevent contact with solution. Use splash-proof chemical goggles or face shield to prevent splashes from contacting the eyes. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	AMMONIUM THIOSULFATE is sensitive to heat. This chemical is incompatible with magnesium and aluminum powder. Mixtures with sodium chlorate can cause an exothermic reaction which can then decompose explosively. (NTP, 1992). Reacts with strong oxidizers such as chlorates, nitrates, and nitrites to release toxic ammonia, hydrogen sulfide, and sulfur trioxide gases. Will not polymerize. Ammonia, hydrogen sulfide, and oxides of nitrogen and oxides of sulfur may form in fires (USCG, 1999).	Strong Reducing Agent						0																		(USCG, 1999)		50	
260	METHYL ETHYL KETONE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained or air-line breathing apparatus; solvent- resistant rubber gloves; chemical splash goggles. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as CYMENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		117		(USCG, 1999)		0.7		%	(USCG, 1999)		5.6		%	(USCG, 1999)		817		(USCG, 1999)		-90.2	
261	METHYL ETHYL KETONE, AND N-COCO-DIAMINO PROPANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slowly mixes with water.	All three isomers have similar properties and may react vigorously with oxidizing materials. Their reaction with nitric acid (nitration) will lead to a mixture of trinitrobenzenes possessing high-explosive properties [Urbanski, 1967, vol. 3, p. 290]. If heat and reaction conditions of the nitration are not controlled, detonation comparable to TNT may occur [Anon., J. R. Inst. Chem., 1960, 84, p. 451]. Mixture of 1,3-dinitrobenzene with tetranitromethane was found highly explosive [Urbanski, 1964, vol. 1, 592]. 1,2-dinitrobenzene is a severe explosion hazard when shocked or exposed to heat or flame. When heated to decomposition all dinitrobenzens emit toxic fumes of nitrogen oxides [Sax, 9th ed., 1996, p. 1374].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		302															(USCG, 1999)		343.4	
262	METHYL SALICYLATE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	PENTAFLUOROETHANE may be incompatible with strong oxidizing and reducing agents. May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
258	MELAMINE	(USCG, 1999)		0				mm Hg							(USCG, 1999)		0.759		68		(NTP, 1992)			318 to 320	760		(NTP, 1992)		129.29						(NTP, 1992)	Soluble				DBA	Corrosive|Flammable Liquid	C8H19N	Mineral-Based & Clay-Based Absorbents	24.0	2.0	82.0	4.0	6.0
259	METAL CATALYST, WETTED														(USCG, 1999)		1.33		60.8		(USCG, 1999)		122		760		(USCG, 1999)		148.2											ATV		(NH4)2S2O3 (aqueous)		22.0	2.0	71.0	4.0	6.0
260	METHYL ETHYL KETONE														(USCG, 1999)		0.857		68		(USCG, 1999)		351		760		(USCG, 1999)		134.2											CMP	Flammable Liquid	C10H14		23.0	2.0	72.0	4.0	6.0
261	METHYL ETHYL KETONE, AND N-COCO-DIAMINO PROPANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)														(USCG, 1999)		1.625		64.4		(USCG, 1999)		570.2		760		(USCG, 1999)		168.11		(NIOSH, 2003)		50	mg/m3	(NIOSH, 2003)		0.01		%	DNZ	Poison	C6H4N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	23.0	2.0	72.0	4.0	6.0
262	METHYL SALICYLATE																																								Non-Flammable Gas	C2HF5		22.0	2.0	70.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
263	MOLYBDENUM TRIOXIDE	BOUEN SKN 301|MFR|MO 1202T|MOLYBDENA|MOLYBDENUM ANHYDRIDE|MOLYBDENUM OXIDE|MOLYBDENUM OXIDE (MO4O12)|MOLYBDENUM OXIDE (MO5O15)|MOLYBDENUM OXIDE (MOO3), TETRAMER|MOLYBDENUM PEROXIDE|MOLYBDENUM TRIOXIDE|MOLYBDENUM TRIOXIDE PENTAMER|MOLYBDENUM TRIOXIDE TETRAMER|MOLYBDENUM(VI) OXIDE|MOLYBDENUM(VI) TRIOXIDE|MOLYBDIC ACID ANHYDRIDE|MOLYBDIC ANHYDRIDE|MOLYBDIC OXIDE|MOLYBDIC TRIOXIDE|NATURAL MOLYBDITE	1313-27-5	Colorless to white or yellow odorless solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	945.0	70.0	298.0	107.0	129.0	118.0	9.0	37.0	13.0	16.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
264	N,N-DIMETHYLFORMAMIDE	DIMETHYL FORMAMIDE|DIMETHYLFORMAMIDE|DMF|DMF (AMIDE)|DMFA|FORMYLDIMETHYLAMINE|N,N-DIMETHYLFORMAMIDE|N,N-DIMETHYLMETHANAMIDE|N-FORMYLDIMETHYLAMINE|NCI-C60913|NSC 5356|U-4224	68-12-2	A water-white liquid with a faint fishy odor. Flash point 136Â°F. Slightly less dense than water. Vapors heavier than air. Toxic by inhalation or skin absorption. May irritate eyes.	2.5	5.0	2.5	945.0	70.0	298.0	107.0	129.0	118.0	9.0	37.0	13.0	16.0	(BLOB)	Toxic and irritating hydrogen chloride and oxides of nitrogen may be produced in fire. May be corrosive to metals. Hazardous polymerization may not occur. (EPA, 1998)	Wear goggles and self-contained breathing apparatus. Use water, foam, dry chemical, or carbon dioxide. (EPA, 1998)
265	N-BUTYL PHTHALATE	BENZENE-O-DICARBOXYLIC ACID DI-N-BUTYL ESTER|BIS N-BUTYL PHTHALATE|BUTYL PHTHALATE|CELLUFLEX DPB|CORFLEX 440|DBP|DBP (ESTER)|DI(N-BUTYL) 1,2-BENZENEDICARBOXYLATE|DI-N-BUTYL PHTHALATE|DIBUTYL 1,2-BENZENE-DICARBOXYLATE|DIBUTYL 1,2-BENZENEDICARBOXYLATE|DIBUTYL O-PHTHALATE|DIBUTYL PHTHALATE|ELAOLERGOPLAST FDB|GENOPLAST B|HATCO DBP|HEXAPLAS M/B|KODAFLEX DBP|MONOCIZER DBP|N-BUTYL PHTHALATE|O-BENZENEDICARBOXYLIC ACID, DIBUTYL ESTER|PALATINOL C|PHTHALIC ACID DI-N-BUTYL ESTER|PHTHALIC ACID, DIBUTYL ESTER|POLYCIZER DBP|PX	84-74-2	N-butyl phthalate is a colorless oily liquid. It is insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It is combustible though it may take some effort to ignite. It is used in paints and plastics and as a reaction media for chemical reactions.	2.5	5.0	2.5	945.0	70.0	298.0	107.0	129.0	118.0	9.0	37.0	13.0	16.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Heat above 320F may cause decomposition and evolution of highly toxic fumes of phosphorus oxides and chlorides. Hydrolyzes in alkali. Stable in neutral and acid media. Hydrolyzes in alkali. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
266	N-HEXANE	DIPROPYL|GETTYSOLVE-B|HEXANE|HEXANE (N)|HEXANES|HEXYL HYDRIDE|N-HEXANE|NCI-C60571|NORMAL HEXANE|NORMAL-HEXANE|SKELLYSOLVE B	110-54-3	Clear colorless liquids with a petroleum-like odor. Flash points -9Â°F. Less dense than water and insoluble in water. Vapors heavier than air. Used as a solvent, paint thinner, and chemical reaction medium.	2.5	5.0	2.5	951.0	70.0	298.0	107.0	129.0	119.0	9.0	37.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
267	NICKEL	NICKEL|NICKEL METAL|NICKEL METAL: ELEMENTAL NICKEL	7440-02-0	Lustrous, silvery, odorless metallic solid. Insoluble in water.	1.0	2.5	5.0	957.0	70.0	298.0	107.0	129.0	120.0	9.0	37.0	13.0	16.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
263	MOLYBDENUM TRIOXIDE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Flammable. Insoluble in water.	ANTHRACENE will spontaneously burst into flame on contact with chromic acid, and other strong oxidants.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		250		(NTP, 1992)		0.6		%						(USCG, 1999)		1004		(NTP, 1992)			421 to 424
264	N,N-DIMETHYLFORMAMIDE	Avoid contact with solid and dust. Restrict access. Disperse and flush. (Non-Specific -- Phenylhydrazine) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Forms corrosive acidic solutions.	PHENYLHYDRAZINE HYDROCHLORIDE may be corrosive to metals (USCG, 1999).								0					(EPA, 1998)	Combustible.					(EPA, 1998)	Combustible.							(EPA, 1998)			469 to 475
265	N-BUTYL PHTHALATE	Caution : Explosion potential is high. Containers may explode in heat of fire. Highly toxic phosphorus oxides and chlorides may be emitted when phosphamidon is heated to decomposition. Avoid sources of extreme heat. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble. Hydrolyzed by alkali with a half-life at 73Â°F of 13.8 days at pH 7 and 2.2 days at pH 10 (NTP, 1992).	PHOSPHAMIDON is corrosive to iron, tin and aluminum. Incompatible with alkaline preparations and should not be mixed with copper oxychloride, captan, folpet or sulfur. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200														(EPA, 1998)		-49	
266	N-HEXANE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Reacts slowly with cold water to give phosphorous acid. Reacts vigorously with hot water to generate red phosphorus, phosphine (highly toxic and flammable) and phosphoric acid [Merck 11th ed. 1989].	PHOSPHORUS TRIOXIDE reacts exothermically with bases. Melted phosphorus trioxide readily ignites in air. Instantly ignites with a flame of almost blinding brilliance when thrown into oxygen at 50-60Â°C [J. Am. Chem. Soc. 125:347. 1924]. Incompatible with ammonia, disulfur dichloride, halogens, oxygen, phosphorus pentachloride, sulfur, sulfuric acid, water [Bretherick, 5th ed., 1995, p. 1778].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
267	NICKEL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts slowly with oxygen from the air, liberating iodine [Merck]. Water soluble. Aqueous solutions are strongly acidic (pH of 0.1N solution about 1.1) and ultimately form HI and As2O3, although an equilibrium AsI3 + 3H2O = H3AsO3 + 3HI has been observed [Merck 1989].	ARSENIC IODIDE gives acidic solutions in water. These solutions neutralize bases exothermically. Can react as either an oxidizing agent or reducing agent.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sk_source	sk_note	sk_value	sk_range	sk_value_tempDegF	sk_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_prescMMHG	bp_range_prescMMHG	melweight_source	melweight_note	melweight_value	melweight_range	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	clerk_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
263	MOLYBDENUM TRIOXIDE	(NTP, 1992)	(sublimes)	1		293		mm Hg	(NTP, 1992)		6.15				(USCG, 1999)		1.24		68		(NTP, 1992)	(corrected): 459.7°A; at 15 mm Hg; sublimes	644		760				(NTP, 1992)		178.23				(NTP, 1992)		ATH	C14H10		20.0	2.0	65.0	4.0	6.0
264	N,N-DIMETHYLFORMAMIDE														(EPA, 1998)	Counter than at 68F					(EPA, 1998)	Not pertinent; decomposes							(EPA, 1998)		144.62				(EPA, 1998)		PHH	C6H8N2.ClH		21.0	2.0	74.0	4.0	6.0
265	N-BUTYL PHTHALATE	(EPA, 1998)	2.50E-05	68				mm Hg							(EPA, 1998)		1.2132		77		(EPA, 1998)		324		1.5				(EPA, 1998)		299.7				(EPA, 1998)		Poison	C10H19C lN2SP	DirtEarth	28.0	2.0	78.0	4.0	6.0
266	N-HEXANE																																					Corrosive	P202;or P426		23.0	2.0	78.0	4.0	6.0
267	NICKEL																																					Poison	As13		22.0	2.0	71.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
268	NICKEL SULFATE	NICKEL (2+) SULFATE|NICKEL (II) SULFATE|NICKEL MONOSULFATE|NICKEL SULFATE|NICKEL SULFATE (1:1)|NICKEL SULFATE (NISO4)|NICKEL SULPHATE|NICKEL(2+) SULFATE|NICKEL(2+) SULFATE (1:1)|NICKEL(II) SULFATE|NICKELOUS SULFATE|SULFURIC ACID NICKEL(2+) SALT|SULFURIC ACID, NICKEL (2+) SALT (1:1)	7786-81-4	Anhydrous nickel sulfate is a yellow-green crystalline solid. Nickel sulfate can also be obtained as a hexahydrate (NiSO4.6H2O (CAS: 10101-97-0) which is blue to emerald green, and as a heptahydrate (NiSO4.7H2O) (CAS: 10101-98-1) , which is green. Samples can contain variable quantities of water, depending on their previous exposure to moisture or conditions. All forms are mildly toxic and are carcinogenic. All are denser than water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Used to make other nickel compounds, in printing, and in dyeing of textiles.	1.0	2.5	5.0	957.0	70.0	298.0	107.0	129.0	120.0	9.0	37.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
269	NICKEL SULFATE HEXAHYDRATE	BLUE SALT|NICKEL (2+) SULFATE HEXAHYDRATE|NICKEL (II) SULFATE HEXAHYDRATE|NICKEL MONOSULFATE HEXAHYDRATE|NICKEL SULFATE (NISO4) HEXAHYDRATE|NICKEL SULFATE HEXAHYDRATE|NICKEL SULFATE HYDRATE (NISO4.6H2O)|NICKEL SULPHATE HEXAHYDRATE|NICKEL(2+) MONOSULFATE HEXAHYDRATE|NICKEL(2+) SULFATE HEXAHYDRATE|NICKEL(II) SULFATE HEXAHYDRATE|NICKELOUS SULFATE HEXAHYDRATE|NICKELOUS SULPHATE HEXAHYDRATE|SINGLE NICKEL SALT|SULFURIC ACID, NICKEL (2+) SALT, HEXAHYDRATE	10101-97-0	PHYSICAL DESCRIPTION: Blue or emerald-green crystalline material. Toxic and carcinogenic. Two known phases. Alpha-form (blue tetragonal) converts to beta-form (green monoclinic) at 127.9Â°F. Becomes blue and opaque at room temperature. Odorless. Sweet astringent taste. Somewhat efflorescent. Greenish-yellow anhydrous salt is formed at 536Â°F. (NTP, 1992)	1.0	2.5	5.0	963.0	70.0	298.0	107.0	129.0	121.0	9.0	37.0	13.0	16.0	(BLOB)	Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. When heated to decomposition, emits highly toxic fumes. Can react vigorously with oxidizing materials. May explode when exposed to chlorine, nitric acid, or potassium plus ammonia. On exposure to light, moist arsine decomposes quickly, depositing shiny black arsenic. (EPA, 1998)	Cool containers that are exposed to flames with water from the side until well after fire is out. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Let small fires burn. Use water spray, fog, or foam for large fires. For massive fire in cargo area use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (EPA, 1998)
270	OILS, EDIBLE: SOYA BEAN	OILS, EDIBLE: SOYA BEAN|SOYBEAN OIL	8001-22-7	Pale yellow oily liquid with a weak odor. Floats on water. Contains principally glycerides of oleic and linoleic acids.	2.5	5.0	2.5	969.0	70.0	298.0	107.0	129.0	122.0	9.0	37.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
271	OILS, MISCELLANEOUS: LINSEED	FATS AND GLYCERIDIC OILS, FLAXSEED|FATS AND GLYCERIDIC OILS, LINSEED|FLAXSEED OIL|GROCO|L-310|LINSEED OIL|LINSEED OIL, BLEACHED|OILS, GLYCERIDIC, FLAXSEED OR LINSEED|OILS, MISCELLANEOUS: LINSEED|RAW LINSEED OIL	8001-26-1	Light yellow to dark yellow oily liquid. Insoluble in water and less dense than water. Hence floats on water. Contains principally glycerides of linolenic, linoleic, oleic and palmitic acid.	2.5	5.0	2.5	975.0	70.0	304.0	107.0	129.0	123.0	9.0	38.0	13.0	16.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
272	OLEIC ACID	(BLOB)	112-80-1	Colorless to pale yellow liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	981.0	70.0	304.0	107.0	129.0	124.0	9.0	38.0	13.0	16.0	INHALATION: move to fresh air; if exposure to dust is severe, get medical attention. INGESTION: give immediately by mouth a dilute solution of any soluble calcium salt (calcium lactate, lime water, chalk solution, or even milk); large amounts of Ca are required; administer gastric lavage with dilute lime water; consult physician; watch for edema of the glottis and delayed constriction of esophagus. EYES: flush with water for at least 15 min. SKIN: wash well with soap and water. (USCG, 1999)		
273	OXALIC ACID	AKTISAL|AQUISAL|ETHANEDIOIC ACID|ETHANEDIONIC ACID|NCI-55209|OXALIC ACID|OXALIC ACID (AQUEOUS)|OXALIC ACID DIHYDRATE|OXALIC ACID {AS DIHYDRATE}	144-62-7	Odorless white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	987.0	70.0	304.0	107.0	129.0	125.0	9.0	38.0	13.0	16.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
268	NICKEL SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	DIRECT BROWN 2 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																										
269	NICKEL SULFATE HEXAHYDRATE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. On exposure to light, decomposes rapidly depositing shiny black arsenic.	ARSINE decomposes into its elements (arsenic, gaseous hydrogen) when heated to 300Â°C. Can form accidentally by the reaction of arsenic impurities with mineral acids (hydrochloric acid, sulfuric acid) in the presence of common metals (iron, zinc). A reducing agent---not oxidized by air at room temperature [Kirk-Othmer, 3rd ed., Vol. 3, 1978, p. 251], but may react vigorously with other oxidizing agents [Sax, 9th ed., 1996, p. 279]. Moderately explosive in combination with chlorine or nitric acid. When heated to decomposition or ignited, it emits highly toxic fumes of metallic arsenic.	Highly Flammable; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2188 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6					(EPA, 1998)	Extremely flammable; may be ignited by heat, sparks, or flames.					(EPA, 1998)	Extremely flammable; may be ignited by heat, sparks, or flames.					(EPA, 1998)		-179	
270	OILS, EDIBLE: SOYA BEAN	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	POTASSIUM CYANIDE SOLUTION is weakly basic. Reacts with acids of all kinds to generate quantities of very poisonous hydrogen cyanide gas. Incompatible with strong oxidizing agents, especially if solution dries out. Gives insoluble products with silver(I), mercury(I) and lead(II) ions that may decompose violently under certain conditions.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																										
271	OILS, MISCELLANEOUS: LINSEED	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Decomposes slowly to generate toxic hydrogen sulfide and dimethylamine.	POTASSIUM DIMETHYLDITHIOCARBAMATE solution decomposes slowly to give hydrogen sulfide and dimethylamine. Decomposition is accelerated by acidification. Can generate flammable gases with aldehydes, nitrides, and hydrides. Incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
272	OLEIC ACID		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Hygroscopic. Gives basic solution, below 50Â°C dissolves in water and reacts to form the much less soluble potassium tetraoxalate, which separates out.	Salts, basic, such as POTASSIUM HYDROGEN OXALATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																										
273	OXALIC ACID	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames.		Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_range_tempDegF	vp_value_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_n_otr	molwgt_value	molwgt_range	tdlb_source	tdlb_note	tdlb_value	tdlb_unit	solbly_source	solbly_temp	solbly_value	solbly_range	solbly_note	solbly_unit	chris_code	des_labels	formulas	incompatible_labs	# of Products	Production Score	# of Distributions Sites	Distribution Score	Prob Score
268	NICKEL SULFATE																										(NTP, 1992)								(NTP, 1992)								C29H21N5O7S.2Na		2.4.0	2.0	96.0	4.0	6.0
269	NICKEL SULFATE HEXAHYDRATE	(EPA, 1998)										2.66 to 2.695						185						760			(EPA, 1998)								(NTP, 1992)	ppm	3	; A potential human carcinoge n.	(NIOSH, 2003)		77.93			20	cc/100 cc	Poison Gas|Flam mable Gas		A5H3	24.0	2.0	96.0	4.0	6.0
270	OILS, EDIBLE; SOYA BEAN																																																
271	OILS, MISCELLANEOUS; LINSEED																																																
272	OLEIC ACID																										(USCG, 1999)																							
273	OXALIC ACID																																																

Prob Score
6.0
6.0
6.0
6.0
6.0
6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
274	POLYVINYL ALCOHOL	(BLOB)	9002-89-5	PHYSICAL DESCRIPTION: Odorless white to cream-colored granules or powder. Pure aqueous solutions are neutral or faintly acid and subject to mold growth. pH (4% aqueous solution): 5-8. Strongly hydrophilic. (NTP, 1992)	1.0	2.5	5.0	987.0	70.0	304.0	107.0	129.0	125.0	9.0	38.0	13.0	16.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	A fire in your laboratory involving this chemical may produce dangerous vapors. Please evacuate the area immediately. As a firefighter, you should be equipped with full-body protective clothing and a self-contained breathing apparatus. You should extinguish this fire with a dry chemical, carbon dioxide or halon extinguisher. You should avoid using a water or foam extinguisher as they may cause spattering. (NTP, 1992)
275	RANEY NICKEL	ALCAN 123|ALCAN 756|C.I. 77775|CELMET|DNI 20|E 12|E 12 (METAL)|FIBREX|FIBREX (METAL FIBER)|FIBREX P|FUKUDA 287|HCA 1|METAL CATALYST, DRY|N 1|N 154|NDHT 90|NDT 90|NI 0901-S|NI 123|NI 255AC|NI 270|NI 287|NI 4303-S|NI 4303T|NICKEL|NICKEL 270|NICKEL CATALYST|NICKEL CATALYST (FINELY DIVIDED, ACTIVATED, OR SPENT)|NICKEL CATALYST, DRY|NICKEL CATALYST, [DRY]|NICKEL ELEMENT|NICKEL METAL: ELEMENTAL NICKEL|NICKEL PARTICLES|NICKEL SPONGE|NICKLE CATALYST, WET|NIKKO 255|NOVAMET 4SP|NOVAMET NI 255|NP 2|PULVERIZED NICKEL|R 239|R 239 (CATALYST)|RANEY ALLOY|RANEY NICKEL|RCH 55/5|SF 380|T 123|T 123	7440-02-0	Raney Nickel catalyst, is extremely fine powdered nickel. It is grayish colored. Insoluble in water. Nickel catalyst is used to promote the chemical action in manufacturing synthetics and to process vegetable oil and petroleum. If exposed to air or moisture, it may become hot enough to ignite. It is insoluble in water and does not react with larger volumes of water.	1.0	2.5	5.0	993.0	70.0	304.0	107.0	129.0	126.0	9.0	38.0	13.0	16.0	Get immediate medical attention for all exposures. INHALATION: remove from exposure; support respiration. EYES: irrigate with copious amounts of water for at least 15 min. SKIN: wash with large amounts of water for at least 15 min., then rinse with sodium bicarbonate or lime solution. (USCG, 1999)	Behavior in Fire: Forms very toxic and irritating fumes. (USCG, 1999)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash or lime. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
276	SALICYLIC ACID	O-HYDROXYBENZOIC ACID|RETARDER W|SALICYLIC ACID	69-72-7	Odorless white to light tan solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	993.0	70.0	310.0	107.0	129.0	126.0	9.0	39.0	13.0	16.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
277	SILICON CARBIDE	(BLOB)	409-21-2	Yellow to green to bluish-black, iridescent crystals. Sublimes with decomposition at 2700Â°C. Density 3.21 g cm-3. Insoluble in water. Soluble in molten alkalis (NaOH, KOH) and molten iron.	1.0	2.5	5.0	993.0	70.0	310.0	107.0	129.0	126.0	9.0	39.0	13.0	16.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Immediately induce vomiting. EYES - OR - SKIN: Flush with copious amounts of water for at least 15 minutes. (USCG, 1999)	Special Hazards of Combustion Products: When heated to decomposition, emits acrid smoke and irritating fumes. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
278	SILVER NITRATE	LUNAR CAUSTIC|NITRIC ACID SILVER(I) SALT|NITRIC ACID, SILVER(1+) SALT|SILBERNITRAT|SILVER (I) NITRATE|SILVER (I) NITRATE (1:1)|SILVER MONONITRATE|SILVER NITRATE|SILVER NITRATE (AGNO3)|SILVER(1+) NITRATE	7761-88-8	A colorless or white crystalline solid becoming black on exposure to light or organic material.	1.0	2.5	5.0	999.0	70.0	310.0	107.0	129.0	127.0	9.0	39.0	13.0	16.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
274	POLYVINYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Insoluble in water.	A halogenated ether. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		185																				
275	RANEY NICKEL	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Self-contained breathing apparatus; complete protective clothing; safety glasses; face shield. (USCG, 1999)	Fumes in air. Reacts with water with explosive force, oxygen being evolved [Handbook of Chemistry and Physics]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	BROMINE TRIFLUORIDE is a very reactive oxidizing agent. Reacts violently on contact with water to evolve oxygen. Accelerates the burning of combustible material. Mixing with the following hydrogen-containing substances is likely to cause a fire or explosion: acetic acid, ammonia, benzene, ethanol, 2-pentanone, hydrogen, hydrogen sulfide, methane, cork, grease paper , wax. Mixing with acids, halogens, ammonium halides, metal halides, metals, nonmetals, or metal oxides at ambient or slightly above ambient temperatures has resulted in violent reactions. Specifically, reacts dangerously with nitric acid, sulfuric acid, chlorine, iodine, ammonium chloride, potassium iodide, boron powder, selenium, tellurium, aluminum powder, bismuth, cobalt powder, iron powder, arsenic, nickel powder, chromium trioxide, charcoal, red phosphorus, sulfur dioxide, magnesium oxide.	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1746 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3	No Water; Oxidizer																	(USCG, 1999)		47.8	
276	SALICYLIC ACID	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BROMOCHLORODIFLUOROMETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
277	SILICON CARBIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Flammable. Slightly soluble in water.	When heated to decomposition, emits acrid smoke and irritating fumes (USCG, 1999).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3		(USCG, 1999)		170																		
278	SILVER NITRATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Pyrophoric, will spontaneously ignite on contact with water or moisture in air, the reaction forms the strong acid -hydrochloric acid. Reaction products are corrosive!	ETHYL PHOSPHONOUS DICHLORIDE is an acid halide and organophosphate. Flammable/combustible material. May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2845 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
274	POLYVINYL ALCOHOL																				(NTP, 1992)		369		760		(NTP, 1992)		171.08													Poison	C6H12Cl2O		21.0	2.0	65.0	4.0	6.0
275	RANEY NICKEL														(USCG, 1999)		2.81		68		(USCG, 1999)		258.4		760		(USCG, 1999)		136.9											BTF	Oxidizer|Poison Inhalation Hazard|Corrosive	BrF3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Sand|Dirt/Earth	22.0	2.0	71.0	4.0	6.0
276	SALICYLIC ACID																																								Non-Flammable Gas	CBrClF2		23.0	2.0	73.0	4.0	6.0
277	SILICON CARBIDE														(USCG, 1999)		0.96				(USCG, 1999)		275		760		(USCG, 1999)		146.19											MOA	Flammable Liquid	C7H14O3		23.0	2.0	57.0	4.0	6.0
278	SILVER NITRATE																																								Poison Inhalation Hazard|Spontaneously Combustible	C2H5Cl2P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	22.0	2.0	80.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
279	SODIUM BISULFITE, [LIQUID]	FR-62|HYDROGEN SODIUM SULFITE|HYDROGEN SULFITE SODIUM|MONOSODIUM SALT OF SULFUROUS ACID|MONOSODIUM SULFITE|SODIUM ACID BISULFITE|SODIUM ACID SULFITE|SODIUM BISULFITE|SODIUM BISULFITE (NAHSO3)|SODIUM BISULFITE SOLUTION|SODIUM BISULFITE, [LIQUID]|SODIUM BISULPHITE|SODIUM HYDROGEN SULFITE|SODIUM HYDROGEN SULFITE SOLUTION (35% OR LESS)|SODIUM SULFITE (NAHSO3)	7631-90-5	An aqueous solution with a faint sulfurous odor. Corrosive to aluminum. Used in the manufacture of other chemicals, in food processing, in photography, and in many other fields.	2.5	5.0	2.5	1005.0	70.0	316.0	107.0	129.0	128.0	9.0	40.0	13.0	16.0	(BLOB)	Special Hazards of Combustion Products: Combustion products include toxic oxides of nitrogen along with carbon monoxide. Behavior in Fire: Produces toxic gases and vapors. Containers may explode in heat of fire. Vapor explosive hazard indoors, outdoors or in sewer. Runoff to sewer may create fire or explosion hazard. Flashback may occur along vapor trail. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
280	SODIUM CHLORATE	AGROSAN|ASEX|ATLACIDE|B-HERBATOX|CHLORATE OF SODA|DESOLET|EVAU-SUPER|GRANEX O|KUSA-TOHRU|OXYCIL|SHED-A-LEAF|SODA CHLORIC ACID, SODIUM SALT|SODAKEM|SODIUM CHLORATE|SODIUM CHLORATE (NACLO3)|SODIUM CHLORATE SOLUTION|TRAVEX|VAL-DROP	7775-09-9	An odorless pale yellow to white crystalline solid. It is appreciably soluble in water and heavier, so may be expected to sink and dissolve at a rapid rate. Although it is not itself flammable, the solid product and even 30% solutions in water are powerful oxidizing agents. Contact with wood, organic matter, ammonium salts, sulfur, sulfuric acid, various metals, and other chemicals may result in fires or explosions, particularly if any solid materials are finely divided. Excessive heat, as in fires, may cause evolution of oxygen gas that may increase the intensity of fires and may also result in explosions. Mixtures with combustible materials are very flammable and may be ignited by friction. It is used for making herbicides, explosives, dyes, matches, inks, cosmetics, pharmaceuticals, defoliants, paper, and leather.	1.0	2.5	5.0	1005.0	70.0	316.0	107.0	129.0	128.0	9.0	40.0	13.0	16.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
281	SODIUM CHLORATE, AQUEOUS SOLUTION	AGROSAN|ASEX|ATLACIDE|B-HERBATOX|DESOLET|EVAU-SUPER|GRANEX O|KUSA-TOHRU|OXYCIL|SHED-A-LEAF|SODAKEM|SODIUM CHLORATE|SODIUM CHLORATE (NACLO3)|SODIUM CHLORATE SOLUTION|SODIUM CHLORATE, AQUEOUS SOLUTION|TRAVEX|VAL-DROP	7775-09-9	Sodium chlorate in a water solution is a clear colorless liquid. It is noncombustible but it can accelerate the burning of surrounding combustible materials. This can easily occur if the material should dry out. Contact with strong sulfuric acid may cause fires or explosions.	2.5	5.0	2.5	1005.0	70.0	316.0	107.0	129.0	128.0	9.0	40.0	13.0	16.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
282	SODIUM CYANIDE	CYANASALT H|CYANASALT S|CYANIDE OF SODIUM|CYANOBRIK|CYANOGRAN|CYMAG|HYDROCYANIC ACID, SODIUM SALT|NATRIUM CYANIDE|SODIUM CYANIDE|SODIM CYANIDE (NA(CN))|SODIUM CYANIDE(NA(CN))|SODIUM CYANIDE, [SOLID]|SODIUM SALT OF HYDROCYANIC ACID	143-33-9	A white crystalline solid, lump solid or powder. A deadly human poison by ingestion. Toxic by skin absorption through open wounds, by ingestion, and by inhalation of dust.	1.0	2.5	5.0	1005.0	70.0	316.0	107.0	129.0	128.0	9.0	40.0	13.0	16.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
283	SODIUM CYANIDE SOLUTION	SODIUM CYANIDE|SODIUM CYANIDE (NA(CN))|SODIUM CYANIDE SOLUTION|SODIUM SALT OF HYDROCYANIC ACID	143-33-9	A clear colorless aqueous solution.	2.5	5.0	2.5	1011.0	70.0	316.0	107.0	129.0	129.0	9.0	40.0	13.0	16.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
284	SODIUM HYDROGEN SULFITE, [SOLID]	MONOSODIUM SALT OF SULFUROUS ACID|SODIUM ACID BISULFITE|SODIUM ACID SULFITE|SODIUM BISULFITE|SODIUM BISULPHITE|SODIUM HYDROGEN SULFITE|SODIUM HYDROGEN SULFITE, [SOLID]|SODIUM HYDROSULFITE	7631-90-5	White crystals or crystalline powder. Slight sulfurous odor. Specific gravity 1.48. Strong irritant to skin and tissue.	1.0	2.5	5.0	1017.0	76.0	316.0	107.0	129.0	130.0	10.0	40.0	13.0	16.0	(BLOB)	This chemical is combustible. (NTP, 1992)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
279	SODIUM BISULFITE, [LIQUID]	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Water soluble.	NITROPROPANE forms salts with inorganic bases such as calcium hydroxide. The dry salts are explosive [Chem. Eng. news 30:2344. 1952].	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		93		(USCG, 1999)		2.2		%						(USCG, 1999)		789		(NTP, 1992)		-162	
280	SODIUM CHLORATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRITONAL is a mixture of aluminum and trinitrotoluene (TNT) in various compositions.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)			2	0	1	1																								
281	SODIUM CHLORATE, AQUEOUS SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Is sensitive to air, light and moisture. Slightly efflorescent in dry air.	SCOPOLAMINE HYDROBROMIDE TRIHYDRATE is incompatible with acids, bases and oxidizing agents. (NTP, 1992).				2	0	2	2																						(NTP, 1992)		131	
282	SODIUM CYANIDE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYACETATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Upon contact with organic matter, t-butyl peroxyacetate can ignite or give rise to an explosion [Haz. Chem. Data 1973 p. 77].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	0	0	Oxidizer																								
283	SODIUM CYANIDE SOLUTION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-NONANETHIOL is incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite (Ca(OCl)2) to generate SOx. React with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield HX. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4	0	0	0																								
284	SODIUM HYDROGEN SULFITE, [SOLID]		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	Mixing ETHYLENE GLYCOL in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, oleum, sulfuric acid, [NFPA 1991].			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		232		(NTP, 1992)		3.2		%	(USCG, 1999)	not listed				(USCG, 1999)		775		(NTP, 1992)		9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
279	SODIUM BISULFITE, [LIQUID]	(NIOSH, 2003)		8				mm Hg	(NTP, 1992)		3.06				(USCG, 1999)		0.9934		77		(NTP, 1992)		270		760		(NTP, 1992)		89.09		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	Slightly soluble				NPN	Flammable Liquid	C3H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	24.0	2.0	89.0	4.0	6.0
280	SODIUM CHLORATE																																								Explosive 1.1D	C7H5N3O6.Al	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	22.0	2.0	54.0	4.0	6.0
281	SODIUM CHLORATE, AQUEOUS SOLUTION																											(NTP, 1992)		438.33						(NTP, 1992)		1		gm/1.5 mL			C17H21NO4.BrH.3H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	22.0	2.0	54.0	4.0	6.0
282	SODIUM CYANIDE																																								Organic Peroxide|Explosive	C6H12O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	21.0	2.0	52.0	4.0	6.0
283	SODIUM CYANIDE SOLUTION																											(NIOSH, 2003)		160.3						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	CH3(CH2)8SH		21.0	2.0	52.0	4.0	6.0
284	SODIUM HYDROGEN SULFITE, [SOLID]	(NTP, 1992)	; 1 mm Hg at 127.4Â° F	0.06		68		mm Hg	(NTP, 1992)		2.14				(USCG, 1999)		1.115		68		(NTP, 1992)		387.7		760		(NTP, 1992)		62.07						(NTP, 1992)	at 63.5Â° F		greater than or equal to 100	mg/mL	EGL		C2H6O2	Cellulose-Based Absorbents	24.0	2.0	89.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
285	SODIUM METABISULFITE	DISODIUM DISULFITE|DISODIUM METABISULFITE|DISODIUM PYROSULFITE|DISODIUM PYROSULFITE (NA2S2O5)|FERTISILO|PYROSULFUROUS ACID, DISODIUM SALT|SODIUM DISULFITE (NA2S2O5)|SODIUM METABISULFITE|SODIUM METABISULFITE (NA2S2O5)|SODIUM METABISULPHITE|SODIUM PYROSULFITE|SODIUM PYROSULFITE (NA2S2O5)	7681-57-4	A white crystalline or powder solid with a slight sulfur odor. Toxic by inhalation . Strongly irritates skin and tissue. Noncombustible, but may decompose to emit toxic oxide fumes of sulfur and sodium when heated to high temperature. A corrosive acid when mixed with water. Used as a food preservative and as a laboratory reagent.	1.0	2.5	5.0	1017.0	76.0	316.0	107.0	129.0	130.0	10.0	40.0	13.0	16.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
286	SODIUM PEROXOBORATE, ANHYDROUS	ANHYDROUS BORAX|BORASCU|BORATES, TETRA, SODIUM SALTS (DECAHYDRATE)|BORAX|BORAX DECAHYDRATE|BORAX GLASS|BORAX, ANHYDROUS|BORIC ACID (H2B4O7), DISODIUM SALT|BORIC ACID (H2B4O7), DISODIUM SALT, DECAHYDRATE|BORICIN|BORON SODIUM OXIDE (B4NA2O7), DECAHYDRATE|BURA|DISODIUM TETRABORATE|DISODIUM TETRABORATE DECAHYDRATE|FR 28|FUSED BORAX|GERSTLEY BORATE|RASORITE 65|SODIUM BIBORATE|SODIUM BIBORATE DECAHYDRATE|SODIUM BORATE|SODIUM BORATE (NA2B4O7), DECAHYDRATE|SODIUM BORATE	1330-43-4	Pale yellow solid or thick liquid with a faint odor of detergent. Mixes with water. Soap bubbles may be produced. (USCG, 1999)	1.0	2.5	5.0	1023.0	76.0	316.0	107.0	129.0	131.0	10.0	40.0	13.0	16.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
287	SODIUM SULFIDE, ANHYDROUS	SODIUM SULFIDE|SODIUM SULFIDE, ANHYDROUS|SODIUM SULFIDE, WITH LESS THAN 30% WATER OF CRYSTALLIZATION|SODIUM SULFIDE, [ANHYDROUS]|SODIUM SULPHIDE, ANHYDROUS|SODIUM SULPHIDE, WITH LESS THAN 30% WATER OF CRYSTALLIZATION	1313-82-2	Sodium sulfide, anhydrous is a yellow to brick red crystalline mass or fused solid with an odor of rotten eggs. If exposed to moist air it is liable to spontaneous heating and may cause ignition of nearby combustible material. It absorbs moisture from the air.	1.0	2.5	5.0	1023.0	76.0	316.0	107.0	129.0	131.0	10.0	40.0	13.0	16.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
288	SODIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER	DISODIUM MONOSULFIDE|DISODIUM SULFIDE|DISODIUM SULFIDE (NA2S)|SODIUM MONOSULFIDE|SODIUM SULFIDE|SODIUM SULFIDE, ANHYDROUS|SODIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER|SODIUM SULFIDE, [HYDRATED, WITH >= 30% WATER]|SODIUM SULPHIDE|SODIUM SULPHIDE, HYDRATED, WITH NOT LESS THAN 30% WATER	1313-82-2	Yellow-pink or white deliquescent crystals, flakes or lumps. Contains at least 30% water. Alkaline. Burns skin, eyes and mucous membranes. Mildly corrosive to most metals. May be toxic by skin absorption. Releases toxic hydrogen sulfide gas when mixed with an acid.	1.0	2.5	5.0	1023.0	82.0	322.0	107.0	135.0	131.0	11.0	41.0	13.0	17.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
289	SORBITOL	D-GLUCITOL|HEXAHYDRIC ALCOHOL|1,2,3,4,5,6-HEXANEHEXOL|SORBIT|SORBITOL|SORBOL	50-70-4	Odorless colorless solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1023.0	82.0	322.0	107.0	135.0	131.0	11.0	41.0	13.0	17.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
285	SODIUM METABISULFITE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TERT-BUTYL PEROXYBENZOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Can ignite upon contact with organic matter or give rise to an explosion [Haz. Chem. Data 1973 p. 79].	Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6	Oxidizer																								
286	SODIUM PEROXOBORATE, ANHYDROUS	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed by strong acid or base.	A carbamate derivative. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
287	SODIUM SULFIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	ETHYLENE GLYCOL, MONOACETATE can react with oxidizing materials. (NTP, 1992)			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		215																		
288	SODIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	TRIS(2,3-DIBROMOPROPYL) PHOSPHATE is stable at temperatures up to 392-482Â°F. Major decomposition begins at 586Â°F. Is hydrolyzed by acids and bases (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 234																		
289	SORBITOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at certain concentrations. Slightly water soluble.	C.I. DIRECT BLUE 6 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents and strong acids (NTP, 1992).	Explosive						0																						(NTP, 1992)	Decomposes		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
285	SODIUM METABISULFITE																																								Organic Peroxide	C11H14O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	20.0	2.0	97.0	4.0	6.0
286	SODIUM PEROXOBORATE, ANHYDROUS																																								Poison	C10H18N4O4S3		20.0	2.0	80.0	4.0	6.0
287	SODIUM SULFIDE, ANHYDROUS	(NTP, 1992)	; 12.9 mm Hg at 118Â° F; 20.5 mm Hg at 147Â° F	9		73		mm Hg	(NTP, 1992)		3.6				(NTP, 1992)		1.106		77		(NTP, 1992)			358 to 360	760		(NTP, 1992)		104.12						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C4H8O3	Cellulose-Based Absorbents	21.0	2.0	86.0	4.0	6.0
288	SODIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER	(NTP, 1992)		0.00019		77		mm Hg							(NTP, 1992)		2.27		77								(NTP, 1992)		697.67						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C9H15Br6O4P		21.0	2.0	86.0	4.0	6.0
289	SORBITOL																				(NTP, 1992)	Decomposes					(NTP, 1992)		932.78						(NTP, 1992)	at 68.0Â° F		5 to 10	mg/mL			C32H24N6O14S4.4Na		25.0	2.0	91.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
290	SUCROSE	ALPHA-D-GLUCOPYRANOSIDE, BETA-D-FRUCTOFURANOSYL|ALPHA D-GLUCOPYRANOSYLBETA-D-FRUCTOFURANOSIDE|(ALPHA-D-GLUCOSIDO)-BETA-D-FRUCTOFURANOSIDE|AMERFOND|BEET SUGAR|BETA-D-FRUCTOFURANOSIDE, ALPHA-D-GLUCOPYRANOSYL|BETA-D-FRUCTOFURANOSYL ALPHA D-GLUCOPYRANOSIDE|BETA-D-FRUCTOFURANOSYL-ALPHA-D-GLUCOPYRANOSIDE|CANE SUGAR|CONFECTIONER'S SUGAR|D-(+)-SACCHAROSE|D-(+)-SUCROSE|D-SUCROSE|GRANULATED SUGAR|MANALOX AS|MICROSE|NCI-C56597|ROCK CANDY|SACCAROSE|SACCHAROSE|SACCHARUM|SUCRA	57-50-1	White odorless crystalline or powdery solid. Denser than water.	1.0	2.5	5.0	1023.0	82.0	322.0	107.0	135.0	131.0	11.0	41.0	13.0	17.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
291	SULFUR DIOXIDE	FERMENTICIDE LIQUID|SULFUR DIOXIDE|SULFUR DIOXIDE (ANHYDROUS)|SULFUR DIOXIDE (SO2)|SULFUR DIOXIDE, LIQUEFIED|SULFUR OXIDE|SULFUR OXIDE (SO2)|SULFUR SUPEROXIDE|SULFUROUS ACID ANHYDRIDE|SULFUROUS ANHYDRIDE|SULFUROUS OXIDE|SULPHUR DIOXIDE|SULPHUR DIOXIDE, LIQUEFIED	7446-09-5	A colorless gas with a choking or suffocating odor. Boiling point -10Â°C. Heavier than air. Very toxic by inhalation and may irritate the eyes and mucous membranes. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Used to manufacture chemicals, in paper pulping, in metal and food processing. Rate of onset: Immediate & Delayed Persistence: Minutes to hours Odor threshold: 1 ppm Source/use/other hazard: Disinfectant and preserving in breweries and food/canning; textile industry; batteries.	5.0	1.0	1.0	1023.0	82.0	322.0	107.0	141.0	131.0	11.0	41.0	13.0	18.0	(BLOB)	Flash point data for this chemical are not available. It is explosive. (NTP, 1992)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
292	SULFUROUS ACID	SULFUR DIOXIDE SOLUTION|SULFUROUS ACID|SULFUROUS ACID (H2SO3)|SULPHUROUS ACID	7782-99-2	A colorless liquid with a pungent burning sulfur odor. Corrosive to metals and tissue.	2.5	5.0	2.5	1023.0	82.0	322.0	107.0	141.0	131.0	11.0	41.0	13.0	18.0			
293	TALC	(BLOB)	14807-96-6	PHYSICAL DESCRIPTION: Odorless white to grayish-white very fine crystalline powder (unctuous). Readily adheres to the skin. Nonflammable, noncombustible, and nontoxic.	1.0	2.5	5.0	1023.0	82.0	322.0	107.0	141.0	131.0	11.0	41.0	13.0	18.0	(BLOB)	Trichloroethylsilane may form explosive mixtures with air. Its vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. Form toxic and corrosive fumes including phosgene when heated to decomposition and hydrochloric acid in presence of water. Will react with water or steam to produce heat and toxic and corrosive fumes. Will react vigorously with oxidizing materials. Unstable, avoid decomposing heat. (EPA, 1998)	Enter fire areas with extreme care. Full protective clothing must be worn including self-contained breathing apparatus, rubber gloves, boots, and bands around arms, legs, and waist. No skin surface should be exposed. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. (Caution: reacts with water to produce heat and toxic and corrosive fumes.) Use dry chemical, alcohol foam, or carbon dioxide; water may be ineffective, but water should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse the vapors and to protect men attempting to stop a leak. Water spray may be used to flush spills away from exposure and to dilute spills to non-flammable mixtures. (EPA, 1998)
294	TEREPHTHALIC ACID	1,4-BENZENEDICARBOXYLIC ACID|4-CARBOXYBENZOIC ACID|1,4-DICARBOXYBENZENE|P-BENZENEDICARBOXYLIC ACID|P-CARBOXYBENZOIC ACID|P-DICARBOXYBENZENE|P-PHTHALIC ACID|P-PTHALIC ACID|TEREPHTHALIC ACID|TPA|WR 16262	100-21-0	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	1023.0	82.0	322.0	107.0	141.0	131.0	11.0	41.0	13.0	18.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
295	TETRAHYDROFURAN	BUTANE ALPHA,DELTA-OXIDE|BUTANE, 1,4-EPOXY-|BUTYLENE OXIDE|CYCLOTETRAMETHYLENE OXIDE|DIETHYLENE OXIDE|1,4-EPOXYBUTANE|FURAN, TETRAHYDRO-|FURANIDINE|HYDROFURAN|NCI-C60560|OXACYCLOPENTANE|OXOLANE|TETRAHYDROFURAN|TETRAMETHYLENE OXIDE|THF	109-99-9	A clear colorless liquid with an ethereal odor. Less dense than water. Flash point 6Â°F. Vapors are heavier than air.	2.5	5.0	2.5	1029.0	82.0	322.0	107.0	141.0	132.0	11.0	41.0	13.0	18.0	Call a doctor. INGESTION: Gastric lavage with lime water or a 1% solution of calcium chloride. Aluminum hydroxide gel should be exceptionally effective for binding flouride. EYES: Wash with running water or weak boric acid solution followed by water. SKIN: Wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
290	SUCROSE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TERT-BUTYL PEROXYBENZOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Upon contact with organic matter, t-butyl peroxybenzoate can ignite or give rise to an explosion [Haz. Chem. Data 1973 p. 77].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6	Oxidizer																						
291	SULFUR DIOXIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TRINITROTOLUENE-TRINITROBENZENE MIXTURE is sensitive to heat and shock. This compound reacts with reducing agents. It will detonate if vigorously shocked or heated to 450Â° F. (NTP, 1992)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																	(NTP, 1992)		177.6	
292	SULFUROUS ACID			Slightly water soluble.	A cyclohexene, oxime derivative. This compound is incompatible with organic and inorganic copper compounds. [[Details on specifics of reactivity not yet available.]]								0																					
293	TALC	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	(BLOB)	Chlorosilanes, such as ETHYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1196 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(EPA, 1998)		72		(EPA, 1998)	May be ignited undee almost all normal temperature conditions.					(EPA, 1998)	May be ignited under almost all normal temperature conditions.								(EPA, 1998)		-158	
294	TEREPHTHALIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																				(NTP, 1992)	(decomposes)		734 to 738
295	TETRAHYDROFURAN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves, safety glasses, self-contained breathing apparatus. (USCG, 1999)	Water soluble. Reacts with water liberating heat and forming a corrosive solution. The reaction is not violent.	Acidic salts, such as SODIUM BIFLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)	Not flammable			(USCG, 1999)	Decomposes in melting		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
290	SUCROSE																																									Organic Peroxide	C11H14O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	26.0	2.0	97.0	4.0	6.0
291	SULFUR DIOXIDE	(NTP, 1992)		0.046				mm Hg							(NTP, 1992)		1.654		68		(NTP, 1992)	EXPLODES	464		760		(NTP, 1992)		227.15						(NTP, 1992)	Insoluble					Explosive 1.1D	C7H5N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	26.0	2.0	65.0	4.0	6.0
292	SULFUROUS ACID																																									C17H29NO3S	Dirt/Earth	26.0	2.0	65.0	4.0	6.0
293	TALC								(EPA, 1998)		5.6				(EPA, 1998)		1.2381		68		(EPA, 1998)		208		760		(EPA, 1998)		163.51											ETS	Flammable Liquid|Corrosive	C2H5Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	25.0	2.0	78.0	4.0	6.0
294	TEREPHTHALIC ACID														(NTP, 1992)		1.35										(NTP, 1992)		262.26						(NTP, 1992)			less than 1	mg/mL			C16H10N2O2	Mineral-Based & Clay-Based Absorbents	22.0	2.0	66.0	4.0	6.0
295	TETRAHYDROFURAN														(USCG, 1999)		2.08		68								(USCG, 1999)		61.99											SBF	Corrosive	NaHF2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	21.0	2.0	65.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
296	TETRASODIUM PYROPHOSPHATE	ACCOLINE 126|ANHYDROUS TETRASODIUM PYROPHOSPHATE|E 450|PHOSPHOTEX|PYROPHOSPHATE|PYROPHOSPHORIC ACID, TETRASODIUM SALT|SODIUM DIPHOSPHATE|SODIUM DIPHOSPHATE (NA4P2O7)|SODIUM PHOSPHATE (NA4P2O7)|SODIUM PYROPHOSPHATE|SODIUM PYROPHOSPHATE (NA4P2O7)|TETRASODIUM DIPHOSPHATE|TETRASODIUM DIPHOSPHATE (NA4P2O7)|TETRASODIUM PYROPHOSPHATE|TETRASODIUM PYROPHOSPHATE (ANHYDROUS)|TETRASODIUM PYROPHOSPHATE (NA4P2O7)|TETRON|TETRON (DISPERSANT)|TSPP|VICTOR TSPP	7722-88-5	Odorless, white powder or granules. mp: 995Â°C. Density: 2.53 g/cm3. Solubility in water: 3.16 g/100 mL (cold water); 40.26 g/100 mL boiling water. Used as a wool de-fatting agent, in bleaching operations, as a food additive. The related substance tetrasodium pyrophosphate decahydrate (Na4P2O7*10H2O) occurs as colorless transparent crystals. Loses its water when heated to 93.8Â°C.	1.0	2.5	5.0	1035.0	82.0	322.0	107.0	141.0	133.0	11.0	41.0	13.0	18.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
297	TRIETHANOLAMINE	ALKANOLAMINE 244|DALTOGEN|ETHANOL, 2,2',2''-NITRILOTRI-|NITRILO-2,2',2''-TRIETHANOL|2,2',2''-NITRILOETHANOL|NITRILOTRIETHANOL|2,2',2''-NITRILOTRIETHANOL|2,2',2''-NITRILOTRISETHANOL|2,2',2''-NITRILOTRIS[ETHANOL]|STEROLAMIDE|STING-KILL|T-35|TEA|TEA (AMINO ALCOHOL)|TEOA|THIOFACOT-35|TRI(HYDROXYETHYL)AMINE|TRIAETHANOLAMINE|TRIAETHANOLAMINE|TRIETHANOLAMINE|TRIETHYLOLAMINE|TRIHYDROXYTRIETHYL AMINE|TRIHYDROXYTRIETHYLAMINE|2,2',2''-TRIHYDROXYTRIETHYLAMINE|TRIS(2-HYDROXYETHYL)AMINE|TRIS(BETA-HYDROXYETHYL)AMINE|TRIS(HYDROXYETHYL)AMINE|TRIS-(2-	102-71-6	Oily liquid with a mild ammonia odor. Denser than water. Freezing point is 71Â°F. (USCG, 1999)	2.5	5.0	2.5	1041.0	82.0	322.0	107.0	141.0	134.0	11.0	41.0	13.0	18.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
298	TRIETHYLENE GLYCOL	1,2-BIS(2-HYDROXYETHOXY)ETHANE|1,2-DI(BETA-HYDROXYETHOXY)ETHANE|DI-BETA-HYDROXYETHOXYETHANE|1,8-DIHYDROXY-3,6-DIOXAOCTANE|3,6-DIOXAOCTANE-1,8-DIOL|2,2'-(1,2-ETHANEDIYLBIS(OXY))BISETHANOL|ETHYLENE GLYCOL DIHYDROXYDIETHYL ETHER|ETHYLENE GLYCOL-BIS-(2-HYDROXYETHYL)ETHER|2,2'-ETHYLENEDIOXYBIS(ETHANOL)|2,2'-ETHYLENEDIOXYDIETHANOL|2,2'-ETHYLENEDIOXYETHANOL|GLYCOL BIS(HYDROXYETHYL) ETHER|2-[2-(2-HYDROXYETHOXY)ETHOXY]ETHANOL|TEG|TEG (GLYCOL)|TRIETHYLENE GLYCOL|TRIETHYLENE	112-27-6	Colorless liquid with a mild odor. Dense than water. (USCG, 1999)	2.5	5.0	2.5	1047.0	82.0	322.0	107.0	141.0	135.0	11.0	41.0	13.0	18.0	(BLOB)	Behavior in Fire: May melt with loss of steam (USCG, 1999)	
299	WAXES: PARAFFIN	PARAFFIN FUME|PARAFFIN SCALE FUME|PARAFFIN WAX FUME|PETROLEUM WAX|WAXES: PARAFFIN	8002-74-2	White translucent tasteless odorless solids. Density 0.88- 0.92 g / cm3. Insoluble in water. Melting range 47-65Â°C. Used in candles, lubricants, crayons, floor polishes, cosmetics, chewing gum.	1.0	2.5	5.0	1053.0	82.0	322.0	107.0	141.0	136.0	11.0	41.0	13.0	18.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
300	ZINC ACETATE	ACETIC ACID, ZINC SALT|DICARBOMETHOXYZINC|SILTEX CL 4|ZINC ACETATE|ZINC ACETATE DIHYDRATE|ZINC DIACETATE|ZINC(II) ACETATE	557-34-6	Obtained in both anhydrous form and as a dihydrate. Both are white crystalline solids. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit spread to the environment. Used to preserve wood, to make other zinc compounds, as a food and feed additive.	1.0	2.5	5.0	1053.0	82.0	322.0	107.0	141.0	136.0	11.0	41.0	13.0	18.0	(BLOB)	Flash point data are not available for this compound. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
296	TETRASODIUM PYROPHOSPHATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	In water, solubility is 14 ppm. Slowly oxidized in air. Decomposed by alkaline solutions.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
297	TRIETHANOLAMINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	SODIUM PERCHLORATE is a strong oxidizing agent. Explosively decomposed at over 130Â°C [Merck 11th ed. 1989]. A mixture with powdered magnesium is a friction-sensitive mixture [Safety Eng. Reports 1947]. A mixture with ammonium nitrate is used as an explosive [Mellor 2 Supp. 1:608 1956]. A 1:1 mixture of the perchlorate and hydrazine exploded upon grinding, [Chem. Abs., 1969, 70, 53524].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
298	TRIETHYLENE GLYCOL		U.S. Bu. Mines toxic dust mask; protective gloves; chemical- type goggles; full-cover clothing (USCG, 1999)	Soluble in water.	Strong base; corrosive towards metals e.g. aluminum and zinc. [Handling Chemicals Safely 1980 p. 947].						0																								
299	WAXES: PARAFFIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	CARBOSULFAN is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
300	ZINC ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Dust may form an explosive mixture in air. Water soluble.	Aqueous solutions are sensitive to exposure to light. [[Details on specifics of reactivity not yet available.]]	Explosive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(Decomposes)	392	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
296	TETRASODIUM PYROPHOSPHATE																																								Poison	C22H22NO3		23.0	2.0	76.0	4.0	6.0
297	TRIETHANOLAMINE																																								Oxidizer	NaClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	22.0	2.0	70.0	4.0	6.0
298	TRIETHYLENE GLYCOL														(USCG, 1999)			1.8 to 2.5	77								(NTP, 1992)		141.98						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	SPP		Na2HPO4		22.0	2.0	54.0	4.0	6.0
299	WAXES: PARAFFIN																																								Poison	C20H32N2O3S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	21.0	2.0	72.0	4.0	6.0
300	ZINC ACETATE																											(NTP, 1992)		251.24						(NTP, 1992)	at 72.5Â° F		10 to 50	mg/mL		Poison	C8H11N3O3S.Na		20.0	2.0	83.0	4.0	6.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
301	1,2,3-BENZOTRIAZOLE	1,2-AMINOAZOPHENYLENE|AZIMIDOBENZENE|AZIMINOBENZENE|BENZENE AZIMIDE|BENZISOTRIAZOLE|1,2,3-BENZOTRIAZOLE|BENZTRIAZOLE|BT 120|COBRATEC 99|COBRATEC 35G|COBRATEC 99C|VI|D 32-108|2,3-DIAZAINDOLE|ENTEK|1H-1,2,3-BENZOTRIAZOLE|1H-BENZOTRIAZOLE|1,2,3-1H-BENZOTRIAZOLE|IRGASTAB I 489|ISK 3|NCI-C03521|NSC-3058|1,2,3-TRIAZA-1H-INDENE|1,2,3-TRIAZAINDENE|U-6233|VERZONE CRYSTAL	95-14-7	PHYSICAL DESCRIPTION: White to light tan crystals or white powder. No odor. (NTP, 1992)	2.5	5.0	2.5	1053.0	82.0	322.0	107.0	141.0	136.0	11.0	41.0	13.0	18.0	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
302	1-BROMOPROPANE	BROMOPROPANE|1-BROMOPROPANE|2-BROMOPROPANE|BROMOPROPANES|N-PROPYL BROMIDE|N-PROPYLBROMIDE|PROPYL BROMIDE|PROPYLBROMIDE	106-94-5	A colorless liquid. Slightly denser than water and slightly soluble in water. Flash point below 75Â°F. When heated to high temperatures may emit toxic fumes.	2.5	5.0	2.5	1058.0	82.0	322.0	107.0	141.0	137.0	11.0	41.0	13.0	18.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
303	1-BUTENE	ALPHA-BUTENE|ALPHA-BUTYLENE|BUTENE-1|1-BUTENE|1-BUTYLENE|ETHYLETHYLENE	106-98-9	PHYSICAL DESCRIPTION: Colorless gas. (NTP, 1992)	5.0	1.0	1.0	1063.0	82.0	322.0	107.0	141.0	138.0	11.0	41.0	13.0	18.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
304	2-BROMO-2-NITROPROPANE-1,3-DIOL	BETA-BROMO-BETA-NITROTRIMETHYLENEGLYCOL|2-BROMO-2-NITRO-1,3-PROPANEDIOL|2-BROMO-2-NITROPROPAN-1,3-DIOL|2-BROMO-2-NITROPROPANE-1,3-DIOL|BRONIDIOL|BRONOCOT|BRONOPOL|BRONOSOL|MYACIDE AS|NALCO 92RU093|2-NITRO-2-BROMO-1,3-PROPANEDIOL|ONYXIDE 500	52-51-7	White crystals. Ignite easily and burn readily. May detonate under strong shock. Decomposes when heated, evolving toxic gases. Toxic by skin absorption, inhalation or ingestion.	1.0	2.5	5.0	1063.0	82.0	327.0	117.0	141.0	138.0	11.0	42.0	15.0	18.0	INHALATION: Call a physician. Use proper respiratory protection and immediately remove the victim from exposure. If breathing stops apply artificial respiration and administer oxygen. Call a physician. SKIN: Remove grossly contaminated clothing. EYES: Flush with large amounts of water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
305	2-HYDROXY-4-METHOXYBENZOPHENONE	ADUVEX 24|ADVASTAB 45|ANUVEX|ASL 24|BENZOPHENONE 3|BENZOPHENONE, 2-HYDROXY-4-METHOXY-|BENZOPHENONE-3|2-BENZOYL-5-METHOXYPHENOL|CHIMASSORB 90|CYASORB UV 9|CYASORB UV 9 LIGHT ABSORBER|ESCALOL 567|EUSOLEX 4360|2-HYDROXY-4-METHOXYBENZOPHENONE|(2-HYDROXY-4-METHOXYPHENYL)PHENYLMETHANONE|4-METHOXY-2-HYDROXYBENZOPHENONE|MOB|MOD|NCI-C60957|NSC-7778|ONGROSTAB HMB|OXYBENZON|OXYBENZONE|SEESORB 101|SPECTRA-SORB UV 9|SUMISORB 110|SUNSCREEN UV 15|SYNTASE 62|UF 3|USAF CY-9|UV 9|UVINUL 9|UVINUL M 40|UVISTAT 24|VIOSORB 110	131-57-7	PHYSICAL DESCRIPTION: White to off-white or light yellow powder. (NTP, 1992)	1.0	2.5	5.0	1063.0	82.0	327.0	117.0	141.0	138.0	11.0	42.0	15.0	18.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
301	1,2,3-BENZOTRIAZOLE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with water or moisture in the air to produce corrosive hydrofluoric acid and toxic chloride gas. Interaction with ice at -100Â°C, or with water vapor above 0Â°C is extremely vigorous (Christe, K.O. Inorg. Chem. 1972 11, 1220).	CHLORINE PENTAFLUORIDE is a strong oxidizing agent. Nonflammable, but likely to react vigorously on contact with combustible materials. Reacts violently with lithium, calcium. Emits highly toxic fluoride and chloride fumes when heated to decomposition. Extremely vigorous reaction with water, steam, even ice [Pilipovich D. et al., Inorg. Chem., 1967, 6, p. 1918]. Very vigorous reaction with anhydrous nitric acid even at -100Â° C [Christie, K. O., Inorg. Chem. 1992, 11, p. 1220].	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2548 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	1.00	0.00	1																								
302	1-BROMOPROPANE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Miscible in water.	Organophosphates, such as HEXAETHYL TETRAPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
303	1-BUTENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Slightly soluble in water.	TRIBUTYLAMINE can react with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		185														(NTP, 1992)		-94	
304	2-BROMO-2-NITROPROPANE-1,3-DIOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	TRIPROPYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		75																		
305	2-HYDROXY-4-METHOXYBENZOPHENONE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halide- and amine-substituted aromatic compound and organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																				(NTP, 1992)		397 to 401	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
301	1,2,3-BENZOTRIAZOLE																																								Poison Gas(Oxidizer(Corrosive	ClF5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	16.0	1.0	71.0	4.0	5.0
302	1-BROMOPROPANE																																							Poison	C12H30O13P4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	61.0	4.0	5.0
303	1-BUTENE	(NTP, 1992)		20		212		mm Hg	(NTP, 1992)		6.38				(NTP, 1992)		0.7771		68		(NTP, 1992)		415		760		(NTP, 1992)		185.4						(NTP, 1992)	Slighly soluble					Poison	C12H27N	Mineral-Based & Clay-Based Absorbents	21.0	2.0	35.0	3.0	5.0
304	2-BROMO-2-NITROPROPANE-1,3-DIOL																				(USCG, 1999)		271.94 to 287.06	760		(USCG, 1999)		126.24												PTR	Flammable Liquid	C9H18	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	54.0	4.0	5.0
305	2-HYDROXY-4-METHOXYBENZOPHENONE																													184.65					(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C7H5ClN2S	Mineral-Based & Clay-Based Absorbents	12.0	1.0	55.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
306	4-AMINOBENZENE SULFONIC ACID	4-AMINOBENZENE SULFONIC ACID|1-AMINOBENZENE-4-SULFONIC ACID|4-AMINOBENZENESULFONIC ACID|4-AMINOPHENYLSULFONIC ACID|ANILINE-4-SULFONIC ACID|ANILINE-P-SULFONIC ACID|P-AMINOBENZENE SULFONIC ACID|P-AMINOBENZENESULFONIC ACID|P-AMINOPHENYLSULFONIC ACID|P-SULFOANILINE|PARA-ANILINE SULFONIC ACID|SULFANILIC ACID|4-SULFOANILINE|SULPHANILIC ACID	121-57-3	PHYSICAL DESCRIPTION: White powder with faint purple tinge. Grayish-white flat crystals. Becomes anhydrous at around 212Â°F. Low toxicity (used medicinally).	1.0	2.5	5.0	1068.0	82.0	327.0	117.0	141.0	139.0	11.0	42.0	15.0	18.0	INHALATION: move to fresh air; if breathing has stopped, begin artificial respiration. INGESTION: give large amounts of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cobalt oxide fumes may form in fire. (USCG, 1999)	
307	4-HYDROXYPYRAZOLO(3,4-D)PYRIMIDINE	ADENOCK|AL-100|ALLOPUR|ALLOPURINOL|ALLOPURINOL(I)|ALLOZYM|ALLURAL|ALOSITOL|ALULINE|ANOPROLIN|ANZIEF|APURIN|APUROL|ATISURIL|BLEMINOL|BLOXANTH|BW 56-158|CAPLENAL|CELLIDRIN|DABROSIN|1,5-DIHYDRO-4H-PYRAZOLO(3,4-D)PYRIMIDIN-4-ONE|EMBARIN|EPIDROPAL|FOLIGAN|GICHTEX|GOTAX|1H-PYRAZOLO(3,4-D)PYRIMIDIN-4-OL|4H-PYRAZOLO(3,4-D)PYRIMIDIN-4-ONE|1H-PYRAZOLO[3,4-D]PYRIMIDIN-4-OL|HPP|4-HYDROXY-1H-PYRAZOLO(3,4-D)PYRIMIDINE|4-HYDROXY-1H-PYRAZOLO[3,4-D]PYRIMIDINE|4-HYDROXY-3,4-PYRAZOLOPYRIMIDINE|4HYDROXYPYRAZOLO(3,4-D)PYRIMIDINE|4-HYDROXYPYRAZOLOL(3,4-D)PYRIMIDINE|4-	315-30-0	PHYSICAL DESCRIPTION: Odorless tasteless white microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	1073.0	82.0	327.0	117.0	141.0	140.0	11.0	42.0	15.0	18.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
308	5-AMINOSALICYLIC ACID	5-AMINO-2-HYDROXYBENZOIC ACID|5-AMINOSALICYLIC ACID|5-ASA|ASACOL|3-CARBOXY-4-HYDROXYANILINE|2-HYDROXY-5-AMINOBENZOIC ACID|M-AMINOSALICYLIC ACID|MESALAMINE|MESALAZINE|PENTASA|SALICYLIC ACID, 5-AMINO-|SALOFALK	89-57-6	PHYSICAL DESCRIPTION: Odorless white to pinkish crystals or purplish-tan powder. Aqueous solutions acidic (pH approximately 4.1 at 0.8 mg/L water) . (NTP, 1992)	1.0	2.5	5.0	1073.0	82.0	327.0	117.0	141.0	140.0	11.0	42.0	15.0	18.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
309	ABAMECTIN	ABAMECTIN|AVERMECTIN B1	71751-41-2	Odorless off-white to yellow crystals from methanol. Does not hydrolyze in water at pH 3, 5, 7. Used as an acaricide and insecticide.	1.0	2.5	5.0	1078.0	82.0	327.0	117.0	141.0	141.0	11.0	42.0	15.0	18.0	(BLOB)	Flash point data for this chemical is not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
310	ACETIC ANHYDRIDE	ACETIC ACID ANHYDRIDE|ACETIC ACID, ANHYDRIDE (9CI)|ACETIC ANHYDRIDE|ACETIC OXIDE|ACETYL ACETATE|ACETYL ANHYDRIDE|ACETYL ETHER|ACETYL OXIDE|ETHANOIC ANHYDRATE|ETHANOIC ANHYDRIDE	108-24-7	A clear colorless liquid with a strong odor of vinegar. Flash point 129Â°F. Corrosive to metals and tissue. Density 9.0 lb /gal. Used to make fibers, plastics, pharmaceuticals, dyes, and explosives.	2.5	5.0	2.5	1078.0	82.0	327.0	117.0	141.0	141.0	11.0	42.0	15.0	18.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
311	ACETYLSALICYLIC ACID	(BLOB)	50-78-2	PHYSICAL DESCRIPTION: Odorless white crystals or crystalline powder with a slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	1078.0	82.0	327.0	117.0	141.0	141.0	11.0	42.0	15.0	18.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of sulfur oxides, phosphorus oxides, and chlorides. Incompatible with piperonyl butoxide. Stable in water. (EPA, 1998)	Use organic vapor respirator, rubber gloves, and goggles. Dike fire control water for disposal later. This material may burn but does not ignite easily. Extinguish with water, foam, carbon dioxide, or dry chemicals (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
306	4-AMINOBENZENE SULFONIC ACID		Dust respirator; rubber gloves; goggles or face shield; protective clothing (USCG, 1999)	Water soluble. Deliquescent	Salts, basic, such as COBALT ACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.							0																			(USCG, 1999)		284	
307	4-HYDROXYPYRAZOLO(3,4-D)PYRIMIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. The resulting solution is acidic.	Does not react strongly as either oxidizing agents or reducing agents but such behavior is not impossible. The aqueous solutions are acidic. May catalyze organic reactions.						0																			(NTP, 1992)		206.2	
308	5-AMINOSALICYLIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Foams in water.	COCONUT OIL ACID DIETHANOLAMINE CONDENSATE (2/1) is a mixture of amines. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		greater than 200															(NTP, 1992)			less than 50
309	ABAMECTIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NTP, 1992)			360 to 363
310	ACETIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Alcohols and polyols vary widely in toxicity. Among the most toxic are methyl and allyl alcohol, which act as nervous system depressants.						0																			(NTP, 1992)	(decomposes)	680	
311	ACETYLSALICYLIC ACID	Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water. This compound hydrolyzes slowly under alkaline conditions.	Organothiophosphates, such as COUMAPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. It reacts with strong oxidizing agents and alkaline materials. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Not Applicable. Combustible solid.																(EPA, 1998)		196	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_range	sg_value	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_n_otes	molwgt_value	molwgt_range	molwgt_unit	hdln_value	hdln_note	hdln_source	hdln_range	solbty_source	solbty_notes	solbty_value	solbty_unit	solbty_range	chrts_codes	def_labels	formulas	incompatible_substances	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
306	4-AMINOBENZENESULFONIC ACID																	1.71		68							(USCG, 1999)																								5.0
307	4-HYDROXYPYRAZOLO(3,4-D)PYRIMIDINE																																																5.0
308	5-AMINOSALICYLIC ACID	(NTP, 1992)	(EPA, 1998)	; 153 mm Hg at 118Å° F; 34.1 mm Hg at 147Å° F	5.3		73																																											5.0
309	ABAMECTIN																										(USCG, 1999)																								5.0
310	ACETIC ANHYDRIDE																																																	5.0
311	ACETYLSALICYLIC ACID	(EPA, 1998)						mm Hg																																										5.0

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_range	sg_value	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_n_otes	molwgt_value	molwgt_range	molwgt_unit	hdln_value	hdln_note	hdln_source	hdln_range	solbty_source	solbty_notes	solbty_value	solbty_unit	solbty_range	chrts_codes	def_labels	formulas	incompatible_substances	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
312	ACRYLONITRILE, INHIBITED	ACRITET|ACRYLON|ACRYLONITRILE|ACRYLONITRILE MONOMER|ACRYLONITRILE, INHIBITED|AN|CARBACRYL|CYANOETHENE|CYANOETHYLENE|ENT 54|FUMIGRAIN|MILLER'S FUMIGRAIN|NCI-C50215|PROPENENITRILE|2-PROPENENITRILE|PROPENONITRILE|TL 314|VCN|VENTOX|VINYL CYANIDE	107-13-1	A clear colorless liquid with a strong pungent odor. Flash point 32Â°F. Prolonged exposure to the vapors or skin contact harmful. Density 6.7 lb / gal. Vapors heavier than air. Combustion produces toxic oxides of nitrogen. Requires storage and handling in closed systems. Used in insecticides and to make plastics, fibers and other chemicals. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 17 ppm Source/use/other hazard: Plastics, coatings, adhesives industries; dyes; pharmaceuticals; flam gas.	2.5	5.0	2.5	1078.0	82.0	327.0	117.0	141.0	141.0	11.0	42.0	15.0	18.0	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Call 911 or emergency medical service. Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air, refer to GUIDE 136. Nitrates are oxidizers and may ignite other combustibles, refer to GUIDE 141. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). Dike fire-control water for later disposal. (ERG, 2012)
313	ADIPIC ACID	ACIFLOCTIN|ACINETTEN|ADILACTETTEN|ADIPIC ACID|ADIPINIC ACID|ASAPIC|1,4-BUTANEDICARBOXYLIC ACID|HEXANEDIOIC ACID|1,6-HEXANEDIOIC ACID|INIPOL DS	124-04-9	Adipic acid is a white crystalline solid. It is insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to make plastics and foams and for other uses.	1.0	2.5	5.0	1078.0	82.0	327.0	117.0	141.0	141.0	11.0	42.0	15.0	18.0	(BLOB)	Behavior in Fire: Heavy, irritating black smoke is formed. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
314	ALUMINUM CHLORIDE, ANHYDROUS	ALUMINIUM CHLORIDE|ALUMINIUM TRICHLORIDE|ALUMINUM CHLORIDE|ALUMINUM CHLORIDE (ANHYDROUS)|ALUMINUM CHLORIDE, ANHYDROUS|ALUMINUM CHLORIDE, [ANHYDROUS]|ALUMINUM TRICHLORIDE|ALUMINUM(III) CHLORIDE|ANHYDROUS ALUMINUM CHLORIDE|TK FLOCK|TRICHLOROALUMINUM	7446-70-0	A white to gray powder with a pungent odor. Corrosive to tissue and toxic by ingestion.	1.0	2.5	5.0	1083.0	82.0	327.0	117.0	141.0	142.0	11.0	42.0	15.0	18.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled using a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
315	ALUMINUM CHLORIDE, SOLUTION	ALUMINIUM CHLORIDE|ALUMINIUM TRICHLORIDE|ALUMINUM CHLORIDE|ALUMINUM CHLORIDE SOLUTION|ALUMINUM CHLORIDE, SOLUTION|ALUMINUM TRICHLORIDE|ALUMINUM(III) CHLORIDE|TK FLOCK|TRICHLOROALUMINUM	7446-70-0	A straw-colored liquid. Denser than water. Contact may cause severe irritation to skin, eyes, and mucous membranes. May be toxic by ingestion.	2.5	5.0	2.5	1088.0	82.0	332.0	117.0	141.0	143.0	11.0	43.0	15.0	18.0	Immediately place under medical care. INHALATION: Remove from further exposure. EYES: Flush with copious amounts of water. SKIN: Wash with soap and water. INGESTION: Induce vomiting and follow with gastric lavage at the earliest possible time. Administer a saline cathartic and an enema. (USCG, 1999)	Special Hazards of Combustion Products: Toxic metal fumes Behavior in Fire: Can emit toxic metal fumes. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
316	AMMONIUM ACETATE	ACETIC ACID, AMMONIUM SALT|AMMONIUM ACETATE	631-61-8	A white crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in chemical analysis, in pharmaceuticals, in preserving foods, and for other uses.	1.0	2.5	5.0	1093.0	82.0	332.0	122.0	141.0	144.0	11.0	43.0	16.0	18.0	INHALATION: remove to fresh air; if exposure has been prolonged, watch for symptoms of oxalate poisoning (nausea, shock, collapse, and convulsions). INGESTION: give large amount of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic carbon monoxide gas may form in fire. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
312	ACRYLONITRILE, INHIBITED	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dike to collect large liquid spills. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection. (ERG, 2012)	Dissolves in water forming a weak solution of nitric acid, the reaction is not hazardous.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979. p. 108-109]. Dissolves in water forming a weak solution of nitric acid, the reaction is not hazardous.	Strong Oxidizing Agent; Radioactive Material	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									
313	ADIPIC ACID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	All-service canister mask; rubber gloves; chemical safety goggles and/or face shield; overalls or a neoprene apron; barrier creams. (USCG, 1999)	This chemical may be air sensitive. Insoluble in water.	Phenols, such as CREOSOTE, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. This compound is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		165											(USCG, 1999)		637		(NTP, 1992)	Varies		
314	ALUMINUM CHLORIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Insoluble in water.	2-NITROETHANOL is incompatible with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides. It has exploded under vacuum distillation(attributed to the presence of peroxides or alkali). (NTP, 1992)					0		(NTP, 1992)		greater than 235											(NTP, 1992)		-112	
315	ALUMINUM CHLORIDE, SOLUTION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves, safety glasses, respirator. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	LEAD TUNGSTATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																	(USCG, 1999)		2053.4	
316	AMMONIUM ACETATE		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Insoluble in water.	CUPRIC OXALATE dissolves in aqueous ammonia and reacts as an acid to neutralize other bases as well. Can serve as a reducing agent in reactions that generate carbon dioxide.								0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
312	ACRYLONITRILE, INHIBITED																													(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3									Radioactive(Corrosive	U(NO3)2O2.6H2O (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	53.0	4.0	5.0
313	ADIPIC ACID	(NTP, 1992)	; 64 mm Hg at 124Â° F; 86 mm Hg at 167Â° F	42		72		mm Hg							(USCG, 1999)			1.05 to 1.09	59		(NTP, 1992)		397		760		(NTP, 1992)	Varies							(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL	CCT	Class 9			18.0	1.0	67.0	4.0	5.0
314	ALUMINUM CHLORIDE, ANHYDROUS														(NTP, 1992)		1.27		59		(NTP, 1992)		381		765		(NTP, 1992)		91.07						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C2H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	99.0	4.0	5.0
315	ALUMINUM CHLORIDE, SOLUTION														(USCG, 1999)	8.235 at 68Â° F (Stolzite) 8.46 at 68Â° F (Raspite)					(USCG, 1999)		455.13														LTU	Poison	PbWO4		10.0	1.0	99.0	4.0	5.0
316	AMMONIUM ACETATE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		160.6											COL		C2CuO4 1|2H2O|C2CuO4		18.0	1.0	65.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
317	AMMONIUM BIFLUORIDE, SOLID	ACID AMMONIUM FLUORIDE|AMMONIUM ACID FLUORIDE|AMMONIUM BIFLUORIDE|AMMONIUM BIFLUORIDE (NH4HF2)|AMMONIUM BIFLUORIDE (NH5F2)|AMMONIUM BIFLUORIDE, SOLID|AMMONIUM DIFLUORIDE|AMMONIUM DIFLUORIDE (NH4HF2)|AMMONIUM FLUORIDE (NH4HF2)|AMMONIUM FLUORIDE COMPOUND WITH HYDROGEN FLUORIDE (1:1)|AMMONIUM FLUORIDE HYDROFLUORIDE|AMMONIUM HYDROFLUORIDE (NH4HF2)|AMMONIUM HYDROFLUORIDE (NH5F2)|AMMONIUM HYDROGEN BIFLUORIDE|AMMONIUM HYDROGEN DIFLUORIDE|AMMONIUM	1341-49-7	A white crystalline solid. Soluble in water. Corrosive to tissue. Used to sterilize food processing equipment, in chemical analysis, for electroplating and for many other uses.	1.0	2.5	5.0	1098.0	82.0	332.0	122.0	141.0	145.0	11.0	43.0	16.0	18.0	INHALATION: remove from exposure; support respiration; call physician. EYES: irrigate with copious quantities of water for at least 15 min.; call physician. SKIN: wash with large amounts of water. INGESTION: give large amounts of water. (USCG, 1999)	Behavior in Fire: Irritating vapors of ethylenediamine may be produced when heated. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
318	AMMONIUM BIFLUORIDE, SOLUTION	ACID AMMONIUM FLUORIDE|AMMONIUM BIFLUORIDE|AMMONIUM BIFLUORIDE (NH4HF2)|AMMONIUM BIFLUORIDE (NH5F2)|AMMONIUM BIFLUORIDE, SOLUTION|AMMONIUM DIFLUORIDE|AMMONIUM DIFLUORIDE (NH4HF2)|AMMONIUM FLUORIDE (NH4HF2)|AMMONIUM FLUORIDE COMPOUND WITH HYDROGEN FLUORIDE (1:1)|AMMONIUM FLUORIDE HYDROFLUORIDE|AMMONIUM HYDROFLUORIDE (NH4HF2)|AMMONIUM HYDROFLUORIDE (NH5F2)|AMMONIUM HYDROGEN BIFLUORIDE|AMMONIUM HYDROGEN DIFLUORIDE|AMMONIUM HYDROGEN DIFLUORIDE (NH4(HF2))|AMMONIUM	1341-49-7	Ammonium bifluoride solution is the white crystalline solid dissolved in water. It is corrosive to metals and tissue. It is used in ceramics.	1.0	2.5	5.0	1098.0	82.0	332.0	122.0	141.0	145.0	11.0	43.0	16.0	18.0	(BLOB)		
319	AMMONIUM FLUORIDE	AMMONIUM FLUORIDE|AMMONIUM FLUORIDE (FH4N)|AMMONIUM FLUORIDE (NH4F)|NEUTRAL AMMONIUM FLUORIDE	12125-01-8	Ammonium fluoride is a white crystalline solid. It is soluble in water. It is noncombustible. It is corrosive to aluminum. It is used in chemical analysis, in brewing, and as a preservative for wood.	1.0	2.5	5.0	1098.0	82.0	332.0	122.0	141.0	145.0	11.0	43.0	16.0	18.0	INHALATION: move to fresh air. INGESTION: give large amounts of water; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and toxic and flammable acetonitrile vapors may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
320	AMMONIUM PERSULFATE	AMMONIUM PEROXIDODISULFATE|AMMONIUM PEROXYDISULFATE|AMMONIUM PEROXYDISULFATE ((NH4)2S2O8)|AMMONIUM PEROXYSULFATE|AMMONIUM PERSULFATE|AMMONIUM PERSULPHATE|BIS(AMMONIUM) PEROXODISULFATE|DIAMMONIUM PEROXYDISULFATE|DIAMMONIUM PEROXYDISULPHATE|DIAMMONIUM PERSULFATE|PANREAC PA|PEROXYDISULFURIC ACID, DIAMMONIUM SALT	7727-54-0	A white crystalline solid. A strong oxidizing agent. Does not burn readily, but may cause spontaneous ignition of organic materials. Used as a bleaching agent and as a food preservative.	1.0	2.5	5.0	1103.0	82.0	332.0	122.0	141.0	146.0	11.0	43.0	16.0	18.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
321	ANTIMONY TRIOXIDE	A 1582|100A|A1530|A1582|A1588 LP|ANTIMONIOUS OXIDE|ANTIMONY BLOOM 100A|ANTIMONY BLOOM 500A|ANTIMONY OXIDE|ANTIMONY OXIDE (O3SB2)|ANTIMONY OXIDE (SBO1.5)|ANTIMONY PEROXIDE|ANTIMONY SESQUIOXIDE|ANTIMONY TRIOXIDE|ANTIMONY TRIOXIDE (SB2O3)|ANTIMONY WHITE|ANTIMONY(3+) OXIDE|ANTOX|AP 50|AP 50 (METAL OXIDE)|AT 3|AT 3B|ATOX B|ATOX F|ATOX S|C.I. 77052|C.I. PIGMENT WHITE 11|CHEMETRON FIRE SHIELD|CI 77052|CI PIGMENT WHITE 11|DECHLORANE A-O|DIANTIMONY TRIOXIDE|EXITELITE|FCP 100|FIRE CUT AT 3|FIRESHIELD FSPO 405|FLAME CUT 610|FLAME CUT 610R|FLOWERS OF ANTIMONY|LSB 80NCI-	1309-64-4	Antimony trioxide is a white crystalline solid. It is insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to fireproof fabrics, paper and plastics, as a paint pigment and for many other uses.	1.0	2.5	5.0	1108.0	82.0	332.0	122.0	141.0	147.0	11.0	43.0	16.0	18.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush immediately with copious amounts of water for at least 15 minutes. SKIN: Wash immediately with soap and water with copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes under fire conditions. Vapor may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
317	AMMONIUM BIFLUORIDE, SOLID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield; organic canister mask; rubber gloves; protective clothing. (USCG, 1999)	Water soluble.	CUPRIETHYLENEDIAMINE, SOLUTION is basic. Dissolves cotton, wood, and other cellulosic materials. Corrosive to copper, aluminum, zinc, and tin (USCG, 1999).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
318	AMMONIUM BIFLUORIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Slightly soluble in hot water (NTP, 1992).	CURCUMIN is sensitive to light and changes in pH. This compound may react with oxidizing materials. (NTP, 1992)					0																						(NTP, 1992)			356 to 361
319	AMMONIUM FLUORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	White, moderately toxic solid, combustible. When heated to decomposition it emits toxic fumes of nitrile and oxides of nitrogen. A stirred mixture with furfuryl alcohol exploded violently upon heating [MCA Case History No 858].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																						(USCG, 1999)			151
320	AMMONIUM PERSULFATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts exothermically with water, especially if catalyzed or heated, to generate fumes of hydrochloric acid. Very slightly soluble in water.	(BLOB)	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
321	ANTIMONY TRIOXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Flammable. Insoluble in water.	CYCLOHEXANOL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		136																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
317	AMMONIUM BIFLUORIDE, SOLID														(USCG, 1999)	(est.)		greater than 1.1	68		(USCG, 1999)	(approx.)	212		760		(USCG, 1999)	Mixture												CES	Corrosive|Poison	Cu(C2H8N2)2(OH)2	Mineral-Based & Clay-Based Absorbents	17.0	1.0	68.0	4.0	5.0
318	AMMONIUM BIFLUORIDE, SOLUTION														(NTP, 1992)		0.9348		59								(NTP, 1992)		368.37						(NTP, 1992)	Slightly soluble (hot)						C21H20O6	Dirt/Earth	17.0	1.0	68.0	4.0	5.0
319	AMMONIUM FLUORIDE														(USCG, 1999)			greater than 1.1	68								(USCG, 1999)		85.06											CYA	Corrosive	C3H3NO2		17.0	1.0	68.0	4.0	5.0
320	AMMONIUM PERSULFATE																																								Corrosive	C3Cl3N3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	15.0	1.0	55.0	4.0	5.0
321	ANTIMONY TRIOXIDE														(USCG, 1999)		0.966				(USCG, 1999)		350		760		(USCG, 1999)		142.2											CYC	Flammable Liquid	C8H14O2		16.0	1.0	60.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
322	BARIUM CARBONATE	BARIUM CARBONATE|BARIUM CARBONATE (1:1)|BARIUM CARBONATE (BACO3)|BARIUM MONOCARBONATE|BF 1|BF 1 (SALT)|BW-C3|BW-P|C.I. 77099|C.I. PIGMENT WHITE 10|PIGMENT WHITE 10	513-77-9	Barium carbonate is a white powder. It is insoluble in water and soluble in most acids, with the exception of sulfuric acid. It has a specific gravity of 4.275. It is toxic by ingestion.	1.0	2.5	5.0	1108.0	82.0	332.0	122.0	141.0	147.0	11.0	43.0	16.0	18.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
323	BARIUM CHLORIDE	BA 0108E|BARIUM CHLORIDE|BARIUM DICHLORIDE	10361-37-2	PHYSICAL DESCRIPTION: White crystals. A salt arising from the direct reaction of barium and chlorine. Toxic by ingestion. (NTP, 1992)	1.0	2.5	5.0	1113.0	87.0	337.0	132.0	146.0	148.0	12.0	44.0	18.0	19.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
324	BARIUM CHLORIDE DIHYDRATE	BARIUM CHLORIDE (BACL2) HYDRATE (1:2)|BARIUM CHLORIDE DIHYDRATE|BARIUM CHLORIDE, DIHYDRATE|BARIUM DICHLORIDE DIHYDRATE|NCI-C61074	10326-27-9	PHYSICAL DESCRIPTION: White crystalline solid with a bitter, salty taste. (NTP, 1992)	1.0	2.5	5.0	1113.0	87.0	337.0	132.0	146.0	148.0	12.0	44.0	18.0	19.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
325	BARIUM HYDROXIDE MONOHYDRATE	BARIUM HYDROXIDE MONOHYDRATE|BARIUM HYDROXIDE, MONOHYDRATE	22326-55-2	Barium hydroxide monohydrate is a white powder. It is slightly soluble in water. It is corrosive to metals and tissue. It is used in water purification, to make lubricating and oil additives, to make barium containing chemicals and for many other uses.	1.0	2.5	5.0	1118.0	87.0	342.0	132.0	146.0	149.0	12.0	45.0	18.0	19.0	Call a doctor. INHALATION: Remove from exposure. If cyanotic, oxygen can be administered. EYES: Flush with copious amounts of water. SKIN: Remove all contaminated clothing. Wash with lukewarm water and soap. INGESTION: Induce vomiting. Administer gastric lavage. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes of oxides of nitrogen. Behavior in Fire: May explode when exposed to heat or flame. (USCG, 1999)	Fire Extinguishing Agents: Water, CO 2 , dry chemical (USCG, 1999)
326	BARIUM NITRATE	BARIUM DINITRATE|BARIUM NITRATE|BARIUM NITRATE (BA(NO3)2)|BARIUM SALT OF NITRIC ACID|BARIUM(II) NITRATE|BARIUM(II) NITRATE (1:2)|NITRIC ACID BARIUM SALT (2:1)	10022-31-8	A white crystalline solid. Noncombustible, but accelerates burning of combustible materials. If large quantities are involved in fire or the combustible material is finely divided, an explosion may result. May explode under prolonged exposure to heat or fire. Toxic oxides of nitrogen produced in fires.	1.0	2.5	5.0	1123.0	87.0	342.0	132.0	146.0	150.0	12.0	45.0	18.0	19.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
327	BENZALDEHYDE	ALMOND ARTIFICIAL ESSENTIAL OIL|ARTIFICIAL ALMOND OIL|BENZALDEHYDE|BENZALDEHYDE FFC|BENZENECARBOXALDEHYDE|BENZENECARBONAL|BENZENECARBOXALDEHYDE|BENZOICALDEHYDE|NCI-C56133|OIL OF BITTER ALMOND|PHENYLFORMALDEHYDE|PHENYLMETHANAL	100-52-7	A clear colorless to yellow liquid with a bitter almond odor. Flash point near 145Â°F. More denser than water and insoluble in water. Hence sinks in water. Vapors are heavier than air. The primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways. Used in flavoring and perfume making.	2.5	5.0	2.5	1128.0	87.0	342.0	132.0	146.0	151.0	12.0	45.0	18.0	19.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
322	BARIUM CARBONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	3,4-DIMETHOXYANILINE is sensitive to prolonged exposure to light. (NTP, 1992) Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			189 to 190
323	BARIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Insoluble in water.	3,4-DIMETHYLPHENOL is incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. It corrodes steel, brass, copper, and copper alloys. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			144.5	
324	BARIUM CHLORIDE DIHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	CYCLOPHOSPHAMIDE is sensitive to exposure to light (darkens). Also sensitive to oxidation. Aqueous solutions may be kept for a few hours at room temperature, but hydrolysis occurs at temperatures above 86Â°F. Solutions in DMSO, 95% ethanol or acetone are stable for 24 hours under normal lab conditions. Incompatible with benzyl alcohol. Undergoes both acid and base hydrolysis at extreme pHs (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			106 to 113
325	BARIUM HYDROXIDE MONOHYDRATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Safety glasses with side shield or safety goggles and plastic face shield. Self-contained breathing apparatus or air line mask. Butyl rubber gloves, boots and protective clothing. (USCG, 1999)	Insoluble in water.	3,4-DINITROTOLUENE may explode when exposed to heat or flame (USCG, 1999).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(est.)	404																	(USCG, 1999)			141.8	
326	BARIUM NITRATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Likely hydrolyzed by water, rapidly hydrolyzed by dilute aqueous sodium hydroxide.	Acidic conditions produce hydrogen fluoride; alkaline conditions produce isopropyl alcohol and polymers. When heated to decomposition or reacted with steam, it emits very toxic fumes of fluorides and oxides of phosphorus. Slightly corrosive to steel. Hydrolyzed by water.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
327	BENZALDEHYDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
322	BARIUM CARBONATE																										(NTP, 1992)		153.2						(NTP, 1992)	at 64Â° F		1 to 10	mg/mL		Poison	C8H11NO2		16.0	1.0	79.0	4.0	5.0
323	BARIUM CHLORIDE	(NTP, 1992)	: 5 mm Hg at 200.8Â° F; 10 mm Hg at 225.9Â° F	1		151.2		mm Hg							(NTP, 1992)		0.983		68		(NTP, 1992)		437		760		(NTP, 1992)		122.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H10O		15.0	1.0	85.0	4.0	5.0
324	BARIUM CHLORIDE DIHYDRATE																										(NTP, 1992)		261.1						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL		Poison	C7H15Cl2N2O2P.H2O	Mineral-Based & Clay-Based Absorbents	15.0	1.0	85.0	4.0	5.0
325	BARIUM HYDROXIDE MONOHYDRATE														(USCG, 1999)		1.2594		231.8								(USCG, 1999)		182.13											DNU	Poison	C7H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	64.0	4.0	5.0
326	BARIUM NITRATE																																								Poison	CH3PO(F)OC6H11		16.0	1.0	66.0	4.0	5.0
327	BENZALDEHYDE																																								Poison			13.0	1.0	54.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
328	BENZOIC ACID	BENZENE CARBOXYLIC ACID|BENZENE FORMIC ACID|BENZENECARBOXYLIC ACID|BENZENEFORMIC ACID|BENZENEMETHANOIC ACID|BENZENEMETHONIC ACID|BENZOATE|BENZOIC ACID|CARBOXYBENZENE|CARBOXYLBENZENE|DIACYCLIC ACID|DRACYCLIC ACID|DRACYCLIC ACID|E 210|HA 1|HA 1 (ACID)|PHENYL CARBOXYLIC ACID|PHENYLCARBOXYLIC ACID|PHENYLFORMIC ACID|RETARDED BA|RETARDER BA|RETARDEX|S/ALVO LIQUID|S/ALVO POWDER|SOLVO POWDER|TENN-PLAS|TENNPLAS	65-85-0	A white crystalline solid. Slighly soluble in water. The primary hazard is the potential for environmental damage if released. Immediate steps should be taken to limit spread to the environment. Used to make other chemicals, as a food preservative, and for other uses.	1.0	2.5	5.0	1128.0	87.0	342.0	132.0	146.0	151.0	12.0	45.0	18.0	19.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
329	BENZOPHENONE	ADJUTAN 6016|ALPHA-OXODIPHENYLMETHANE|ALPHA-OXODITANE|BENZENE, BENZOYL-|BENZOPHENONE|BENZOYLBENZENE|BENZOYLBENZENE|DIPHENYL KETONE|DIPHENYLMETHANONE|DIPHENYLMETHANONE|KAYACURE BP|PHENYL KETONE	119-61-9	White solid with a flowery odor. May float or sink in water. (USCG, 1999)	1.0	2.5	5.0	1128.0	87.0	342.0	132.0	146.0	151.0	12.0	45.0	18.0	19.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
330	BENZYL ALCOHOL	ALPHA-HYDROXYTOLUENE|ALPHA-TOLUENOL|BENZAL ALCOHOL|BENZENECARBINOL|BENZENEMETHANOL|BENZOYL ALCOHOL|BENZYL ALCOHOL|BENZYLIC ALCOHOL|HYDROXYMETHYL)BENZENE|HYDROXYTOLUENE|NCI-C06111|PHENOLCARBINOL|PHENYLCARBINOL|PHENYLMETHANOL|PHENYLMETHYL ALCOHOL|SUNMORL BK 20	100-51-6	A clear colorless liquid with a pleasant odor. Slightly denser than water. Flash point 194Â°F. Boiling point 401Â°F. Contact may irritate skin, eyes, and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	1133.0	87.0	342.0	132.0	146.0	152.0	12.0	45.0	18.0	19.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
331	BUTYLATED HYDROXYTOLUENE	(BLOB)	128-37-0	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	1138.0	87.0	342.0	132.0	146.0	153.0	12.0	45.0	18.0	19.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
332	C.I. ACID BLACK 1	(BLOB)	1064-48-8	PHYSICAL DESCRIPTION: Dark brown granular solid. (NTP, 1992)	1.0	2.5	5.0	1138.0	87.0	342.0	132.0	146.0	153.0	12.0	45.0	18.0	19.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
333	C.I. PIGMENT RED 3	(BLOB)	2425-85-6	PHYSICAL DESCRIPTION: Yellowish-red to red powder or solid. (NTP, 1992)	1.0	2.5	5.0	1138.0	87.0	342.0	132.0	151.0	153.0	12.0	45.0	18.0	20.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	hpa_spec_lab	hpa_react	hpa_flam	hpa_heat_lh	hpa_nore	hpa_sour_ce	el_sour_ce	el_note	fp_note	fp_value	fp_range	el_range	el_value	el_note	el_source	el_unit	uel_unit	uel_range	uel_value	uel_note	uel_sour_ce	al_range	al_value	al_note	mp_sour_ce	mp_note	mp_value	mp_range
333	C.I. PIGMENT RED 3	SMALL SPILLS AND LEAKAGE. If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS. You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the meat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	No rapid reaction with air. No rapid reaction with water.	A nitrated ketone. Ketones are reactive with many acids and bases Ilkerating heat an flammable gases (e.g. H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes. HNO3 + H2O2, and HClO4.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																														
330	BENZYL ALCOHOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	MAGNESIUM FLUOROSILICATE gives basic aqueous solutions. Reacts with acids. Does not usually react as either oxidizing agents or reducing agents.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																														
329	BENZOPHENONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS. You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the meat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3-BROMOBIPHENYL may be sensitive to light. This compound may react with oxidizing materials. (NTP, 1992)					0																							430 to 437
328	BENZOIC ACID	SMALL SPILLS AND LEAKAGE. If you spill this chemical, you should dampen the solid spill material with water, then transfer the material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS. You should store this material under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the meat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Can be explosive when suspended in air at specific concentrations. Insoluble in water.	DSC RED 9 is incompatible with strong oxidizing agents. (NTP, 1992) [Details on specifics of reactivity not yet available.]]	Explosive				0																							649 to 653
332	C.I. ACID BLACK 1	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS. You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the meat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	A nitrated ketone. Reactions are reactive with many acids and bases Ilkerating heat an flammable gases (e.g. H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Reasons react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes. HNO3 + H2O2, and HClO4.						0																							430 to 437

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
328	BENZOIC ACID														(NTP, 1992)		1.73												888.99						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			Ba(C17H12ClN2O4S)2		19.0	1.0	85.0	4.0	5.0
329	BENZOPHENONE																				(NTP, 1992)			570 to 574	760		(NTP, 1992)		233.12						(NTP, 1992)	Insoluble						C12H9Br		15.0	1.0	65.0	4.0	5.0
330	BENZYL ALCOHOL																																									Poison	MgSiF6.(H2O)6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	17.0	1.0	83.0	4.0	5.0
331	BUTYLATED HYDROXYTOLUENE	(NTP, 1992)	; 31.3 mm Hg at 108Â° F	15.5		77		mm Hg							(NTP, 1992)		0.965		68		(NTP, 1992)		446		760		(NTP, 1992)		150.22						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Poison	C10H14O	Dirt/Earth	17.0	1.0	74.0	4.0	5.0
332	C.I. ACID BLACK 1																											(NTP, 1992)		225.21													C13H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	68.0	4.0	5.0
333	C.I. PIGMENT RED 3	(NTP, 1992)	; 21.4 mm Hg at 86.0Â° F	14.8		64.4		mm Hg							(NTP, 1992)		1.071		76.8									(NTP, 1992)		367.72						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C16H21Cl3O3		13.0	1.0	53.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
334	C.I. PIGMENT YELLOW 74	ACETANIL YELLOW 2G0768|C.I. 11741|C.I. PIGMENT YELLOW 74|DALAMAR YELLOW|DALAMAR YELLOW YT 763P|DALAMAR YELLOW YT 839P|DALAMAR YELLOW YT 858D|HANSA BRILLIANT YELLOW 2GX70|HANSA BRILLIANT YELLOW 5GX|HANSA BRILLIANT YELLOW 5GX02|HANSA YELLOW GLN|HELIO FAST YELLOW 2GX|LUNA YELLOW|2-((2-METHOXY-4-NITROPHENYL)AZO)-N-(2-METHOXYPHENYL)-3-OXOBUTANAMIDE|NCI-C61132|O-ACETOACETANISIDIDE, 2-[(2-METHOXY-4-NITROPHENYL)AZO]-|PERMANENT YELLOW, LEAD FREE|PIGMENT YELLOW 5GX|PIGMENT YELLOW 74|PONOLITH YELLOW Y|SEGNALE LIGHT YELLOW 2GA|SEGNALE	6358-31-2	PHYSICAL DESCRIPTION: Bright yellow powder. Considerable change and tendency to sublime when heated to melting point. (NTP, 1992)	1.0	2.5	5.0	1143.0	87.0	342.0	132.0	151.0	154.0	12.0	45.0	18.0	20.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
335	CAFFEINE	ALERT-PEP|ANHYDROUS CAFFEINE|CAFEINA|CAFFEIN|CAFFEINE|CAFFENIUM|CAFIPEL|COFFEINE|3,7-DIHYDRO-1,3,7-TRIMETHYL-1H-PURINE-2,6-DIONE|ELDIATRIC C|GUARANINE|KOFFEIN|MATEINA|METHYLTHEOBROMIDE|METHYLTHEOBROMINE|I-METHYLTHEOBRGMINE|7-METHYLTHEOPHYLLINE|NCI-C02733|NO-DOZ|ORGANEX|REFRESH'N|STIM|THEIN|THEINE|TRI-AQUA|1,3,7-TRIMETHYL-2,6-DIOXO-1,2,3,6-TETRAHYDROPURINE|1,3,7-TRIMETHYL-2,6-DIOXOPURINE|1,3,7-TRIMETHYLXANTHINE	58-08-2	PHYSICAL DESCRIPTION: Odorless white powder or white glistening needles, usually melted together. Bitter taste. Solutions in water are neutral to litmus. Odorless. (NTP, 1992)	1.0	2.5	5.0	1143.0	87.0	342.0	132.0	151.0	154.0	12.0	45.0	18.0	20.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Keep unnecessary people away; isolate hazard area. Stay upwind and keep out of low areas. Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Extinguish fire with water, foam, dry chemical, carbon dioxide. (EPA, 1998)
336	CALCIUM CARBIDE	ACETYLENOGEN|CALCIUM ACETYLIDE|CALCIUM ACETYLIDE (CA(C2))|CALCIUM CARBIDE|CALCIUM DICARBIDE|CARBIDE|ETHYNE, CALCIUM DERIV.	75-20-7	Grayish-black irregular lump solid. Used to make acetylene and in steel manufacture.	1.0	2.5	5.0	1143.0	87.0	342.0	132.0	151.0	154.0	12.0	45.0	18.0	20.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
337	CALCIUM FLUORIDE	CALCIUM FLUORIDE|FLUORSPAR|FLUOSPAR	7789-75-5	Odorless gray powder or granules. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1143.0	87.0	342.0	132.0	151.0	154.0	12.0	45.0	18.0	20.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
338	CALCIUM PHOSPHATE	CALCIUM BIPHOSPHATE|CALCIUM PHOSPHATE|CALCIUM PYROPHOSPHATE|CALCIUM SUPERPHOSPHATE|DCP|DICALCIUM PHOSPHATE|MCP|MONOCALCIUM PHOSPHATE MONOHYDRATE	7758-87-4	Odorless white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1148.0	87.0	342.0	132.0	151.0	155.0	12.0	45.0	18.0	20.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
334	C.I. PIGMENT YELLOW 74	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4,4'-DICHLORODIPHENYL SULFONE is incompatible with strong oxidizers. (NTP, 1992)								0																				(NTP, 1992)			293 to 298
335	CAFFEINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Slightly soluble in water.	This compound is incompatible with the following: Strong oxidizers (NIOSH, 1997). Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. 4,6-DINITRO-O-CRESOL is explosive and is usually moistened with up to 10 percent water to reduce the hazard. [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	None																		(NIOSH, 2003)		190	
336	CALCIUM CARBIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. Insoluble in water.	4-AMINO-4'-HYDROXY-3-METHYLDIPHENYLAMINE may react with strong oxidizers, mineral acids and bases. (NTP, 1992)								0																				(NTP, 1992)		320	
337	CALCIUM FLUORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	An aldehyde and amine. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.								0																				(NTP, 1992)	(Turbid)	104.9	
338	CALCIUM PHOSPHATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to exposure to air. Insoluble in water.	4-CHLOROBENZALDEHYDE is sensitive to exposure to air. It is also sensitive to light. REACTIVITY: This chemical is incompatible with strong bases, strong oxidizers and strong reducing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		190															(NTP, 1992)			111 to 117

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
334	C.I. PIGMENT YELLOW 74																				(NTP, 1992)	Sublimes					(NTP, 1992)		287.16						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H8Cl2O2S		13.0	1.0	56.0	4.0	5.0
335	CAFFEINE	(EPA, 1998)		5.00E-05				mm Hg	(EPA, 1998)		6.82				(USCG, 1999)	(est)		greater than 1.1	68		(EPA, 1998)		594		760		(NIOSH, 2003)		198.1		(NIOSH, 2003)		5	mg/m3	(NIOSH, 2003)		0.01		%	DNC	Poison	C7H6N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	59.0	4.0	5.0
336	CALCIUM CARBIDE																										(NTP, 1992)		214.27						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C13H14N2O		18.0	1.0	56.0	4.0	5.0
337	CALCIUM FLUORIDE																										(NTP, 1992)		281.4						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C19H23NO	Mineral-Based & Clay-Based Absorbents	13.0	1.0	51.0	4.0	5.0
338	CALCIUM PHOSPHATE														(NTP, 1992)		1.196		142		(NTP, 1992)			415 to 417	760		(NTP, 1992)		140.57						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL		Poison	C7H5ClO	Cellulose-Based Absorbents	16.0	1.0	71.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
339	CAPROLACTAM	6-AMINOCAPROIC ACID LACTAM|AMINOCAPROIC LACTAM|6-AMINOHEXANOIC ACID CYCLIC LACTAM|1-AZA-2-CYCLOHEPTANONE|2-AZACYCLOHEPTANONE|CAPROLACTAM|6-CAPROLACTAM|CYCLOHEXANONE ISO-OXIME|E-CAPROLACTUM|EPSILON-CAPROLACTAM|GAMMA-CAPROLACTAM|2H-AZEPIN-2-ONE,HEXAHYDRO|2H-AZEPIN-7-ONE,HEXAHYDRO|HEXAHYDRO-2-AZEPINONE|HEXAHYDRO-2H-AZEPIN-2-ONE|HEXAHYDRO-2H-AZEPIN-2-ONE (9CI)|HEXAHYDRO-2H-AZEPINE-2-ONE|HEXAMETHYLENIMINE ,2-OXO-|6-HEXANELACTAM|HEXANNIC ACID|HEXANOIC ACID, 6-AMINO-, CYCLIC LACTAM|HEXANOIC ACID-6-LACTAM	105-60-2	Clear to milky white-colored solution with a mild, disagreeable odor. Contact may cause slight irritation to skin, eyes, and mucous membranes. May be mildly toxic by ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. As a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. Used to make other chemicals.	2.5	5.0	2.5	1148.0	87.0	342.0	132.0	151.0	155.0	12.0	45.0	18.0	20.0	Have physician treat for mercury poisoning. EYES or SKIN: flush with water. INGESTION: call a physician; give milk or white of egg beaten with water, then a table- spoon of salt in glass of water; repeat until vomit fluid is clear; repeat milk or white of egg. (USCG, 1999)	Special Hazards of Combustion Products: Smoke may contain toxic mercury compounds. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
340	CARBENDAZIM	(BLOB)	10605-21-7	PHYSICAL DESCRIPTION: Light gray or beige powder. (NTP, 1992)	1.0	2.5	5.0	1148.0	87.0	342.0	132.0	151.0	155.0	12.0	45.0	18.0	20.0	(BLOB)	Combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
341	CASTOR OIL	AROMATIC CASTOR OIL|CASTOR BEAN, OIL|CASTOR OIL|CASTOR OIL 3|CASTOR OIL AROMATIC|3 CASTOR OIL|COSMETOL|CRYSTAL O|DB OIL|ELA-DR|FATS AND GLYCERIDIC OILS, CASTOR|FATS AND GLYCERIDIC OILS, RICIN|GOLD BOND|LAVCO|NCI-C55163|NEOLOID|NO. 3 CASTOR OIL|OIL OF PALMA CHRISTI|OILS, GLYCERIDIC, RICIN|OLEUM RICINI|PHORBYOL|RICINOL|RICINUS COMMUNIS OIL|RICINUS OIL|RICIRUS OIL|TANGANTANGAN OIL|VISCOTROL C	8001-79-4	Pale-yellow or almost colorless transparent viscous liquid with a faint mild odor and nauseating taste. Density 0.95 g / cm3. A mixture of glycerides, chiefly ricinolein (the glyceride of ricinoleic acid) .	2.5	5.0	2.5	1153.0	87.0	342.0	132.0	151.0	156.0	12.0	45.0	18.0	20.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
342	CHLOROACETIC ACID, LIQUID	CHLORACETIC ACID|CHLOROACETIC ACID|CHLOROACETIC ACID (80% OR LESS)|CHLOROACETIC ACID, LIQUID|CHLOROACETIC ACID, SOLUTION|CHLOROACETIC ACID, [LIQUID]|CHLOROETHANOIC ACID|MONOCHLOROACETIC ACID	79-11-8	Chloroacetic acid, solution is a colorless solution of the white crystalline solid. The acid concentration can be up to 80%. It is toxic by inhalation, ingestion and skin contact. It is corrosive to metals and tissue. It is used as an herbicide, preservative and bacteriostat.	1.0	2.5	5.0	1158.0	87.0	342.0	132.0	156.0	157.0	12.0	45.0	18.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
343	CHLOROACETIC ACID, SOLID	ACETIC ACID, CHLORO-|ALPHA-CHLOROACETIC ACID|CHLORACETIC ACID|CHLOROACETIC ACID|CHLOROACETIC ACID, MOLTEN|CHLOROACETIC ACID, SOLID|CHLOROACETIC ACID, [SOLID]|CHLOROETHANOIC ACID|MCA|MKHUK|MONOCHLORACETIC ACID|MONOCHLOROACETIC ACID|MONOCHLOROACETIC ACID SOLUTION|MONOCHLOROETHANOIC ACID|NCI-C60231	79-11-8	Chloroacetic acid, solid is a colorless to light-brown crystalline material. It is soluble in water and sinks in water. Combustible. It is transported as a molten liquid and therefore can cause thermal burns. It is toxic by ingestion, skin absorption and inhalation of dust. It is corrosive to metals and tissue.	1.0	2.5	5.0	1163.0	87.0	342.0	132.0	156.0	158.0	12.0	45.0	18.0	21.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
339	CAPROLACTAM	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Gloves, goggles, respirator (USCG, 1999)	Slighlty water soluble. Decomposes in hot water.	MERCURY AMMONIUM CHLORIDE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
340	CARBENDAZIM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble or slightly soluble in water.	4-CHLOROPHENYL PHENYL ETHER oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	Peroxidizable Compound						0																								
341	CASTOR OIL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as MERPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3278 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
342	CHLOROACETIC ACID, LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Incompatible with water and oxygen. Should be stored air tight, with inhibitor, to prevent polymerization reaction (NTP, 1992).	DIALLYL PHTHALATE can react with oxidizers. It can also react with acids and alkalis. It is incompatible with water and oxygen. (NTP, 1992)	Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	1	2		(NTP, 1992)		230														(NTP, 1992)		-94	
343	CHLOROACETIC ACID, SOLID	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Pyrophoric in dust form [Bretherick 1979. p. 104]. Insoluble in water.	Hydrides, such as TITANIUM HYDRIDE, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
339	CAPROLACTAM														(USCG, 1999)		5.7		68								(USCG, 1999)		252.1		(NIOSH, 2003)	(as Hg)	10	mg/m3						MCC	Poison	ClH2HgN		20.0	2.0	40.0	3.0	5.0
340	CARBENDAZIM														(NTP, 1992)		1.2026		59		(NTP, 1992)			543 to 545	760		(NTP, 1992)		204.66													C12H9ClO		16.0	1.0	63.0	4.0	5.0
341	CASTOR OIL																																								Poison	C12H27PS3		18.0	1.0	66.0	4.0	5.0
342	CHLOROACETIC ACID, LIQUID								(NTP, 1992)		8.3				(NTP, 1992)		1.12		68		(NTP, 1992)		554		760		(NTP, 1992)		246.28						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Class 9	C14H14O4	Mineral-Based & Clay-Based Absorbents(Dirt/ Earth	14.0	1.0	53.0	4.0	5.0
343	CHLOROACETIC ACID, SOLID																																								Flammable Solid	H2Ti		14.0	1.0	53.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
344	CHLOROBENZENE	BENZENE CHLORIDE|BENZENE, CHLORO-|CHLORBENZENE|CHLORBENZOL|CHLOROBENZENE|CHLOROBENZOL|CP 27|IP CARRIER T 40|MCB|MONOCHLORBENZENE|MONOCHLOROBENZENE|NCI-C54886|PHENYL CHLORIDE|TETROSIN SP	108-90-7	A colorless to clear, yellowish liquid with a sweet almond-like odor. Flash point 84Â°F. Practically insoluble in water and somewhat denser than water (9.2 lb / gal). Vapors heavier than air. Used to make pesticides, dyes, and other chemicals.	2.5	5.0	2.5	1163.0	87.0	342.0	132.0	156.0	158.0	12.0	45.0	18.0	21.0	(BLOB)	Methacrylonitrile evolves flammable concentrations of vapor at temperatures down to 55.04F. Thus, at room temperatures, flammable concentrations are liable to be present. Toxic fumes of nitrogen oxides are released when the material burns. Also, the chemical will explode due to its tendency to polymerize violently. Avoid heat. Hazardous polymerization may occur. (EPA, 1998)	Usual precautions for flammable liquid should be applied. (EPA, 1998)
345	CHLORPYRIFOS	(BLOB)	2921-88-2	Chlorpyrifos is a white crystalline or irregularly flaked solid. It has a very faint mercaptan-type odor. It is not soluble in water. It can cause slight irritation to the eye and skin.	1.0	2.5	5.0	1168.0	87.0	342.0	142.0	156.0	159.0	12.0	45.0	20.0	21.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
346	CHOLINE CHLORIDE	(BETA-HYDROXYETHYL)TRIMETHYLAMMONIUM CHLORIDE|BILINEURIN CHLORIDE|BIOCOLINA|BIOCOLINE|CHOLINE CHLORIDE|CHOLINE HYDROCHLORIDE|CHOLINE, CHLORIDE|CHOLINIUM CHLORIDE|HEPACHOLINE|HORMOCLINE|2-HYDROXY-N,N,N-TRIMETHYLETHANAMINIUM CHLORIDE|(2-HYDROXYETHYL)TRIMETHYLAMMONIUM CHLORIDE|LIPOTRIL|LURIDIN CHLORIDE|NEOCOLINA|PARESAN|TRIMETHYL(2-HYDROXYETHYL)AMMONIUM CHLORIDE	67-48-1	PHYSICAL DESCRIPTION: White crystals. Practically neutral aqueous solution. (NTP, 1992)	1.0	2.5	5.0	1168.0	87.0	342.0	142.0	156.0	159.0	12.0	45.0	20.0	21.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
347	CHROMIC ACID, SOLID	CHROMIC ACID|CHROMIC ACID, SOLID|CHROMIC ACID, [SOLID]|CHROMIC OXIDE|CHROMIC(VI) ACID	7738-94-5	Chromic acid, solid is a dark purplish red solid. It is soluble in water with the release of heat. The material itself is noncombustible but it will accelerate the burning of combustible materials. Its solution is corrosive to metals and tissue.	1.0	2.5	5.0	1173.0	87.0	347.0	142.0	156.0	160.0	12.0	46.0	20.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
348	CHROMIC ACID, SOLUTION	CHROMIC ACID|CHROMIC ACID SOLUTION|CHROMIC ACID, SOLUTION|DICHROMIC ACID|DICHROMIC ACID (H2CR2O7)|DICHROMIC(VI) ACID	7738-94-5	A dark red aqueous liquid. Corrosive to metals and tissue. Confirmed human carcinogen.	2.5	5.0	2.5	1178.0	97.0	347.0	142.0	156.0	161.0	14.0	46.0	20.0	21.0	(BLOB)	When heated to decomposition, it emits toxic fumes of mercury. This material may burn but does not ignite readily. Container may explode in heat of fire. (EPA, 1998)	This is an alkyl mercury pesticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution water may cause pollution. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
344	CHLOROBENZENE	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	METHACRYLONITRILE is a colorless, flammable, toxic liquid. Explosive in the form of vapor when exposed to heat, flame or sparks. When heated to decomposition it emits toxic fumes of nitrile and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 829].	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3079 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		55		(NTP, 1992)		2		%	(NTP, 1992)		6.8		%					(EPA, 1998)		-32.4	
345	CHLORPYRIFOS	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Reacts with water, releasing nitrogen, more stable in ether or dioxane.	DIAZOMETHANE undergoes violent thermal decomposition. Above 200Â°C, the vapors may explode violently if rough glass surfaces are present. Explosions at low temperatures can occur if traces of organic matter are present. [J. Phys. Chem. 35:1403(1931)]. Produces explosions with alkali metals. Reacts with copper powder and to some extent all solid surfaces to produce nitrogen and solid white polymethylene. Reacts with dimethylaminodimethylarsine and trimethyltin in ether with vigorous foaming.	Explosive; Water-Reactive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1953 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		-229	
346	CHOLINE CHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere and store it under refrigerator temperature. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-NITRO-1,3-BENZENEDIAMINE is an amine/organonitrate. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																						(NTP, 1992)		322	
347	CHROMIC ACID, SOLID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	4-NITROBIPHENYL is incompatible with the following: Strong reducers (NIOSH, 1997).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		290																		(NIOSH, 2003)		237	
348	CHROMIC ACID, SOLUTION	This is an alkyl mercury pesticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organometallics, such as METHOXYETHYL MERCURIC ACETATE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
344	CHLOROBENZENE	(EPA, 1998)		40		55.04		mm Hg	(EPA, 1998)		2.31				(EPA, 1998)		0.8001		68		(EPA, 1998)		194		760		(EPA, 1998)		67.1						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	MET	Poison Inhalation Hazard|Flammable Liquid	C4H5N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	17.0	1.0	56.0	4.0	5.0
345	CHLORPYRIFOS	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-9		760		(NIOSH, 2003)		42.1		(NIOSH, 2003)		2	ppm	(NIOSH, 2003)	Reacts with water					Poison Gas|Flammable Gas	CH2N2		16.0	1.0	76.0	4.0	5.0
346	CHOLINE CHLORIDE																				(NTP, 1992)						(NTP, 1992)		153.14						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C6H7N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	52.0	4.0	5.0
347	CHROMIC ACID, SOLID																				(NIOSH, 2003)		644		760		(NIOSH, 2003)		199.2		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Insoluble					Poison	C12H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	56.0	4.0	5.0
348	CHROMIC ACID, SOLUTION																										(EPA,, 1998)		318.74												Poison	C5H10HgO3		15.0	1.0	56.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
349	CHROMIUM TRIOXIDE, ANHYDROUS	CHROMIA (CRO3)|CHROMIC ACID (CRO3): CHROMIC ANHYDRIDE|CHROMIC ANHYDRIDE|CHROMIC OXIDE|CHROMIC TRIOXIDE|CHROMIUM (6+) TRIOXIDE|CHROMIUM OXIDE|CHROMIUM OXIDE (CR4O12)|CHROMIUM OXIDE (CRO3)|CHROMIUM TRIOXIDE|CHROMIUM TRIOXIDE, ANHYDROUS|CHROMIUM TRIOXIDE, [ANHYDROUS]|CHROMIUM VI OXIDE|CHROMIUM(VI) OXIDE|CHROMIUM(VI) OXIDE (1:3)|MONOCHROMIUM OXIDE|MONOCHROMIUM TRIOXIDE|PURATRONIC	1333-82-0	A dark purplish red solid. Under prolonged exposure to fire or heat the containers may explode. Highly toxic. A confirmed human carcinogen.	1.0	2.5	5.0	1178.0	97.0	347.0	142.0	156.0	161.0	14.0	46.0	20.0	21.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt, If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
350	COBALT ACETATE	COBALT ACETATE|COBALT ACETATE TETRAHYDRATE|COBALT(II) ACETATE|COBALTOUS ACETATE	71-48-7	Red-violet crystalline solid. Vinegar-like odor. (USCG, 1999)	1.0	2.5	5.0	1183.0	97.0	352.0	142.0	156.0	162.0	14.0	47.0	20.0	21.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
351	COBALT CHLORIDE	COBALT (II) CHLORIDE|COBALT CHLORIDE|COBALTOUS CHLORIDE|COBALTOUS CHLORIDE DIHYDRATE|COBALTOUS CHLORIDE HEXAHYDRATE	7646-79-9	Pink to red solid with a slight sharp odor. Sinks and mixes with water. Pale blue leaflets, turns pink upon exposure to moist air.	1.0	2.5	5.0	1183.0	97.0	352.0	142.0	156.0	162.0	14.0	47.0	20.0	21.0	(BLOB)		
352	COBALT NITRATE	COBALT NITRATE|COBALT(II) NITRATE|COBALTOUS NITRATE|COBALTOUS NITRATE HEXAHYDRATE	10141-05-6	Odorless red solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1188.0	97.0	352.0	142.0	156.0	163.0	14.0	47.0	20.0	21.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
353	COBALT SULFATE	BIEBERITE|COBALT SULFATE|COBALT(II) SULFATE|COBALTOUS SULFATE HEPTAHYDRATE	10124-43-3	Odorless rose-pink solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1188.0	97.0	352.0	142.0	156.0	163.0	14.0	47.0	20.0	21.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
349	CHROMIUM TRIOXIDE, ANHYDROUS	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	4-NITROPHENYLHYDRAZINE is a powerful explosive. It can SELF-IGNITE in the presence of contaminants. Auto-ignition temperature may vary for 4-nitrophenylhydrazine similar to that of hydrazine which has an autoignition of as low as 74oC in contact with iron rust. Dangerous fire hazard or severe explosion can occur when exposed to heat, flame or oxidizing agents. Severe explosion may also occur by chemical reaction with alkali metals; BaO; CuO; K; Na; NH3; Cl2; chromates; CuO; Cu++ salts; F2; H2O2; iron rust; metallic oxides; PbO2;Ni; Ni(ClO4)2; HNO3; N2O; O2; liquid O2; K2Cr2O7; Na2Cr2O7; tetryl; zinc diamide; Zn(C2H5)2. Dangerous; when heated to decomposition it emits highly toxic nitrogen compounds; may explode by heat or chemical reaction. (Sax and Lewis, 1987) under Hydrazine p. 538-539.	Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
350	COBALT ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DIBENZOFURAN is sensitive to prolonged exposure to light (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)			187 to 189
351	COBALT CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																									
352	COBALT NITRATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	Organosulfides, such as 4-THIAPENTANAL, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2		(NFPA, 2010)		142																			
353	COBALT SULFATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Low water solubility (NTP, 1992).	A nitrated unsaturated aliphatic hydrocarbon and aldehyde. The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release hydrogen gas. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.						0																								(NTP, 1992)			223 to 226

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
349	CHROMIUM TRIOXIDE, ANHYDROUS																																								Flammable Solid	C6H7N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	56.0	4.0	5.0
350	COBALT ACETATE								(NTP, 1992)		5.8				(NTP, 1992)		1.0886		210		(NTP, 1992)		549		760		(NTP, 1992)		168.19						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C12H8O		19.0	1.0	71.0	4.0	5.0
351	COBALT CHLORIDE																										(NTP, 1992)		176.16						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C9H8N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	76.0	4.0	5.0
352	COBALT NITRATE																																								Poison	C4H8OS	Cellulose-Based Absorbents	18.0	1.0	56.0	4.0	5.0
353	COBALT SULFATE																										(NTP, 1992)		203.2						(NTP, 1992)	Low solubility						C11H9NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	19.0	1.0	84.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
354	COBALT SULFATE HEPTAHYDRATE	BIEBERITE|COBALT MONOSULFATE HEPTAHYDRATE|COBALT MONOSULPHATE HEPTAHYDRATE|COBALT SULFATE (COSO4) HEPTAHYDRATE|COBALT SULFATE HEPTAHYDRATE|COBALT SULFATE HYDRATE (COSO4.7H2O)|COBALT SULPHATE HEPTAHYDRATE|COBALT(2+) SULFATE HEPTAHYDRATE|COBALT(II) SULFATE (1:1) HEPTAHYDRATE|COBALT(II) SULFATE HEPTAHYDRATE|COBALT(II) SULPHATE HEPTAHYDRATE|COBALTOUS SULFATE HEPTAHYDRATE|COBALTOUS SULPHATE HEPTAHYDRATE|SULFURIC ACID, COBALT(2+) SALT (1:1), HEPTAHYDRATE	10026-24-1	PHYSICAL DESCRIPTION: Pink to red monoclinic prismatic crystals or red granular solid. Odorless. Becomes anhydrous at 788Â°F. (NTP, 1992)	1.0	2.5	5.0	1193.0	97.0	357.0	142.0	156.0	164.0	14.0	48.0	20.0	21.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
355	COPPER CHLORIDE	COPPER BICHLORIDE|COPPER CHLORIDE|COPPER DICHLORIDE|COPPER(2+) CHLORIDE|COPPER(II) CHLORIDE|CUPRIC CHLORIDE|CUPRIC CHLORIDE DIHYDRATE|CUPRIC DICHLORIDE|ERIOCHOLCITE (ANHYDROUS)	7447-39-4	A yellowish-brown powder (the anhydrous form) or a green crystalline solid (the dihydrate). Noncombustible but hydrogen chloride gas may form when heated in a fire. Corrosive to aluminum. Used to manufacture other chemicals, in dyeing, in printing, in fungicides, as a wood preservative.	1.0	2.5	5.0	1198.0	97.0	357.0	142.0	156.0	165.0	14.0	48.0	20.0	21.0	(BLOB)	Nonflammable (NTP, 1992)	This material is considered to be non-flammable. (NTP, 1992)
356	CUMENE HYDROPEROXIDE	ALPHA,ALPHA-DIMETHYLBENZENE HYDROPEROXIDE|ALPHA,ALPHA-DIMETHYLBENZYL HYDROPEROXIDE|ALPHA-CUMENE HYDROPEROXIDE|ALPHA-CUMYL HYDROPEROXIDE|CHP|CUMEN HYDROPEROXIDE|CUMENE HYDROPEROXIDE|CUMENT HYDROPEROXIDE|CUMENYL HYDROPEROXIDE|CUMYL HYDROPEROXIDE|CUMYL HYDROPEROXIDE|DIMETHYLBENZYL HYDROPEROXIDE|HYDROPEROXIDE, 1-METHYL-1-PHENYLETHYL-|HYDROPEROXIDE, ALPHA,ALPHA-DIMETHYLBENZYL|HYPERIZ|ISOPROPYLBENZENE HYDROPEROXIDE|KAYACUMENE H|1-METHYL-1-PHENYLETHYL HYDROPEROXIDE|PERCUMYL H|2-PHENYL-2-PROPYL	80-15-9	Colorless to light yellow liquid with a sharp, irritating odor. Flash point 175Â°F. Boils at 153Â°C and at 100Â°C at the reduced pressure of 8 mm Hg. Slightly soluble in water and denser than water. Hence sinks in water. Readily soluble in alcohol, acetone, esters, hydrocarbons, chlorinated hydrocarbons. Toxic by inhalation and skin absorption. Used in production of acetone and phenol, as a polymerization catalyst, in redox systems.	2.5	5.0	2.5	1198.0	97.0	357.0	152.0	156.0	165.0	14.0	48.0	22.0	21.0	(BLOB)	Flammable/combustible material; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. In addition to the risk of explosion, when air mixtures of ether vapors are heated or exposed to flame or sparks, they tend to form peroxides. Ethers containing peroxides can detonate when heated. Unburned material may form powerful tear gas. When wet, also forms irritating formaldehyde gas. Evolves formaldehyde and hydrogen chloride. When heated to decomposition, it emits toxic fumes of chlorides. Avoid decomposing heat Hazardous polymerization may not occur. (EPA, 1998)	Move container from fire area. Dike fire control water for later disposal; do not scatter material. Cool containers that are exposed to flames with water. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Extinguish with dry chemicals, foam, or carbon dioxide. Water may be ineffective in extinguishing fire. (EPA, 1998)
357	CUPRIC ACETATE	ACETIC ACID CUPRIC SALT|ACETIC ACID, CUPRIC SALT|COPPER ACETATE|COPPER ACETATE (CU(C2H3O2)2)|COPPER ACETATE (CU(MECO2)2)|COPPER ACETATE (CU(OAC)2)|COPPER DIACETATE|COPPER(2+) ACETATE|COPPER(2+) DIACETATE|COPPER(II) ACETATE|CRYSTALLIZED VERDIGRIS|CRYSTALS OF VENUS|CUPRIC ACETATE|CUPRIC ACETATE MONOHYDRATE|CUPRIC DIACETATE|NEUTRAL VERDIGRIS|VENUS COPPER	142-71-2	A blue-green crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as an insecticide, in the preparation of other chemicals, as a fungicide, and mildew preventive.	1.0	2.5	5.0	1198.0	97.0	357.0	152.0	156.0	165.0	14.0	48.0	22.0	21.0	EYES: Flush with water; obtain medical attention. SKIN: Wash with ample water. INGESTION: Induce vomiting. (USCG, 1999)	Not flammable. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
358	CUPRIC CHLORIDE SOLUTION, [AMMONIATED]	CUPRIC CHLORIDE SOLUTION, [AMMONIATED]	7447-39-4	Cupric chloride and ammonia contains various concentrations of cupric chloride in ammonium hydroxide. This forms a copper ammonia complex. It is corrosive to skin, eyes, mucous membranes and metal. This material is used to etch copper from printed circuit boards.	2.5	5.0	2.5	1198.0	97.0	362.0	152.0	156.0	165.0	14.0	49.0	22.0	21.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
354	COBALT SULFATE HEPTAHYDRATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DIBENZO-P-DIOXIN is an ether. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			252 to 253
355	COPPER CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water Soluble. Decomposes in hot water (NTP, 1992).	ZIRCONIUM OXYCHLORIDE HEXAHYDRATE is acidic. Incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].					0																							(NTP, 1992)			302	
356	CUMENE HYDROPEROXIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Denser than water and is decomposed by water to yield hydrochloric acid, a corrosive material. With water the ether reacts to evolve formaldehyde and hydrogen chloride. The reaction is slow at ambient conditions.	METHYL CHLOROMETHYL ETHER Is a halogenated ether. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1239 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5		(EPA, 1998)		32																	(EPA, 1998)			-154.3	
357	CUPRIC ACETATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)			237.2 to 240.8
358	CUPRIC CHLORIDE SOLUTION, [AMMONIATED]	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very hygroscopic. Very soluble in water.	1,2-PROPYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NFPA, 2010)		92																	(NTP, 1992)			-35	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
354	COBALT SULFATE HEPTAHYDRATE																										(NTP, 1992)		184.2						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Class 9	C12H8O2		19.0	1.0	84.0	4.0	5.0
355	COPPER CHLORIDE																			(NTP, 1992)		410		760		(NTP, 1992)		322.25		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NTP, 1992)	Soluble						Cl2OZr.6H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	53.0	4.0	5.0
356	CUMENE HYDROPEROXIDE	(NIOSH, 2003)		192		70		mm Hg							(EPA, 1998)		1.0605		68		(EPA, 1998)		138		760		(EPA, 1998)		80.52		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Reacts with water				CME	Poison Inhalation Hazard|Flammable Liquid	C2H5ClO		20.0	2.0	32.0	3.0	5.0
357	CUPRIC ACETATE								(USCG, 1999)		7.62										(USCG, 1999)		221																	DIC	Class 9	C8H6Cl2O3		13.0	1.0	54.0	4.0	5.0
358	CUPRIC CHLORIDE SOLUTION, [AMMONIATED]								(NTP, 1992)		2.6				(NTP, 1992)		0.8584				(NTP, 1992)		248.9		760		(NTP, 1992)		74.13						(NTP, 1992)	Very soluble					Corrosive|Flammable Liquid	C3H10N2	Mineral-Based & Clay-Based Absorbents	13.0	1.0	53.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
359	CUPRIC NITRATE	CLAYCOP|COPPER DINITRATE|COPPER NITRATE|COPPER NITRATE (CU(NO3)2)|COPPER(2+) NITRATE|COPPER(II) NITRATE|CUPRIC DINITRATE|CUPRIC NITRATE|CUPRIC NITRATE TRIHYDRATE|GERHARDITE	3251-23-8	Obtained as a trihydrate and as a hexahydrate. Both are blue crystalline solids. Used in medicine, as an insecticide, in chemical analysis, in making light sensitive papers. Toxic oxides of nitrogen are produced in fires involving this material.	1.0	2.5	5.0	1203.0	97.0	367.0	152.0	156.0	166.0	14.0	50.0	22.0	21.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
360	CURCUMIN	1,7-BIS(4-HYDROXYMETHOXYPHENYL)-1,6-HEPTADIENE-3,5-DIONE|C YELLOW 15|C.I. 75300|C.I. NATURAL YELLOW 3|CURCUMA|CURCUMIN|CURCUMIN I|CURCUMINE|CUROUMA|DIFERULOYLMETHANE|E 100|E 100 (DYE)|(E,E)-1,7-BIS(4-HYDROXY-3-METHOXYPHENYL)-1,6-HEPTADIENE-3,5-DIONE|GELBWURZ|HAIDR|HALAD|HALDAR|HALUD|INDIAN SAFFRON|KACHA HALDI|KACHS HALDI|MERITA EARTH|NATURAL YELLOW 3|SAFRA D'INDE|SOUCHET|TERRA MERITA|TRANS,TRANS-CURCUMIN|TUMERIC|TUMERIC YELLOW|TURMERIC|TURMERIC (DYE)|TURMERIC YELLOW|UKON|UKOIN (DYE)|YELLOW	458-37-7	PHYSICAL DESCRIPTION: Orange-yellow needles. (NTP, 1992)	1.0	2.5	5.0	1203.0	97.0	367.0	152.0	156.0	166.0	14.0	50.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
361	CYCLOSPORIN A	ANTIBIOTIC S 7481F1|CICLOSPORIN|CONSUPREN|CYCLOSPORIN|CYCLOSPORIN A|CYCLOSPORINE|CYCLOSPORINE A|CYCLO[L-ALANYL-D-ALANYL-N-METHYL-L-LEUCYL-N-METHYL-L-LEUCYL-N-METHYL-L-VALYL-(3R,4R,6E)-6,7-DIDEHYDRO-3-HYDROXY-N,4-DIMETHYL-L-2-AMINOOCTANOYL-L-2-AMINOBUTANOYL-N-METHYLGLYCYL-N-METHYL-L-LEUCYL-L-VALYL-N-METHYL-L-LEUCYL]|NEOPLANTA|NEORAL|OL 27-400|(R-(R*,R*-(E)))-CYCLIC-(L-ALANYL-D-ALANYL-N-METHYL-L-LEUCYL-N-METHYL- L-LEUCYL-N-METHYL-L-VALYL-3-HYDROXY-N,4-DIMETHYL-L-2-AMINO-6-OCTENOYL-L-ALPHA-AMINO-BUTYRYL-N-METHYLGLYCYL-N-METHYL-L-LEUCYL-L-	59865-13-3	PHYSICAL DESCRIPTION: White prismatic needles (from acetone) or white powder. (NTP, 1992)	1.0	2.5	5.0	1208.0	97.0	372.0	152.0	156.0	167.0	14.0	51.0	22.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly flush the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
362	D&C RED 9	(BLOB)	5160-02-1	PHYSICAL DESCRIPTION: Odorless yellowish-red or reddish-orange powder. (NTP, 1992)	1.0	2.5	5.0	1208.0	97.0	372.0	152.0	156.0	167.0	14.0	51.0	22.0	21.0	(BLOB)	Flash point data are not available for this compound, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
363	D,L-MENTHOL	CIS-1,3-TRANS-1,4-(+-)-MENTHOL|CYCLOHEXANOL, 5-METHYL-2-(1-METHYLETHYL)-, (1ALPHA,2BETA,5ALPHA)-|D,L-MENTHOL|(DL)-5-METHYL-2-(1-METHYLETHYL)CYCLOHEXANOL|DL-3-P-MENTHANOL|DL-MENTHOL|HEXAHYDROTHYMOL|4-ISOPROPYL-1-METHYLCYCLOHEXAN-3-OL|MENTHA CAMPHOR|MENTHOL|MENTHOL RACEMIC|(+-)-MENTHOL|(.+-.)-MENTHOL|MENTHOL, CIS-1,3,TRANS-1,4-|MENTHOMENTHOL|5-METHYL-2-(1-METHYLETHYL)CYCLOHEXANOL (1-ALPHA, 2-BETA, 5-ALPHA)|1-METHYL-4-ISOPROPYL-3-HYDROXYCYCLOHEXANE|NCI-C50000|3-P-MENTHOL|PEPPERMINT CAMPHOR|RAC-MENTHOL|RACEMENTHOL|(	89-78-1	PHYSICAL DESCRIPTION: White crystalline solid with a peppermint odor and taste. (NTP, 1992)	1.0	2.5	5.0	1213.0	97.0	372.0	152.0	156.0	168.0	14.0	51.0	22.0	21.0	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
359	CUPRIC NITRATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	DICAMBA is a chlorinated benzoic acid derivative. Reacts as a weak acid to neutralize bases, both organic (for example, the amines) and inorganic. May corrode iron, steel, and aluminum parts and containers if moist. Reacts with cyanide salts in the presence of moisture to generate gaseous hydrogen cyanide. May react if moist with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. A wide variety of products is possible. Like other acids, may initiate polymerization reactions or catalyze other reactions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
360	CURCUMIN	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Can react vigorously with oxidizing materials. (NTP, 1992).					0		(NTP, 1992)		224.6													(NTP, 1992)			145 to 147
361	CYCLOSPORIN A	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Slightly soluble in water.	Ketones, such as 5-METHYLHEXAN-2-ONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NIOSH, 2003)		97		(NIOSH, 2003)	at 200Â° F	1		%	(NIOSH, 2003)	at 200Â° F	8.2		%			(NIOSH, 2003)		-101	
362	D&C RED 9	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and/or light. Insoluble in water.	6-AMINO-4-CHLORO-1-PHENOL-2-SULFONIC ACID may react with strong oxidizing or reducing agents and with mineral acids and bases (NTP, 1992)					0																							
363	D,L-MENTHOL	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Decomposed by water to dichloroacetic acid and hydrochloric acid, both corrosive, with release of heat. (NIP). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.94 minutes. After mixing particular chemicals into water, there may be a delay of <1-10 minutes before gas generation may be observed. For this chemical, a 4 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney. Argonne National Laboratory, Argonne, Illinois, June 2009.	Solutions in acetone are stable for less than two hours and fresh solution should be prepared before each use (NIP). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1765 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(NTP, 1992)		151																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
359	CUPRIC NITRATE																																								Class 9	Cl2(OCH3)C6H2COOH		16.0	1.0	62.0	4.0	5.0
360	CURCUMIN	(NTP, 1992)		10		172.4		mm Hg	(NTP, 1992)		6.26										(NTP, 1992)		407.1		760		(NTP, 1992)		181.46						(NTP, 1992)	at 67.1Â° F		less than 0.1	mg/mL			C6H3Cl3		13.0	1.0	63.0	4.0	5.0
361	CYCLOSPORIN A	(NIOSH, 2003)		5				mm Hg							(NIOSH, 2003)		0.81				(NIOSH, 2003)		291		760		(NIOSH, 2003)		114.2						(NIOSH, 2003)		0.5		%		Flammable Liquid	C7H14O		15.0	1.0	61.0	4.0	5.0
362	D&C RED 9																											(NTP, 1992)		223.5						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C6H6ClNO4S		12.0	1.0	64.0	4.0	5.0
363	D,L-MENTHOL	(NTP, 1992)		154		77		mm Hg	(NTP, 1992)		5.1				(NTP, 1992)		1.5315		61		(NTP, 1992)		225 to 226	760			(NTP, 1992)		147.39						(NTP, 1992)	Decomposes					Corrosive	C2HCl3O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	51.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
364	DIARYLANILIDE YELLOW	(BLOB)	6358-85-6	PHYSICAL DESCRIPTION: Odorless fine yellow powder. (NTP, 1992)	1.0	2.5	5.0	1213.0	97.0	372.0	152.0	156.0	168.0	14.0	51.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
365	DI-ISONONYL PHTHALATE	BAYLECTROL 4200|1,2-BENZENEDICARBOXYLIC ACID, DI-ISONONYL ESTER|1,2-BENZENEDICARBOXYLIC ACID, DIISONONYL ESTER|BIS(7-METHYLOCTYL) PHTHALATE|DI(7-METHYLOCTYL) PHTHALATE|DI-ISONONYL PHTHALATE|DIISONONYL PHTHALATE|DINP|ENJ 2065|ISONONYL ALCOHOL, PHTHALATE (2:1)|JAYFLEX DINP|PALATINOL DINP|PALATINOL DN|PALATINOL N|PHTHALIC ACID, BIS-(7-METHYLOCTYL) ESTER|PHTHALIC ACID, DIISONONYL ESTER|PHTHALISOCIZER DINP|SANSOCIZER DINP|VESTINOL NN|VINYCIZER 90|WITAMOL 150	28553-12-0	Oily colorless liquid with a slight ester odor. Denser than water. Insoluble in water. (USCG, 1999)	2.5	5.0	2.5	1213.0	97.0	372.0	152.0	156.0	168.0	14.0	51.0	22.0	21.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
366	DIMETHYLDODECYLAMINE N-OXIDE	ADMOX 12|AMMONYX AO|AMMONYX DMCD 40|AMMONYX LO|AMPHITOL 20N|AROMOX DM 12D-W|AROMOX DMCD|AROMOX DMMC-W|ATLAS CD 413|CONCO XAL|CYCLOMOX L|DDNO|DIMETHYLAURYLAMINE OXIDE|DIMETHYLDODECYLAMINE OXIDE|DIMETHYLDODECYLAMINE-N-OXIDE|DIMETHYLLAURYLAMINE OXIDE|DODECYLDIMETHYLAMINE OXIDE|DODECYLAMINE, N,N-DIMETHYL-, N-OXIDE|DODECYLDIMETHYLAMINE OXIDE|EMAL 20N|EMCOL L|EMCOL LO|EMPIGEN OB|LAURAMINE OXIDE|LAURYLAMINE OXIDE|LAURYLDIMETHYLAMINE N-OXIDE|LAURYLDIMETHYLA	1643-20-5	Crystalline solid.	1.0	2.5	5.0	1213.0	97.0	372.0	152.0	156.0	168.0	14.0	51.0	22.0	21.0	(BLOB)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
367	EDTA	ACETIC ACID, (ETHYLENEDINITRILO)TETRA-|ACETIC ACID, 2,2',2'',2''-(1,2-ETHANEDIYLDINITRILO)TETRAKIS-|CELON A|CELON ATH|CHEELOX|CHEMCOLOX 340|CLEWAT TAA|COMPLEXON II|3,6-DIAZAOCTANEDIOIC ACID, 3,6-BIS(CARBOXYMETHYL)-|EDATHAMIL|EDETIC ACID|EDTA|EDTA (CHELATING AGENT)|ENDRATE|ETHYLENE BIS (IMINODIACETIC ACID)|ETHYLENEDIAMINE TETRACETIC ACID|ETHYLENEDIAMINE-N,N,N',N'-TETRAACETIC ACID|ETHYLENEDIAMINE-TETRAACETIC ACID (EDTA)|ETHYLENEDIAMINE TETRAACETIC ACID|ETHYLENEDINITRILO)TETRAACETIC ACID|ETHYLENEDINITRILOTETRAACETIC ACID|GLUMA CLEANSER|HAVIDOTE|ICRE	60-00-4	Ethylenediamine tetraacetic acid is a colorless crystalline solid. It is slightly soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in chemical analysis, to make detergents and cleaning compounds, and for many other uses.	1.0	2.5	5.0	1218.0	97.0	377.0	152.0	156.0	169.0	14.0	52.0	22.0	21.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
368	ETHOXYLATED NONYLPHENOL	(BLOB)	9016-45-9	Colorless liquid or white solid with a mild odor. May float or sink in water. A low molecular-weight polymer. Used as a non-ionic surfactant, as an emulsifier, or as a metal cleaner, depending on the degree of polymerization.	2.5	5.0	2.5	1223.0	97.0	377.0	152.0	156.0	170.0	14.0	52.0	22.0	21.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
364	DIARYLANILIDE YELLOW	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	7-METHYLQUINOLINE may be sensitive to exposure to light. May react vigorously with strong oxidizing agents and strong acids (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		230																(NTP, 1992)				95 to 100
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Fine dust dispensed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. (NTP, 1992). Insoluble in water.	(BLOB)								0																(NTP, 1992)				232 to 235
365	DI-ISONONYL PHTHALATE																																			
366	DIMETHYLDODECYLAMINE N-OXIDE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air No rapid reaction with water	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
367	EDTA	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Denser than water and slightly soluble in water. Slowly reacts with water to form phosphorous acid and ethanol.	Readily oxidized to corresponding phosphate esters. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. A mixture of alkyl phosphite and 4-nitrophenol, in the absence of solvent, led to a runaway reaction and explosion.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
368	ETHOXYLATED NONYLPHENOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolysis occurs with strong acid or base.	A pyrethroid. This compound is an ester and nitrile. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
364	DIARYLANILIDE YELLOW														(NTP, 1992)		1.0609		68		(NTP, 1992)			484.7 to 486.5	760		(NTP, 1992)		143.19						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C10H9N		13.0	1.0	73.0	4.0	5.0
365	DI-ISONONYL PHTHALATE	(NTP, 1992)		1		207		mm Hg							(NTP, 1992)		1.054		234		(NTP, 1992)	(sublimes)	504		760		(NTP, 1992)		136.15						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C8H8O2		20.0	2.0	40.0	3.0	5.0
366	DIMETHYLDODECYLAMINE N-OXIDE								(NTP, 1992)		9.3										(NTP, 1992)	(decomposes)	266		760		(NTP, 1992)		270.4						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Organic Peroxide	C18H22O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	22.0	2.0	41.0	3.0	5.0
367	EDTA																																							Combustible Liquid	C4H11O3P (diethylphosphite)|C6H15O3P (triethylphosphite)		19.0	1.0	94.0	4.0	5.0
368	ETHOXYLATED NONYLPHENOL																																							Poison	C19H25NO4	Dirt/Earth	19.0	1.0	53.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
369	ETHYLBENZENE	ALPHA-METHYLTOLUENE|EB|ETHYL BENZENE|ETHYLBENZENE|ETHYLBENZOL|NCI C56393|PHENYLETHANE	100-41-4	A clear colorless liquid with an aromatic odor. Flash point 59Â°F. Less dense than water (at 7.2 lb / gal) and insoluble in water. Hence floats on water. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	1223.0	97.0	377.0	152.0	156.0	170.0	14.0	52.0	22.0	21.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
370	FERROUS CHLORIDE, SOLID	FECL2: FERROUS CHLORIDE, IRON(II) CHLORIDE|FERROUS CHLORIDE|FERROUS CHLORIDE TETRAHYDRATE|FERROUS CHLORIDE, SOLID|FERROUS CHLORIDE, [SOLID]|IRON DICHLORIDE|IRON PROTOCHLORIDE	7758-94-3	Ferrous chloride is a greenish white crystalline solid. It is soluble in water. It is noncombustible. It is used in sewage treatment, in dyeing of fabrics, and for many other uses.	1.0	2.5	5.0	1223.0	97.0	377.0	152.0	156.0	170.0	14.0	52.0	22.0	21.0	INHALATION: move victim to fresh air; if breathing has stopped, administer artificial respiration. EYES: flush with water for at least 15 min. SKIN: wash skin with large amounts of water for 15 min.; call physician if needed. INGESTION: induce vomiting; get medical attention. (USCG, 1999)		Fire Extinguishing Agents: Water, alcohol foam, dry chemical, carbon dioxide (USCG, 1999)
371	FERROUS CHLORIDE, SOLUTION	FECL2: FERROUS CHLORIDE, IRON(II) CHLORIDE|FERRO 66|FERROCAT FI|FERROUS CHLORIDE|FERROUS CHLORIDE (FECL2)|FERROUS CHLORIDE, SOLUTION|FERROUS CHLORIDE, [SOLUTION]|FERROUS DICHLORIDE|IRON DICHLORIDE|IRON PROTOCHLORIDE|IRON(2+) CHLORIDE|IRON(II) CHLORIDE|IRON(II) CHLORIDE (FECL2)	7758-94-3	Ferrous chloride, solution is the greenish-white crystalline solid dissolved in water. It is corrosive to metals and tissue. It is used in dyeing, in medicine, and sewage treatment.	1.0	2.5	5.0	1223.0	97.0	377.0	152.0	156.0	170.0	14.0	52.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	
372	FLUOROSILICIC ACID	DIHYDROGEN HEXAFLUOROSILICATE|DIHYDROGEN HEXAFLUOROSILICATE(2-)|FLUOROSILIC ACID|FLUOROSILICIC ACID|FLUOROSILICIC ACID (H2SIF6)|FLUOSILICIC ACID|HEXAFLUOROSILICIC ACID|HEXAFLUOSILICIC ACID|HYDROFLUOROSILICIC ACID|HYDROFLUOSILICIC ACID|HYDROFLUOSILICIC ACID|HYDROGEN HEXAFLUOROSILICATE|HYDROGEN HEXAFLUOROSILICATE (H2SIF6)|SAND ACID|SILICOFLUORIC ACID|SILICON HEXAFLUORIDE DIHYDRIDE	16961-83-4	A colorless fuming liquid with a penetrating pungent odor. Corrosive to metals and tissue. Both the fumes and very short contact with the liquid can cause severe and painful burns. Used in water fluoridation, in hardening cement and ceramics, as a wood preservative.	2.5	5.0	2.5	1223.0	97.0	377.0	152.0	156.0	170.0	14.0	52.0	22.0	21.0	(BLOB)		
373	FOLIC ACID	ACIFOLIC|2-AMINO-6-((P-((1,3-DICARBOXYPROPYL)CARBAMOYL)ANILINO)METHYL)-4-PTERIDINOL|CYTOFOL|DOSFOLAT B ACTIV|FOLACID|FOLACIN|FOLATE|FOLBAL|FOLCIDIN|FOLCYSTEINE|FOLETTES|FOLIAMIN|FOLIC ACID|FOLIPAC|FOLSAN|FOLSAURE|FOLSAV|FOLUITE|FOLYTE|INCAFOL|L-PTEROYLGLUTAMIC ACID|LIVER LACTOBACILLUS CASEI FACTOR|MILLAFOL|N-(4-(((2-AMINO-1,4-DIHYDRO-4-OXO-6-PTERIDINYL)METHYL)AMINO)BENZOYL)-L-GLUTAMIC ACID|N-(P-((2-AMINO-4-HYDROXY-6-PTERIDINYL)METHYL)AMINO)BENZOYL)-L-GLUTAMIC ACID|NSC 3073|PGA|PTEGLU|PTEROYL-L-GLUTAMIC	59-30-3	Odorless orange-yellow needles or platelets. Darkens and chars from approximately 482Â°F.	1.0	2.5	5.0	1228.0	97.0	377.0	152.0	156.0	171.0	14.0	52.0	22.0	21.0	INHALATION: remove from exposure; provide low-pressure oxygen if required; keep under observation until edema is ruled out. EYES: irrigate immediately for 15 min.; call physician. SKIN: wash immediately and thoroughly with soap and water; treat as a chemical burn. INGESTION: induce vomiting; call physician. (USCG, 1999)	Special Hazards of Combustion Products: Decomposition vapors contain phosgene and hydrogen chloride gases; both are toxic and irritating. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
374	FUROSEMIDE	AISEMIDE|ALUZINE|5-(AMINOSULFONYL)-4-CHLORO-2-((2-FURANYLMETHY)AMINO)BENZOIC ACID|ANTHRANILIC ACID, 4-CHLORO-N-FURFURYL-5-SULFAMOYL-|BERONALD|4-CHLORO-N-(2-FURYLMETHYL)-5-SULFAMOYLANTHRANILIC ACID|4-CHLORO-N-FURFURYL-5-SULFAMOYLANTHRANILIC ACID|DESDEMIN|DIURAL|DRYPTAL|ERROLON|EUTENSIN|FRUSEMIDE|FRUSEMIN|FRUSID|FULSIX|FULUVAMIDE|FURANTHRIL|FURANTHRYL|FURANTRIL|FURESIS|2-FURFURYLAMINO-4-CHLORO-5-SULFAMOYLBENZOIC ACID|FUROSEDON|FUROSEMID|FUROSEMIDE|FUROSEMIDE "MITA"|FURSEMID|FURSEMIDE|FUSID|HYDRO-RAPID|KATLEX|LASEX|LASIX|LASIX|LB	54-31-9	PHYSICAL DESCRIPTION: Odorless white to slightly yellow crystalline powder. A diuretic drug. Almost tasteless. (NTP, 1992)	1.0	2.5	5.0	1228.0	97.0	382.0	152.0	156.0	171.0	14.0	53.0	22.0	21.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
369	ETHYLBENZENE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	NITROCELLULOSE WITH WATER, NOT LESS THAN 25% WATER may explode if dried and exposed to heat, flame, friction or shock. May undergo a vigorous reaction with reducing agents, including hydrides, sulfides and nitrides, that culminates in a detonation. Can react with inorganic bases to form explosive salts.		Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4																							
370	FERROUS CHLORIDE, SOLID		Face shield or safety glasses; protective gloves; air mask for prolonged exposure to vapor. (USCG, 1999)	Water soluble.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		240		(USCG, 1999)		0.8		%	(USCG, 1999)		5		%	(USCG, 1999)		563		(USCG, 1999)		-27	
371	FERROUS CHLORIDE, SOLUTION		Goggles. (USCG, 1999)	Slightly denser than water and soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	Mixing diethylene glycol monoethyl ether in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid and oleum, NFPA 1991.	Peroxidizable Compound		(NFPA, 2010)		2	2	0	2		(NTP, 1992)		205		(NTP, 1992)		at 275Â° F	1.2		%	(NTP, 1992)		at 360Â° F	23.5		%	(USCG, 1999)		400		(NTP, 1992)		-108	
372	FLUOROSILICIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)							0																						
373	FOLIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves; chemical splash goggles; rubber boots and apron; barrier cream; organic canister mask. (USCG, 1999)	Highly flammable. Reacts slowly with water to form hydrochloric acid. Insoluble in water.	Halogenated unsaturated aliphatic compounds, such as 1,4-DICHLORO-2-BUTENE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0						(USCG, 1999)		1.5		%	(USCG, 1999)		4		%						(USCG, 1999)		-54	
374	FUROSEMIDE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as DIFLUOROETHANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
369	ETHYLBENZENE																																									Flammable Solid	[C12H14N6O22]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	21.0	2.0	41.0	3.0	5.0
370	FERROUS CHLORIDE, SOLID														(USCG, 1999)		0.985		68		(USCG, 1999)		475		760		(USCG, 1999)		204.3											DEM		C10H20O4		19.0	1.0	53.0	4.0	5.0
371	FERROUS CHLORIDE, SOLUTION	(NTP, 1992)		0.13		77		mm Hg	(NTP, 1992)		4.62				(USCG, 1999)		0.99		68		(NTP, 1992)		396		760		(NTP, 1992)		134.18						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DGE		C6H14O3	Cellulose-Based Absorbents	19.0	1.0	53.0	4.0	5.0
372	FLUOROSILICIC ACID																				(NTP, 1992)		295		12		(NTP, 1992)		186.34						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C10H22N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	51.0	4.0	5.0
373	FOLIC ACID														(USCG, 1999)		1.112		68		(USCG, 1999)		313		760		(USCG, 1999)		125											DCB	Corrosive|Flammable Liquid	C4H6Cl2	Dirt/Earth	15.0	1.0	55.0	4.0	5.0
374	FUROSEMIDE																																									Flammable Gas	C2H4F2		15.0	1.0	54.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
375	GLYCINE	ACETIC ACID, AMINO-|ACIPORT|AMINO ACETIC ACID|AMINOACETIC ACID|2-AMINOACETIC ACID|AMINOETHANOIC ACID|GLICOAMIN|GLYCINE|GLYCOCOLL|GLYCOLIXIR|GLYCOSTHENE|PADIL	56-40-6	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	1233.0	97.0	382.0	152.0	156.0	172.0	14.0	53.0	22.0	21.0	(BLOB)	Flammable when exposed to heat, sparks, or flame. Vapor forms explosive mixtures with air over a wide range. Use caution when approaching fire and applying water. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Can react with oxidizing materials. When heated to decomposition, it emits toxic fumes. Avoid oxidizing materials. Stable, avoid heating to decomposition. May become unstable at elevated temperatures and pressures or may react with water with non-violent release of energy. (EPA, 1998)	Keep unnecessary people away and isolate hazard area. Stay upwind and keep away from low areas. Isolate for 1/2 mile in all directions if tank car or truck is involved. Wear self-contained breathing apparatus and full protective clothing. Use dry chemical, alcohol foam, or carbon dioxide. Water may be used to keep exposed containers cool. Dike fire control water for later disposal. Withdraw immediately in case of rising sound from venting safety device or discoloration of tank due to fire. (EPA, 1998)
376	GRAPHITE (NATURAL)	(BLOB)	7782-42-5	A mineral form of the element carbon. Hexagonal crystals or thin leaf-like layers. Steel-gray to black with a metallic luster and a greasy feel. An electrical conductor. Used for high-temperature crucibles, as a lubricant and in â€œleadâ€ pencils.	1.0	2.5	5.0	1238.0	97.0	382.0	152.0	156.0	173.0	14.0	53.0	22.0	21.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
377	HYDROBROMIC ACID, SOLUTION	HYDROBROMIC ACID, SOLUTION|HYPOCHLORITE SOLUTION, WITH MORE THAN 5% AVAILABLE CHLORINE	10035-10-6	A colorless to yellow aqueous solution with a pungent odor. Fumes irritate the eyes and mucous membranes. Corrosive to metals and tissue.	2.5	5.0	2.5	1238.0	97.0	382.0	152.0	156.0	173.0	14.0	53.0	22.0	21.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
378	HYDROCHLOROTHIAZIDE	AQUARILLS|AQUARIUS|6-CHLORO-3,4-DIHYDRO-2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE 1,1-DIOXIDE|6-CHLORO-3,4-DIHYDRO-7-SULFAMOYL-2H-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE|CHLOROSULTHIADIL|CIDREX|DICHLOROSAL|DICHLOTIAZID|DICHLOTRIDE|DICLOTRIDE|3,4-DIHYDRO-6-CHLORO-7-SULFAMYL-1,2,4-BENZOTHIADIAZINE-1,1-DIOXIDE|DIHYDROCHLOROTHIAZIDE|3,4-DIHYDROCHLOROTHIAZIDE|DHYDROCHLOROTHIAZIDUM|DIHYDROCHLORURIT|DIHYDROCHLORURITE|DISALUNIL|DRENOL|DYAZIDE|ESIDREX|ESIDRIX|HCTZ|HCZ|HIDRIL|HIDROCHLORTIAZID|HIDROTIAZIDA|HYDRIL|HYDRO-AQUIL|HYDRO-DIURIL|HYDROCHLOROTHIAZID|HYDROCHLOROTHIAZIDE|HYDROCHLORTHIAZIDE|HYDRODIURETIC|HYDRODI	58-93-5	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	1238.0	97.0	382.0	152.0	156.0	173.0	14.0	53.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
379	HYDROFLUOROSILICIC ACID (25% OR LESS)	FLUOROSILICIC ACID|FLUOSILICIC ACID|HFSA|HYDROFLUOROSILICIC ACID (25% OR LESS)	16961-83-4	Colorless to straw yellow liquid with a slightly acrid odor. Transported in special plastic bottles because material attacks glass.	2.5	5.0	2.5	1243.0	97.0	382.0	152.0	156.0	174.0	14.0	53.0	22.0	21.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
380	HYDROGEN BROMIDE, ANHYDROUS	ANHYDROUS HYDROBROMIC ACID|ANHYDROUS HYDROGEN BROMIDE|AQUEOUS HYDROGEN BROMIDE (I.E., HYDROBROMIC ACID)|HYDROBROMIC ACID, ANHYDROUS|HYDROGEN BROMIDE|HYDROGEN BROMIDE (H2BR2)|HYDROGEN BROMIDE (HBR)|HYDROGEN BROMIDE (HYDROBROMIC ACID)|HYDROGEN BROMIDE, ANHYDROUS|HYDROGEN MONOBROMIDE	10035-10-6	A colorless gas with a pungent irritating odor. Corrosive. Heavier than air. Prolonged exposure to fire or intense heat may result in the violent rupture and rocketing of the container. Long-term exposure to low concentrations or short-term exposure to high concentrations can result in adverse health effects from inhalation. Used to make other chemicals and as a catalyst in the manufacture of chemicals. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 2 ppm Source/use/other hazard: Chemical manufacturing industry; very corrosive.	5.0	1.0	1.0	1243.0	97.0	382.0	152.0	156.0	174.0	14.0	53.0	22.0	21.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes containing carbon monoxide, and/or carbon dioxide, and oxides of nitrogen. Behavior in Fire: Toxic fumes containing carbon monoxide, and/or carbon dioxide, and oxides of nitrogen. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Ordinary foam. Fire Extinguishing Agents: Water fog, alcohol foam, CO 2 , dry chemical. (Water or alcohol foam may cause frothing.) (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
375	GLYCINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Water soluble.	ALLYLAMINE reacts violently with strong oxidizing agents and acids. Attacks copper and copper compounds [Handling Chemicals Safely 1980. p. 123]. Reacts with hypochlorites to give N-chloroamines, some of which are explosives when isolated [Bretherick 1979. p. 108].	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2334 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(EPA, 1998)		-20		(EPA, 1998)		2.2		%	(EPA, 1998)		22		%	(NTP, 1992)		705		(NTP, 1992)		-126	
376	GRAPHITE (NATURAL)	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water. Slowly hydrolyzes to form sulfur dioxide and diol; hydrolyzes more rapidly under basic or acidic conditions.	ALPHA - ENDOSULFAN is an organochlorine, cyclodiene derivative. Also a sulfite ester. Incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. As an ester it will hydrolyze to form sulfur dioxide and a diol; reaction is more rapid under basic conditions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		226 to 230	
377	HYDROBROMIC ACID, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Acidic organic/inorganic salts, such as 1,4-PHENYLENEDIAMINE DIHYDROCHLORIDE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		greater than 392	
378	HYDROCHLOROTHIAZIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizers, mineral acids and bases. (NTP, 1992)	Not required (USCG, 1999)	Insoluble in water.	DI-ISONONYL PHTHALATE reacts exothermically with acids to generate isononyl alcohol and phthalic acid. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely, 1980. p. 250].					0		(NTP, 1992)			greater than 200																		
379	HYDROFLUOROSILICIC ACID (25% OR LESS)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-CHLOROBENZOIC ACID is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)					0																			(NTP, 1992)		288	
380	HYDROGEN BROMIDE, ANHYDROUS	Neutralizing Agents for Acids and Caustics: Flush heavily with water. (USCG, 1999)	Clean, body-covering clothing, rubber gloves, apron, boots, and face shield as dictated by circumstances. Approved, full-face mask or amine vapor mask only if required during a fire. (USCG, 1999)	Water soluble	TRIISOPROPANOLAMINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by combination with strong reducing agents, such as hydrides.			(NFPA, 2010)		3	1	0	1		(NTP, 1992)		320		(USCG, 1999)		0.8		%	(USCG, 1999)		5.1		%	(USCG, 1999)		608		(NTP, 1992)		113	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
375	GLYCINE								(EPA, 1998)		2				(EPA, 1998)		0.76		68		(EPA, 1998)			131 to 136	760		(EPA, 1998)		57.09						(NTP, 1992)	Very soluble					Poison Inhalation Hazard|Flammable Liquid	C3H7N	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	16.0	1.0	100.0	4.0	5.0
376	GRAPHITE (NATURAL)																									(NTP, 1992)		406.95						(NTP, 1992)	Insoluble					Poison	C9H6Cl6O3S	Dirt/Earth	18.0	1.0	51.0	4.0	5.0
377	HYDROBROMIC ACID, SOLUTION																									(NTP, 1992)		181.07						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C6H8N2.2ClH		15.0	1.0	61.0	4.0	5.0
378	HYDROCHLOROTHIAZIDE																				(USCG, 1999)		172		760	(NTP, 1992)		418.6						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)				DIN		C26H42O4		16.0	1.0	71.0	4.0	5.0
379	HYDROFLUOROSILICIC ACID (25% OR LESS)														(NTP, 1992)		1.544		68		(NTP, 1992)	Sublimes				(NTP, 1992)		156.57						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C7H5ClO2		15.0	1.0	51.0	4.0	5.0
380	HYDROGEN BROMIDE, ANHYDROUS	(NTP, 1992)			less than 0.01	68		mm Hg							(USCG, 1999)		1.02		68		(NTP, 1992)			581	760	(NTP, 1992)		191.31						(NTP, 1992)	Soluble				TIP		C9H21NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	15.0	1.0	61.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
381	HYDROQUINONE	AIDA|ALPHA-HYDROQUINONE|ARCTUVIN|BENZENE, P-DIHYDROXY-|1,4-BENZENEDIOL|BENZOHYDROQUINONE|BENZOQUINOL|1,4-BENZOQUINOL|BETA-QUINOL|BLACK AND WHITE BLEACHING CREAM|BQ(H)|DIAK 5|DIHYDROQUINONE|DIHYDROXYBENZENE|1,4-DIHYDROXYBENZENE|ELDOPAQUE|ELDOQUIN|HE 5|HYDROQUINOL|HYDROQUINOLE|HYDROQUINONE|4-HYDROXYPHENOL|NCI-C55834|P-BENZENEDIOL|P-DIHYDROQUINONE|P-DIHYDROXYBENZENE|P-DIOXOBENZENE|P-DIOXYBENZENE|P-HYDROQUINONE|P-HYDROXYPHENOL|P-PHENYLENEDIOL|P-QUINOL|PARA-DIHYDROXYBENZENE|PARA-DIOXYBENZENE|PARA-HYDROQUINONE|PHIAQUIN|	123-31-9	Light colored crystals or solutions. May irritate the skin, eyes and mucous membranes. Mildly toxic by ingestion or skin absorption.	1.0	2.5	5.0	1248.0	97.0	382.0	152.0	156.0	175.0	14.0	53.0	22.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
382	IODINE	ACTOMAR|DIATOMIC IODINE|DIIODINE|ERANOL|IODEL FD|IODINE|IODINE (I2?I2)|IODINE COLLOIDAL|IODINE CRYSTALS|IODINE MOLECULE (I2)|IODINE SUBLIMED|IOSAN SUPERDIP|IODOSAN|MOLECULAR IODINE|NSC 42355	7553-56-2	Violet-black crystals with a metallic luster and a sharp odor. Mp: 133.5Â°C, bp: 185Â°C. Emits toxic vapor at room conditions; vapor becomes visibly purple when its concentration builds up in a confined space. Nearly insoluble in water but very soluble in aqueous solutions of iodides.	1.0	2.5	5.0	1248.0	97.0	382.0	152.0	156.0	175.0	14.0	53.0	22.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 169 [Aluminum (Molten)]: Substance is transported in molten form at a temperature above 705Â°C (1300Â°F). Violent reaction with water; contact may cause an explosion or may produce a flammable gas. Will ignite combustible materials (wood, paper, oil, debris, etc.). Contact with nitrates or other oxidizers may cause an explosion. Contact with containers or other materials, including cold, wet or dirty tools, may cause an explosion. Contact with concrete will cause spalling and small pops. (ERG, 2012)	Excerpt from GUIDE 169 [Aluminum (Molten)]: Do Not Use Water, except in life threatening situations and then only in a fine spray. Do not use halogenated extinguishing agents or foam. Move combustibles out of path of advancing pool if you can do so without risk. Extinguish fires started by molten material by using appropriate method for the burning material; keep water, halogenated extinguishing agents and foam away from the molten material. (ERG, 2012)
383	IRON, [POWDERED]	A 227|300A|ANCOR EN 80/150|ARMCO IRON|ATOMEL 300M200|ATOMET 28|ATOMIRON 44MR|ATOMIRON 5M|ATOMIRON AFP 25|ATOMIRON AFP 5|ATW 230|ATW 432|CARBONYL IRON|COPY POWDER CS 105-175|DH|DSP 128B|DSP 135|DSP 135C|DSP 138|EF 1000|EF 250|EFV|EFV 200/300|EFV 250|EFV 250/400|EO 5A|FERROVAC E|FT 3|FT 3 (ELEMENT)|GS 6|HF 2|HF 2 (ELEMENT)|HOEGANAES ATW 230|HOEGANAES EH|IRON ELEMENT|IRON FULLERIDE (FEC20)|IRON, [POWDERED]|ISP-CIP-R 1470|KG 200|KIP 270M|KIP 300A|KIP 300AS|LOHA|MCK 1000|METALET|MICROPOWDER R 2430|MICROPOWDER S 1640|NEPY|OM CARBONYL FE POWDER|PZHO|QMP ATOMET 95G|R 100|R 100 (METAL)|RANEY IRON|RD	7439-89-6	A gray lustrous powder. Used in powder metallurgy and as a catalyst in chemical manufacture.	1.0	2.5	5.0	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	(BLOB)	Flash point data for this material are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
384	ISO HEPTYL ALCOHOL	ISO HEPTYL ALCOHOL|ISOHEPTYL ALCOHOL	51774-11-9	A clear colorless liquid with a pleasant odor. Less dense than water and insoluble in water. Vapors heavier than air. Used to make other chemicals, as a solvent, and in cosmetic formulations.	2.5	5.0	2.5	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
385	ISO-AMYL ACETATE	ACETIC ACID 3-METHYLBUTYL ESTER|ACETIC ACID, ISOPENTYL ESTER|AMYLACETIC ESTER|BANANA OIL|I-AMYL ACETATE|ISO-AMYL ACETATE|ISOAMYL ACETATE|ISOAMYL ALCOHOL ACETATE|ISOAMYL ETHANOATE|ISOAMYLACETATE|ISOPENTYL ACETATE|ISOPENTYL ALCOHOL, ACETATE|ISOPENTYL ESTER ACETIC ACID|ISOPENTYL ETHANOATE|3-METHYL BUTYL ESTER ACETIC ACID|3-METHYL-1-BUTANOL ACETATE|3-METHYL-1-BUTYL ACETATE|3-METHYLBUTYL ACETATE|3-METHYLBUTYL ESTER OF ACETIC ACID|3-METHYLBUTYL ETHANOATE|PEAR OIL	123-92-2	Oily liquid; colorless; banana odor. Floats and mixes with water. Flammable, irritating vapor is produced . (USCG, 1999)	2.5	5.0	2.5	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	Flush with copious amounts of water. (USCG, 1999)		Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
381	HYDROQUINONE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Ignites spontaneously in air. Reacts with water to generate flammable gaseous hydrogen and heat.	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	1	4																										
382	IODINE	Excerpt from GUIDE 169 [Aluminum (Molten)]: Do not touch or walk through spilled material. Do not attempt to stop leak, due to danger of explosion. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Substance is very fluid, spreads quickly, and may splash. Do not try to stop it with shovels or other objects. Dike far ahead of spill; use dry sand to contain the flow of material. Where possible allow molten material to solidify naturally. Avoid contact even after material solidifies. Molten, heated and cold aluminum look alike; do not touch unless you know it is cold. Clean up under the supervision of an expert after material has solidified. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Violent reaction with water; contact may cause an explosion or may produce a flammable gas (hydrogen). Moist air produces hydrogen gas. Does not burn on exposure to air.	(BLOB)	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 169 [Aluminum (Molten)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	1	4																							(NIOSH, 2003)		1220	
383	IRON, [POWDERED]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		560.3	
384	ISO HEPTYL ALCOHOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full face self contained breathing apparatus, rubber boots, and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	OCTANOIC ACID reacts exothermically to neutralize bases. Can react with active metals to form gaseous hydrogen and a metal salt. May absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Reacts with cyanide salts or solutions of cyanide salts to generate gaseous hydrogen cyanide. Reacts exothermically with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable and/or toxic gases. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide) but still heat. Can be oxidized exothermically by strong oxidizing agents and reduced by strong reducing agents. A wide variety of products is possible. May initiate polymerization reactions or catalyze (increase the rate of) reactions among other materials.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		230																		(NTP, 1992)		61 to 62	
385	ISO-AMYL ACETATE			Insoluble in water.	(BLOB)			(NFPA, 2010)		1	2	0	2		(USCG, 1999)		178																	(USCG, 1999)		5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chmts_codes	det_labels	formulas	incompatible_abs	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
381	HYDROQUINONE																																							Spontaneo usly Combusti ble			15.0	1.0	55.0	4.0	5.0
382	IODINE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.7				(NIOSH, 2003)		4221		760		(NIOSH, 2003)								(NIOSH, 2003)		Insoluble					Class 9		19.0	1.0	75.0	4.0	5.0
383	IRON, (POWDERED)																																			(NTP, 1992)		at 67.1Å^2 F	less than 1	mg/mL		Poison	GH8GCN 7O.CH	Mineral-Based & Clay-Based Absorbents	19.0	1.0	60.0	4.0	5.0
384	ISO HEPTYL ALCOHOL	(NTP, 1992)	: 5 mm Hg at 237.4Å^ F; 760 mm Hg at 459.5Å^ F	1		198.1		mm Hg							(USCG, 1999)		0.91				(NTP, 1992)		463.5		760		(NTP, 1992)								(NTP, 1992)		at 64Å^2 F	less than 1	mg/mL	OAA	Corrosive	C8H16O2		15.0	1.0	51.0	4.0	5.0
385	ISO-AMYL ACETATE														(USCG, 1999)		0.829		68		(USCG, 1999)		383		760		(USCG, 1999)													OTA		C8H18O	Cellulose-Based Absorbents	15.0	1.0	51.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
386	ISOAMYL ALCOHOL	FERMENTATION AMYL ALCOHOL|FUSEL OIL|ISOAMYL ALCOHOL|ISOAMYL ALCOHOL (PRIMARY)|ISOBUTYL CARBINOL|ISOBUTYLCARBINOL|ISOPENTYL ALCOHOL|ISOPENTYL ALCOHOL, {ISOAMYL ALCOHOL}|3-METHYL-1-BUTANOL|POTATO SPIRIT OIL|PRIMARY ISOAMYL ALCOHOL	123-51-3	Colorless liquid with a mild, choking alcohol odor. Less dense than water, soluble in water. Hence floats on water. Produces an irritating vapor. (USCG, 1999)	2.5	5.0	2.5	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
387	ISOBUTYL ACETATE	ACETIC ACID, ISOBUTYL ESTER|BETA-METHYLPROPYL ETHANOATE|ISO-BUTYL ACETATE|ISOBUTYL ACETATE|ISOBUTYL ESTER OF ACETIC ACID|2-METHYL-1-PROPYL ACETATE|2-METHYLPROPYL ACETATE|2 METHYLPROPYL ESTER OF ACETIC ACID	110-19-0	A clear colorless liquid with a fruity odor. Flash point 64Â°F. Less dense than water (6.2 lb / gal) and insoluble in water. Vapors are heavier than air .	2.5	5.0	2.5	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	EYES or SKIN: remove excess oil with cloth or absorbent paper; then wash with soapy water and flush with clear water; consult a physician. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
388	KRYPTON	KRYPTON|KRYPTON, COMPRESSED	7439-90-9	Krypton, compressed, is a colorless, odorless gas. It is shipped as a liquid under its own vapor pressure. Contact with the liquid may cause frostbite to unprotected skin. It can asphyxiate by displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	1248.0	97.0	387.0	152.0	156.0	175.0	14.0	54.0	22.0	21.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
389	KRYPTON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	KRYPTON, LIQUID, [REFRIGERATED]|KRYPTON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	7439-90-9	Krypton, refrigerated liquid, is a colorless, odorless gas. It is shipped as a liquid under its own vapor pressure. Contact with the liquid may cause frostbite to unprotected skin. It can asphyxiate by displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	1248.0	97.0	392.0	152.0	156.0	175.0	14.0	55.0	22.0	21.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors of unburned material may form in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
390	LACTIC ACID	ALPHA-HYDROXYPROPANOIC ACID|ALPHA-HYDROXYPROPIONIC ACID|BIOLAC|CHEM-CAST|DL-LACTIC ACID|2-HYDROXYPROPANOIC ACID|2-HYDROXYPROPIONIC ACID|LACTIC ACID|(.+-.)-LACTIC ACID|MILK ACID|RACEMIC LACTIC ACID|TONSILLOSAN	50-21-5	A colorless to yellow odorless syrupy liquid. Corrosive to metals and tissue. Used to make cultured dairy products, as a food preservative, and to make chemicals.	2.5	5.0	2.5	1248.0	97.0	392.0	152.0	156.0	175.0	14.0	55.0	22.0	21.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides and sulfur oxides. This is a solid carbamate pesticide. Container may explode in heat of fire. (EPA, 1998)	This is a solid carbamate pesticide. Move container from fire area. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. Extinguish fire using agent suitable for type of surrounding fire, as the material itself does not burn or burns with difficulty. Use water in flooding quantities as a fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)
391	LEAD CHROMATE	BASIC LEAD CHROMATE|C.I. PIGMENT YELLOW 34|C.P. CHROME YELLOW LIGHT|C.P. CHROME YELLOW MEDIUM|C.P. CHROME YELLOW PRIMROSE|CANARY CHROME YELLOW 40-2250|CHROME GREEN|CHROME GREEN UC61|CHROME GREEN UC74|CHROME GREEN UC76|CHROME LEMON|CHROME ORANGE|CHROME YELLOW|CHROME YELLOW 5G|CHROME YELLOW G|CHROME YELLOW GF|CHROME YELLOW LF|CHROME YELLOW LIGHT 1066|CHROME YELLOW LIGHT 1075|CHROME YELLOW MEDIUM 1074|CHROME YELLOW MEDIUM 1085|CHROME YELLOW MEDIUM 1298|CHROME YELLOW PRIMROSE 1010|CHROME YELLOW PRIMROSE	7758-97-6	PHYSICAL DESCRIPTION: Yellow or orange-yellow powder. One of the most insoluble salts. Basic lead chromates are used as pigments. (NTP, 1992)	1.0	2.5	5.0	1253.0	97.0	392.0	152.0	156.0	176.0	14.0	55.0	22.0	21.0	Call a physician. EYES: Flush with water. SKIN: Flush exposed area with water. (USCG, 1999)	Special Hazards of Combustion Products: None (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
386	ISOAMYL ALCOHOL	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	OCTOLITE, [DRY OR WET WITH < 15% WATER] is a high explosive. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. Wetting reduces sensitivity toward detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water. Presence of metal oxides increases thermal sensitivity.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
387	ISOBUTYL ACETATE		Chemical goggles; face shield; oil-resistant gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	OCTYL EPOXY TALLATE may attack plastics (USCG, 1999). Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(USCG, 1999)		450																			
388	KRYPTON	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble. May be sensitive to moisture.	XYLENESULFONIC ACID, SODIUM SALT is incompatible with acids and oxidizing materials. (NTP, 1992).	Strong Oxidizing Agent; Known Catalytic Activity						0																			(NTP, 1992)		81	
389	KRYPTON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Organic canister mask; goggles or face shield; rubber gloves; other protective clothing to prevent contact with skin. (USCG, 1999)	Flammable. Slightly soluble in water.	XYLENOL can react with and is especially reactive with iron. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		163		(USCG, 1999)		1.4		%	(NTP, 1992)		1.4		%	(USCG, 1999)		1110			(NTP, 1992)		-13 to 167
390	LACTIC ACID	This is a solid carbamate pesticide. Keep unnecessary people away; isolate hazard areas and deny entry. Stay upwind, keep out of low areas. Do not touch spilled material, or breathe the vapors, dusts or fumes from burning materials. Do not handle broken packages without protective equipment. Wash away any material that may have contacted the body with soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Decomposes to innocuous materials in natural waters and in soil. Aeration, sunlight, alkalinity, and higher temperatures increase the rate of decomposition. (NTP, 1992)	OXAMYL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)	Pure compound changes to different form upon melting, with a melting point of 226 to 230Â° F.		212 to 216
391	LEAD CHROMATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves, face shields or safety glasses, normal protective gear. (USCG, 1999)	Water soluble.	Inorganic reducing agents, such as AMMONIUM BISULFITE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Sulfites and hydrosulfites (dithionites) can react explosively with strong oxidizing agents. Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
386	ISOAMYL ALCOHOL																																								Explosive 1.1D	C7H5N3O6 (trinitrotoluene)|C4H8N8O8 (cyclotetramethylenetetranitramine)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	53.0	4.0	5.0
387	ISOBUTYL ACETATE														(USCG, 1999)	(est.)	1.002		68								(USCG, 1999)	(approx.)	420											OET			Cellulose-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	54.0	4.0	5.0
388	KRYPTON								(NTP, 1992)		6.45				(NTP, 1992)		1.23				(NTP, 1992)		315		760		(NTP, 1992)		208.215						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C8H10O3S.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	24.0	2.0	35.0	3.0	5.0
389	KRYPTON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)														(USCG, 1999)		1.01		68		(NTP, 1992)		397 to 437	760		(NTP, 1992)		122.18											XYL	Poison	C8H10O		24.0	2.0	35.0	3.0	5.0
390	LACTIC ACID	(EPA, 1998)		0.00023		77		mm Hg																		(EPA, 1998)		219.29						(NTP, 1992)	Soluble at 77.0Â° F (280g/kg)					Poison|Flammable Liquid	C7H13N3O3S		18.0	1.0	60.0	4.0	5.0
391	LEAD CHROMATE														(USCG, 1999)	1.40 (72% aqueous solution)	2.03		68		(USCG 1999)	Sublimates at 302.0Â° F				(USCG, 1999)		99.1											ASU	Corrosive	H3N.H2O3S		18.0	1.0	58.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
392	LEAD NITRATE	LEAD DINITRATE|LEAD NITRATE|LEAD NITRATE (PB(NO3)2)|LEAD(2+) BIS(NITRATE)|LEAD(2+) NITRATE|LEAD(II) DINITRATE|LEAD(II) NITRATE|NITRIC ACID, LEAD II SALT|PLUMBOUS NITRATE	10099-74-8	Lead nitrate is a white crystalline solid. The material is soluble in water. It is noncombustible but it will accelerate the burning of combustible materials. If large quantities of the material are involved in the fire an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material.	1.0	2.5	5.0	1253.0	97.0	392.0	152.0	156.0	176.0	14.0	55.0	22.0	21.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes under fire conditions. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water fog, dry chemical, carbon dioxide, alcohol foam. (USCG, 1999)
393	LITHIUM CHLORIDE	LITHIUM CHLORIDE|LITHIUM MONOCHLORIDE	7447-41-8	PHYSICAL DESCRIPTION: Colorless crystals or powder. Low toxicity.	1.0	2.5	5.0	1253.0	97.0	392.0	152.0	156.0	176.0	14.0	55.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
394	L-METHIONINE	ACIMETION|ALPHA-AMINO-GAMMA-METHYLMERCAPTOBUTYRIC ACID|2-AMINO-4-(METHYLTHIO)-BUTYRIC ACID|2-AMINO-4-(METHYLTHIO)BUTYRIC ACID|BANTHIONINE|BUTANOIC ACID, 2-AMINO-4-(METHYLTHIO)-, (S)-|CYMETHION|CYNARON|DYPRIN|GAMMA-METHYLTHIO-ALPHA-AMINOBUTYRIC ACID|L-(-)-AMINO-GAMMA-METHYLTHIOBUTYRIC ACID|L-(-)-METHIONINE|L-ALPHA-AMINO-GAMMA-METHYLMERCAPTOBUTYRIC ACID|L-ALPHA-AMINO-GAMMA-METHYLTHIOBUTYRIC ACID|L-GAMMA-METHYLTHIO-ALPHA-AMINOBUTYRIC ACID|L-HOMOCYSTEINE, S-METHYL|L-METHIONINE|LOBAMINE|MEONINE|MERITONIN|MET|METHIONIN|METHIONINE|ME	63-68-3	PHYSICAL DESCRIPTION: Minute hexagonal plates from dilute alcohol. (NTP, 1992)	1.0	2.5	5.0	1253.0	97.0	392.0	152.0	156.0	176.0	14.0	55.0	22.0	21.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon dry chemical, or carbon dioxide extinguisher. (NTP, 1992)
395	L-PHENYLALANINE	ALANINE, PHENYL-, L-|ALPHA-AMINO-BETA-PHENYLPROPIONIC ACID|ALPHA-AMINOHYDROCINNAMIC ACID|ANTIBIOTIC FN 1636|BENZENEPROPANOIC ACID, ALPHA-AMINO-, (S)-|BETA-PHENYL-ALPHA-ALANINE|BETA-PHENYL-ALPHA-ALANINE, L-|BETA-PHENYL-L-ALANINE|BETA-PHENYLALANINE|(-)-BETA-PHENYLALANINE|HYDROCINNAMIC ACID, ALPHA-AMINO-|L-(-)-PHENYLALANINE|L-ALANINE, 3-PHENYL-|L-BETA-PHENYLALANINE|L-PHENYLALANINE|PAL|PHENYL-ALPHA-ALANINE|PHENYL-L-ALANINE|3-PHENYL-L-ALANINE|PHENYLALANINE|(-)-PHENYLALANINE|3-PHENYLALANINE|(S)-(-)-PHENYLALANINE|(S)-2-AMINO-3-PHENYLPROPANOIC	63-91-2	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Slightly bitter taste. pH (1% aqueous solution) 5.4 to 6. (NTP, 1992)	1.0	2.5	5.0	1253.0	97.0	392.0	152.0	156.0	176.0	14.0	55.0	22.0	21.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes of NO x and HCl (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
396	L-TAURINE	1-AMINOETHANE-2-SULFONIC ACID|2-AMINOETHANESULFONIC ACID|2-AMINOETHYLSULFONIC ACID|BETA-AMINOETHYLSULFONIC ACID|L-TAURINE|NCI-C60606|O-DUE|2-SULFOETHYLAMINE|TAUFON|TAUKARD|TAUPHON|TAURINE	107-35-7	Large white crystals or white powder.	1.0	2.5	5.0	1253.0	97.0	397.0	152.0	156.0	176.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
392	LEAD NITRATE	Neutralizing Agents for Acids and Caustics: Dry lime, soda ash (USCG, 1999)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves (USCG, 1999)	Highly flammable. Water soluble. Slowly reacts with water.	DIMETHYL HYDROGEN PHOSPHITE may form highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Highly Flammable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3278 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		85																				
393	LITHIUM CHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Water soluble.	DIMETHYLACETAMIDE is an amide. Incompatible with oxidizing agents and halogenated compounds. Exothermic reactions occur with carbon tetrachloride and hexachlorocyclohexane. It can react violently in the presence of iron. (NTP, 1992) Special Hazards of Combustion Products: Emits carbon oxides, nitrogen oxides, and dimethylamine when heated to decomposition.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		151		(NTP, 1992)		1.8		%	(NTP, 1992)		13.8		%	(USCG, 1999)		914		(NTP, 1992)		-4	
394	L-METHIONINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	The neat (pure) material is sensitive to air and may be sensitive to light. (NTP, 1992). Insoluble in water.	A nitrated alcohol and a ketone. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.						0																								
395	L-PHENYLALANINE	(BLOB)	(BLOB)	Reacts with water or moisture in the air to form hydrochloric acid and dimethylcarbamic acid.	DIMETHYLCARBAMOYL CHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Gives toxic fumes of NOx and HCl when burned (USCG, 1999).	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		155																		(NTP, 1992)		-27	
396	L-TAURINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Reacts violently on contact with water to liberate heat and hydrogen chloride gas.	Chlorosilanes, such as DIMETHYLCHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vd_value	vd_range	vd_note	vd_source	vp_unit	vp_range_ temp[deg]F	vp_value_ temp[deg]F	vp_range_ temp[deg]F	vd_range_ temp[deg]F	vd_source	sg_source	sg_note	sg_value	sg_range	sg_range_ temp[deg]F	bp_value_ pressMMH G	bp_range	bp_value	bp_note	bp_source	bp_range_ temp[deg]F	molwgt_s ource	molwgt_n ote	molwgt_v alue	molwgt_r ange	tdh_sourc e	tdh_note	tdh_value	tdh_unit	solbly_so urce	solbly_no te	solbly_va lue	solbly_ra ngt	# of Rations Producing	formulas	incompatible_ab sorbents	Product Score	# of Distributions Sites	Distribution Score	Prob Score
392	LEAD NITRATE	(NTP, 1992)	5 B mm Hg at 122A° F; 32 mm Hg at 158A° F	1	77	mm Hg	(NTP, 1992)	3.73					(USCG, 1999)	1.168	1.2					760	338 to 340					(NTP, 1992)		110.05							at 67.1A° F	(NTP, 1992)			greater than or equal to 100	17.0	Poison	(CH3)2N CCCl	Cellulose-Based Absorbents|Multi real-Based & Clay-Based Absorbents|Dirt Earth	5.0	4.0	51.0	1.0	17.0	5.0
393	LITHIUM CHLORIDE	(NTP, 1992)		9	140	mm Hg							(USCG, 1999)	0.943					300	ppm					(NTP, 1992)		87.14			(NIOSH, 2003)				at 72A° F	(NTP, 1992)			greater than or equal to 100	18.0	Combustible Liquid	DAC	mg/mL	Combustible Liquid	C4H9NO			56.0	1.0	18.0	5.0
394	L-METHIONINE																									(NTP, 1992)		330.22							at 72A° F	(NTP, 1992)		less than 0.1	mg/mL				C14H6N2 O8	Cellulose-Based Absorbents	Exp Polymeric Adsorbents	13.0	63.0	1.0	13.0	5.0
396	L-TAURINE																																													

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
397	L-TRYPTOPHAN	ALPHA'-AMINO-3-INDOLEPROPIONIC ACID|2-AMINO-3-INDOL-3-YLPROPIONIC ACID|2-AMINO-3-INDOLYLPROPANOIC ACID|EH 121|1H-INDOLE-3-ALANINE, (S)-|1H-INDOLE-3-PROPANOIC ACID, ALPHA-AMINO-, (S)-|3-INDOL-3-YLALANINE|INDOLE-3-ALANINE|L(-)-TRYPTOPHAN|L-(-)-TRYPTOPHAN|L-ALANINE, 3-(1H-INDOL-3-YL)-|L-ALPHA-AMINO-3-INDOLEPROPIONIC ACID|L-ALPHA-AMINOINDOLE-3-PROPIONIC ACID|L-BETA-3-INDOLYLALANINE|L-TRP|L-TRYPTOPHAN|L-TRYPTOPHANE|L-TTP|NCI-C01729(S)-ALPHA-AMINO-1H-INDOLE-3-PROPANOIC ACID|(S)-ALPHA-AMINO-BETA-INDOLEPROPIONIC ACID|(S)-ALPHA-AMINOINDOLE-3-PROPIONIC ACID|(S)-	73-22-3	PHYSICAL DESCRIPTION: White powder with a flat taste. An essential amino acid; occurs in isomeric forms. (NTP, 1992)	1.0	2.5	5.0	1258.0	97.0	397.0	152.0	156.0	177.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
398	MAGNESIUM NITRATE	MAGNESIUM DINITRATE|MAGNESIUM NITRATE|MAGNESIUM NITRATE HEXAHYDRATE|MAGNIOSAN|NITROMAGNESITE	10377-60-3	A white crystalline solid. Produces toxic oxides of nitrogen if heated to decomposition. Used in pyrotechnics.	1.0	2.5	5.0	1258.0	97.0	397.0	152.0	156.0	177.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
399	MEDROXYPROGESTERONE ACETATE	(BLOB)	71-58-9	PHYSICAL DESCRIPTION: Odorless white to off-white microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	1263.0	97.0	397.0	152.0	156.0	178.0	14.0	56.0	22.0	21.0	INHALATION: remove to fresh air; administer artificial respiration if needed. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
400	METHYL IODIDE	HALON 10001|IODOMETHANE|METHANE, IODO|METHYL IODIDE|METHYL IODIDE (CH3I)|MONOIODOMETHANE	74-88-4	A colorless liquid that turns brown on exposure to light. Denser than water. Contact may irritate skin, eyes and mucous membranes. Very toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	1263.0	97.0	397.0	152.0	156.0	178.0	14.0	56.0	22.0	21.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
401	METHYL METHACRYLATE MONOMER	ACRYESTER M|ACRYLIC ACID, 2-METHYL-, METHYL ESTER|DIAKON|METHACRYLATE MONOMER|METHACRYLIC ACID METHYL ESTER|METHACRYLIC ACID, METHYL ESTER|2-(METHOXYCARBONYL)-1-PROPENE|METHYL 2-METHYL-2-PROPENOATE|METHYL 2-METHYLACRYLATE|METHYL A-METHYLACRYLATE|METHYL ALPHA-METHYLACRYLATE|METHYL ESTER OF METHACRYLIC ACID|METHYL METHACRYLATE|METHYL METHACRYLATE MONOMER|METHYL METHACRYLATE MONOMER, INHIBITED|METHYL METHACRYLATE MONOMER, UNINHIBITED|METHYL METHACRYLATE	80-62-6	A clear colorless liquid. Slightly soluble in water and floats on water. Vapors heavier than air. Vapors irritate the eyes and respiratory system. Containers must be heavily insulated or shipped under refrigeration. An inhibitor such as hydroquinone, hydroquinone methyl ester and dimethyl t-butylphenol is added to keep the chemical from initiating polymerization. The chemical may polymerize exothermically if heated or contaminated with strong acid or base. If the polymerization takes place inside a container, the container may rupture violently. Used to make plastics.	2.5	5.0	2.5	1263.0	97.0	397.0	152.0	156.0	178.0	14.0	56.0	22.0	21.0	(BLOB)	Special Hazards of Combustion Products: Contain irritating and toxic chloride vapors. Behavior in Fire: Decomposes and produces toxic gases. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
397	L-TRYPTOPHAN	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Hot aqueous solutions of the nitrate above 50% conc., under confinement may decompose explosively. This process is aided catalytically with such substances as nitric acid and chloride ion, Chem. Abs., 1982, 97, 78074.	AMMONIUM NITRATE offers well studied fire and explosion hazards. Has caused several extremely severe explosions with significant loss of life and property, [Chem. Eng. News, 1962, 70, 91; see Bretherick 5th edition for additional other references]. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture with aluminum powder can be used as an explosive. Mixtures with zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony behave similarly. A number of explosions have occurred when ammonium nitrate and aluminum were mixed with carbon, hydrocarbons, with or without oxidizing agents [Mellor 5:219 1946-47]. A mixture with acetic acid ignites when warmed, especially if the acid is concentrated [Von Schwartz, p. 322 1918]. Causes decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																						
398	MAGNESIUM NITRATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Peroxides, such as DIMETHYLHEXANE DIHYDROPEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
399	MEDROXYPROGESTERONE ACETATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves; goggles or face shield (USCG, 1999)	Highly flammable.	Ketones, such as DI-N-BUTYL KETONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. May attack some forms of plastics (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		21	
400	METHYL IODIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PENICILLIN VK+ is the potassium salt of penicillin v. This compound is incompatible with acids, oxidizing agents (especially in the presence of trace metals), heavy metal ions such as copper, lead, zinc and mercury; glycerol, sympathomimetic amines, thiomersal, wood alcohols, cetostearyl alcohol, hard paraffins, macrogols, cocoa butter and many ionic an nonionic surface-active agents. It is also incompatible with alkalis, compounds leached from vulcanized rubber, hydrochlorides of tetracyclines and organic peroxides. Other incompatibilities include reducing agents, alcohols, other hydroxy compounds, self-emulsifying stearyl alcohol, emulsifying wax, lanolin, crude cholinesterated bases, glycol, sugars, amines, aminacrine hydrochloride, ephedrine, procaine, rubber tubing, thiamine hydrochloride, zinc oxide, oxidized cellulose, iodine, iodides, thiols, chlorocresol and resorcinol. It may also be incompatible with naphthalene oils and vitamin B. (NTP, 1992)						0																						(NTP, 1992)		387 to 396	
401	METHYL METHACRYLATE MONOMER	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	A mixture of PENTACHLOROETHANE with potassium may explode after a short delay. Reaction with alkalis or metals will produce a violent reaction. This compound also reacts violently with NaK alloy + bromoform. It is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		-20	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
397	L-TRYPTOPHAN																																								Oxidizer	H3N.HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	80.0	4.0	5.0
398	MAGNESIUM NITRATE																																								Organic Peroxide|Explosive	C8H18O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	68.0	4.0	5.0
399	MEDROXYPROGESTERONE ACETATE														(USCG, 1999)		0.822		68		(USCG, 1999)		370		760		(USCG, 1999)		142											DBK	Flammable Liquid	C9H18O		16.0	1.0	56.0	4.0	5.0
400	METHYL IODIDE														(NTP, 1992)		1.4										(NTP, 1992)		388.51						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C16H18N2O5S.K		15.0	1.0	55.0	4.0	5.0
401	METHYL METHACRYLATE MONOMER	(NTP, 1992)	; 6 mm Hg at 86Â° F	3.4		68		mm Hg	(NTP, 1992)		7.2				(USCG, 1999)		1.6728		77		(NTP, 1992)		324		760		(NTP, 1992)		202.3						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL	PCE	Poison	C2HCl5		19.0	1.0	58.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
402	METHYLENE BLUE TRIHYDRATE	3,7-BIS(DIMETHYLAMINO)PHENAZATHIONIUM CHLORIDE TRIHYDRATE|3,7-BIS(DIMETHYLAMINO)PHENOTHIAZIN-5-IUM, CHLORIDE, TRIHYDRATE|C.I. BASIC BLUE 9, TRIHYDRATE|7-(DIMETHYLAMINO)-3-(METHYLIMINO)-3H-PHENOTHIAZINE, 3-METHOCHLORIDE TRIHYDRATE|METHYLENE BLUE|METHYLENE BLUE TRIHYDRATE|METHYLTHIONINE CHLORIDE TRIHYDRATE|METHYLTHIONINE TRIHYDRATE|PHENOTHIAZIN-5-IUM, 3,7-BIS(DIMETHYLAMINO)-, CHLORIDE, TRIHYDRATE|TETRAMETHYLENE BLUE TRIHYDRATE|TETRAMETHYLTHIONINE CHLORIDE TRIHYDRATE	7220-79-3	PHYSICAL DESCRIPTION: Odorless or almost odorless dark green crystals with bronze luster or dark green crystalline powder. pH (1% solution in water) 3 to 4.5 . (NTP, 1992)	1.0	2.5	5.0	1263.0	97.0	397.0	152.0	156.0	178.0	14.0	56.0	22.0	21.0	(BLOB)	Shock can shatter container, releasing contents. (Non-Specific - Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution water may cause pollution. When heated to decomposition, it emits highly toxic fumes of oxides of nitrogen, phosphorus, and sulfur. Avoid alkali materials and heat. It is unstable to iron or tin surfaces and when mixed with certain carriers. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog or foam. (EPA, 1998)
403	METRONIDAZOLE	ACROMONA|ANAGIARDIL|ATRIVY1|BAYER 5360|1-(BETAETHYLOL)-2-METHYL-5-NITRO-3-AZAPYRROLE|1-(BETA-HYDROXYETHYL)-2-METHYL-5-NITROIMIDAZOLE|1-(BETA-OXYETHYL)-2-METHYL-5-NITROIMIDAZOLE|BEXON|CLONT|CONT|DANIZOL|DEFLAMON|DEFLAMON-WIRKSTOFF|EFLORAN|ELYZOL|ENTIZOL|EUMIN|FLAGEMONA|FLAGESOL|FLAGIL|FLAGYL|FLEGYL|GIATRICOL|GINEFLAVIR|GINIFLAVIR|1-(2-HYDROXY-1-ETHYL)-2-METHYL-5-NITROIMIDAZOLE|1-(2-HYDROXYETHYL)-2-METHYL-5-NITROIMIDAZOLE|1-HYDROXYETHYL-2-METHYL-5-NITROIMIDAZOLE|MIDAZOLE-1-ETHANOL, 2-METHYL-5-NITRO-|KLION|KLONT|MERONIDAL|2-METHYL-1-(2-	443-48-1	PHYSICAL DESCRIPTION: White to pale-yellow crystalline powder with a slight odor. Bitter and saline taste. pH (saturated aqueous solution) about 6.5. (NTP, 1992)	1.0	2.5	5.0	1268.0	97.0	397.0	152.0	156.0	179.0	14.0	56.0	22.0	21.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide (USCG, 1999)
404	NEON	NEON|NEON, COMPRESSED	7440-01-9	A colorless odorless noncombustible gas. Chemically inert. The vapors are lighter than air. Nontoxic, but can act as a simple asphyxiant. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket. Principal use is to fill lamp bulbs and tubes.	5.0	1.0	1.0	1273.0	97.0	397.0	152.0	156.0	180.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
405	NEON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	NEON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|NEON, [REFRIGERATED LIQUID]	7440-01-9	A colorless, odorless, extremely cold liquid. Rapidly evolves into neon gas. Nontoxic and chemically inert. May act as an asphyxiate by displacement of oxygen. Contact with the liquid may cause frostbite. Exposure of container to prolonged heat or fire may cause violent rupture and rocket.	5.0	1.0	1.0	1278.0	97.0	397.0	152.0	156.0	181.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
406	N-HEPTANE	DIPROPYLMETHANE|HEPTANE|HEPTANE (N)|HEPTANES|HEPTYL HYDRIDE|N-HEPTANE|NORMAL-HEPTANE|SKELLYSOLVE C	142-82-5	Clear colorless liquids with a petroleum-like odor. Flash point 25Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1283.0	97.0	397.0	152.0	156.0	182.0	14.0	56.0	22.0	21.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
402	METHYLENE BLUE TRIHYDRATE	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Insoluble in water. It is stable in water at a neutral pH.	DIOXATHION is heat sensitive. This chemical may react with iron or tin surfaces. It may be hydrolyzed by strong acids or alkalis. (NTP, 1992). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		-4	
403	METRONIDAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	DIPHENYL OXIDE can react with oxidizing materials. (NTP, 1992). A vigorous reaction occurred between the ether and chlorosulfuric acid.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		239		(USCG, 1999)		0.8		%	(USCG, 1999)		1.5		%	(USCG, 1999)		1148		(NTP, 1992)		80.3	
404	NEON	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	TRIMETHYLCYCLOHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
405	NEON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Inorganic reducing agents, such as ZINC BISULFITE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Sulfites and hydrosulfites (dithionites) can react explosively with strong oxidizing agents. Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
406	N-HEPTANE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable.Slowly decomposed by water to form phosphoric acid and toxic hydrogen sulfide gas (H2S). May ignite on contact with water or moist air.	PHOSPHORUS SESQUISULFIDE is a reducing agent.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
402	METHYLENE BLUE TRIHYDRATE	(NTP, 1992)		17.8		77		mm Hg							(EPA, 1998)		1.257		78.8		(NTP, 1992)			140 to 154	0.5		(EPA, 1998)		456.54						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL		Poison	C12H26O6P2S4		11.0	1.0	55.0	4.0	5.0
403	METRONIDAZOLE	(NIOSH, 2003)		0.02		77		mm Hg							(USCG, 1999)		1.07		80.6		(NTP, 1992)		496.27		760		(NTP, 1992)		170.22		(NIOSH, 2003)		100	ppm	(NTP, 1992)	Insoluble				DPE		C12H10O		13.0	1.0	58.0	4.0	5.0
404	NEON																																							Corrosive	C9H19N	Mineral-Based & Clay-Based Absorbents	20.0	2.0	29.0	3.0	5.0
405	NEON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																							Corrosive	Zn(HSO3)2 (aqueous)		20.0	2.0	29.0	3.0	5.0
406	N-HEPTANE																																							Flammable Solid	P4S3		21.0	2.0	48.0	3.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
407	NICKEL CHLORIDE	NICKEL CATALYST|NICKEL CHLORIDE|NICKEL CHLORIDE HEXAHYDRATE|NICKEL DICHLORIDE|NICKEL DICHLORIDE (NICL2)|NICKEL(2+) CHLORIDE|NICKEL(II) CHLORIDE|NICKELOUS CHLORIDE	37211-05-5	A brown or green colored solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	1283.0	102.0	397.0	152.0	156.0	182.0	15.0	56.0	22.0	21.0	(BLOB)	Toxic fumes of arsenic trioxide and arsine may be formed in fire situations. Contact with halide acids will form toxic volatile halides. Reduction in acid solutions will form arsine. Arsenic trioxide and excess zinc filings will explode on heating. Avoid sodium chlorate; fluorine; chlorine trifluoride; chromic oxide; aluminum chloride; phosphorus pentoxide; hydrogen fluoride; oxygen difluoride, tannic acid; infusion cinchona and other vegetable astringent infusions and decoctions; iron in solution. It is stable in air but slowly oxidizes in acid media. (EPA, 1998)	Wear self-contained breathing apparatus. Extinguish fire using agent suitable for type of surrounding fire (material itself does not burn or burns with difficulty). Use water in flooding quantities as fog. Use foam, carbon dioxide or dry chemical. (EPA, 1998)
408	NICKEL NITRATE	NICKEL BIS(NITRATE)|NICKEL DINITRATE|NICKEL NITRATE|NICKEL NITRATE (NI(NO3)2)|NICKEL NITRATE HEXAHYDRATE|NICKEL(2+) NITRATE|NICKEL(II) NITRATE|NICKELOUS NITRATE	13478-00-7	Nickel nitrate is a green crystalline solid. It is soluble in water. It is noncombustible, but it will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. It is used in nickel plating and to make nickel catalysts for use in chemical manufacture.	1.0	2.5	5.0	1283.0	102.0	397.0	152.0	156.0	182.0	15.0	56.0	22.0	21.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
409	NICOTINAMIDE	ACID AMIDE|AMIDE PP|3-AMIDOPYRIDINE|AMINICOTIN|3-(AMINOCARBONYL)PYRIDINE|AMIXICOTYN|AMNICOTIN|AUSTROVIT PP|BENICOT|BETA-PYRIDINECARBOXAMIDE|3-CARBAMOYLPYRIDINE|DELONIN AMIDE|DIPEGYL|DIPIGYL|ENDOBION|FACTOR PP|HANSAMID|NOVITAN PP|M-(AMINOCARBONYL)PYRIDINE|NAM|NANDERVIT-N|NICOTYL|NIACEVIT|NIACIN AMIDE|NIAMIDE|NIAVITPP|NICAMIDE|NICAMINA|NICAMINDON|NICASIR|NICOBION|NICOFORT|NICOGEN|NICOMIDOL|NICOSAN 2|NICOSYLAMIDE|NICOTA|NICOTAMIDE|NICOTILAMIDE|NICOTILILAMIDO|NICOTINAMIDE|NICOTINE ACID AMIDE|NICOTINIC ACID AMIDE|NICOTINIC AMIDE|NICOTOL|NICOTYLA	98-92-0	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
410	NICOTINIC ACID	ACIDUM NICOTINICUM|AKOTIN|ANTI-PELLAGRA VITAMIN|APELAGRIN|BETA-PYRIDINECARBOXYLIC ACID|BIONIC|3-CARBOXYLPYRIDINE|3-CARBOXYPYRIDINE|DASKIL|DAVITAMON PP|DIREKTAN|EFACIN|LINIC|NAH|NAOTIN|NIACIN|NIASPAN|NICACID|NICAMIN|NICANGIN|NICO|NICO-400|NICO-SPAN|NICOBID|NICOCAP|NICOCIDIN|NICOCRISINA|NICODAN|NICODELMINE|NICOLAR|NICONACID|NICONAT|NICONAZID|NICOROL|NICOSAN 3|NICOSIDE|NICOSYL|NICOTAMIN|NICOTENE|NICOTIL|NICOTINE ACID|NICOTINIC ACID|NICOTINIPCA|NICOTINOYLHYDRAZINE|NICOVASAN|NICOVASEN|NICOVEL|NICYL|NIPELLEN|NYCLIN|P.P. FACTOR-PELLAGRA PREVENTIVE FACTOR|PELLAGRA PREVENTIVE	59-67-6	PHYSICAL DESCRIPTION: Odorless white crystalline powder with a feebly acid taste. pH (saturated aqueous solution) 2.7. pH (1.3% solution) 3-3.5. (NTP, 1992)	1.0	2.5	5.0	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
411	NIFEDIPINE	ADALAT|BAY 1040|BAY A 1040|BAY-A 1040|CITILAT|CORDAFEN|CORDAFLEX|CORDIPIN|CORINFAR|CORYNPHAR|1,4-DIHYDRO-2,6-DIMETHYL-4-(2-NITROPHENYL)-3,5-PYRIDINEDICARBOXYLIC ACID DIMETHYL ESTER|DIMETHYL 1,4-DIHYDRO-2,6-DIMETHYL-4-(2'-NITROPHENYL)-3,5-PYRIDINEDICARBOXYLATE|DIMETHYL 4-(O-NITROPHENYL)-2,6-DIMETHYL-1,4-DIHYDRO-3,5-PYRIDINEDICARBOXYLATE|2,6-DIMETHYL-3,5-DICARBOMETHOXY-4-(2-NITROPHENYL)-1,4-DIHYDROPYRIDINE|2,6-DIMETHYL-4-(2-NITROPHENYL)-1,4-DIHYDROPYRIDINE-3,5-DICARBOXYLIC ACID DIMETHYL ESTER|FENIHIDINE|GLOPIR|NIFEDIN|NIFEDIPINE|NIFEDIPINUM|NIFELAT|NIPHEDIPIN	21829-25-4	PHYSICAL DESCRIPTION: Odorless yellow crystals or powder. Tasteless. (NTP, 1992)	1.0	2.5	5.0	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
407	NICKEL CHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly soluble in water, but dissolves very slowly; more soluble in hot water [Merck].	ARSENIC TRIOXIDE reacts vigorously with fluorine at ordinary temperatures [Mellor 9:34 1946-47]. Dissolves in aqueous acids. Incompatible with tannic acid, infusions of cinchona and other vegetable astringent infusions and decoctions, and with iron in solution [Merck].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0						(EPA, 1998)	Not flammable.				(EPA, 1998)	Not flammable.							(EPA, 1998)	Arsenolite and claudetite forms sublime at 379Â° F.		379 to 594.1
408	NICKEL NITRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Water soluble.	DIRECT BLUE 2 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																									
409	NICOTINAMIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	ASBESTOS minerals are generally unreactive.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NIOSH, 2003)	(Decomposes)	1112	
410	NICOTINIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Soluble in water.	DIRECT YELLOW 11 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																									
411	NIFEDIPINE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DI-SEC-BUTYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C. owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pesMMHG	bp_range_pesMMHG	molwgt_source	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
407	NICKEL CHLORIDE	(EPA, 1998)		66.1		593.6		mm Hg							(EPA, 1998)	3,738 amorphous or viscous 3,865 arsenolite 4,15 claudetite					(EPA, 1998)		869		760		(EPA, 1998)			(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3							ATO	Poison						5.0
408	NICKEL NITRATE																																												17.0	1.0	64.0	4.0	5.0
409	NICOTINAMIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)						(NIOSH, 2003)	Decomposes					(NIOSH, 2003)			(NIOSH, 2003)	: A potential human carcinogen.			(NIOSH, 2003)	Insoluble	at 64Å° F				Class 9	[Mg6(Si4O10)(OH)8]. chrysotile		14.0	1.0	71.0	4.0	5.0
410	NICOTINIC ACID																																		(NIOSH, 1992)		10 to 50	mg/mL				C6H10N2Na2O7S2		15.0	1.0	73.0	4.0	5.0
411	NIFEDIPINE																																										Organic Peroxide	C10H18O6	Cellulose-Based Absorbents (Clay and/or Polymeric Absorbents	18.0	1.0	67.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
412	NITROBENZENE	BENZENE, NITRO-[ESSENCE OF MIRBANE|ESSENCE OF MYRBANE|MIRBANE OIL|NCI-C60082|NITROBENZENE|NITROBENZENE, LIQUID|NITROBENZENE, [LIQUID]|NITROBENZOL|OIL OF MIRBANE|OIL OF MYRBANE	98-95-3	A pale yellow to dark brown liquid. Flash point 190Â°F. Very slightly soluble in water. Toxic by inhalation and by skin absorption. Combustion give toxic oxides of nitrogen. Density 10.0 lb /gal.	2.5	5.0	2.5	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	(BLOB)	It is a slight fire hazard. When heated to decomposition it emits toxic fumes of nitrogen oxides. Keep from light and heat. (EPA, 1998)	This is a carbamate pesticide. As for carbamate pesticides, wear self-contained breathing apparatus when fighting fires. Extinguish fire using agent suitable for type of surrounding fire (material itself burns with difficulty). Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)
413	N-METHYL-2-PYRROLIDONE	AGSOLEX 1|M-PYROL|1-METHYL-2-PYRROLIDINONE|1-METHYL-2-PYRROLIDONE|1-METHYL-5-PYRROLIDINONE|1-METHYLAZACYCLOPENTAN-2-ONE|METHYLPYRROLIDONE|1-METHYLPYRROLIDONE|MICROPOSIT 2001|N 0131|N-METHYL-2-KETOPYRROLIDINE|N-METHYL-2-PYRROLIDINONE|N-METHYL 2-PYRROLIDONE|N-METHYL-ALPHA-PYRROLIDINONE|N-METHYL-GAMMA-BUTYROLACTAM|N-METHYLPYRROLIDINONE|N-METHYLPYRROLIDONE|NMP|PYROL-M	872-50-4	A clear colorless liquid with a "fishlike" odor. Denser than water. Flash point 199Â°F. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion.	2.5	5.0	2.5	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
414	N-PENTANE	AMYL HYDRIDE|N-PENTANE|NORMAL PENTANE|NORMAL-PENTANE|PENTANE|PENTANES|SKELLYSOLVE A	109-66-0	A clear colorless liquid with a petroleum-like odor. Flash point 57Â°F. Boiling point 97Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
415	PALLADIUM CHLORIDE	DICHLOROPALLADIUM|ENPLATE ACTIVATOR 440|PALADIUM(OUS) CHLORIDE|PALLADIUM (II) CHLORIDE|PALLADIUM CHLORIDE|PALLADIUM DICHLORIDE|PALLADIUM II CHLORIDE|PALLADIUM(II) CHLORIDE|PALLADOUS CHLORIDE	7647-10-1	PHYSICAL DESCRIPTION: Dark brown crystals. (NTP, 1992)	1.0	2.5	5.0	1288.0	102.0	397.0	157.0	156.0	183.0	15.0	56.0	23.0	21.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
416	P-AMINOBENZOIC ACID	AMBEN|1-AMINO-4-CARBOXYBENZENE|4-AMINOBENZOIC ACID|ANILINE-4-CARBOXYLIC ACID|ANTI-CHROMOTRICHIA FACTOR|ANTICANITIC VITAMIN|BACTERIAL VITAMIN H1|BENZOIC ACID, 4-AMINO-|BENZOIC ACID, P-AMINO-|4-CARBOXYANILINE|CHROMOTRICHIA FACTOR|GAMMA-AMINOBENZOIC ACID|HACHEMINA|P-AMINOBENZOIC ACID|P-CARBOXYANILINE|P-CARBOXYPHENYLAMINE|PAB|PABA|PABACYD|PABAFILM|PABAMINE|PABANOL|PARAMINOL|PARANATE|ROMAVIT|SUNBRELLA|TRICHOCHROMOGENIC FACTOR|TRICHROMOGENIC FACTOR|VITAMIN BX|VITAMIN H|VITAMIN H'	150-13-0	PHYSICAL DESCRIPTION: Colorless crystals that discolor on exposure to light and air. (NTP, 1992)	1.0	2.5	5.0	1293.0	102.0	397.0	157.0	156.0	184.0	15.0	56.0	23.0	21.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
412	NITROBENZENE	This is a carbamate pesticide. As for other carbamate pesticides, avoid breathing dusts, and fumes from burning materials. Keep upwind. Avoid bodily contact with the material. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(EPA, 1998)			221 to 223
413	N-METHYL-2-PYRROLIDONE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Most alkyl monohydroperoxides are liquid, the explosivity of the lower members (e.g., methyl hydroperoxide, or possibly due to traces of the dialkyl peroxides) decreasing with increasing chain length and branching [Bretherick 2nd ed. p10. 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
414	N-PENTANE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																											(NTP, 1992)			394 to 399
415	PALLADIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly soluble in water.	BENZENESULFONIC ACID reacts with bases and many organic compounds. (NTP, 1992)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											(NTP, 1992)			109 to 111
416	P-AMINOBENZOIC ACID	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames.		Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
412	NITROBENZENE																									(EPA, 1998)		275.34													Poison	C15H21N3O2	Mineral-Based & Clay-Based Absorbents	12.0	1.0	55.0	4.0	5.0
413	N-METHYL-2-PYRROLIDONE																																								Organic Peroxide	C10H18O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	75.0	4.0	5.0
414	N-PENTANE																										(NTP, 1992)		166.14						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C7H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	20.0	2.0	47.0	3.0	5.0
415	PALLADIUM CHLORIDE																										(NTP, 1992)		158.18						(NTP, 1992)	at 72Â° F		5 to 10	mg/mL		Corrosive	C6H6O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	55.0	4.0	5.0
416	P-AMINOBENZOIC ACID																																								Flammable Solid	C6H8N2O2S		15.0	1.0	65.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
417	PETROLATUM	PETROLATUM|PETROLATUM JELLY|PETROLEUM JELLY|VASELINE|YELLOW PETROLATUM	8009-03-8	Dark brown, green, amber or white odorless thick liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	1298.0	102.0	397.0	157.0	156.0	185.0	15.0	56.0	23.0	21.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
418	PHOSPHOROUS ACID	DIHYDROXYPHOSPHINE OXIDE|O-PHOSPHOROUS ACID|PHOSPHONIC ACID|PHOSPHOROUS ACID|PHOSPHOROUS ACID, ORTHO	13598-36-2	A white or yellow crystalline solid (melting point 70.1 deg C) or a solution of the solid. Density 1.651 g /cm3 . Contact may severely irritate skin, eyes, and mucous membranes. Toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	1303.0	102.0	402.0	157.0	156.0	186.0	15.0	57.0	23.0	21.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
419	PHOSPHORUS TRICHLORIDE	PHOSPHINE, TRICHLORO-|PHOSPHOROUS CHLORIDE|PHOSPHOROUS TRICHLORIDE|PHOSPHORUS CHLORIDE|PHOSPHORUS CHLORIDE (CL6P2)|PHOSPHORUS CHLORIDE (PCL3)|PHOSPHORUS CHLORIDE(CL6P2)|PHOSPHORUS CHLORIDE(PCL3)|PHOSPHORUS TRICHLORIDE|TRICHLOROPHOSPHINE	7719-12-2	A colorless or slightly yellow fuming liquid with a pungent and irritating odor resembling that of hydrochloric acid. Causes severe burns to skin, eyes and mucous membranes. Very toxic by inhalation, ingestion and skin absorption. Reacts with water to evolve hydrochloric acid, an irritating and corrosive gas apparent as white fumes. Used during electrodeposition of metal on rubber and for making pesticides, surfactants, gasoline additives, plasticizers, dyestuffs, textile finishing agents, germicides, medicinal products, and other chemicals.	2.5	5.0	2.5	1308.0	102.0	402.0	157.0	156.0	187.0	15.0	57.0	23.0	21.0	INHALATION: move to fresh air. INGESTION: induce vomiting, followed by prompt and complete gastric lavage, cathartics, and demulcents. EYES: flush with water; consult a physician. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase intensity of fire when in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
420	PLATINOL	CACP|CDDP|CIS-DDP|CIS-DIAMINEDICHLOROPLATINUM|CIS-DIAMINODICHLOROPLATINUM(II)|CIS-DIAMMINEDICHLOROPLATINUM|CIS-DIAMMINEDICHLOROPLATINUM(II)|CIS-DICHLORODIAMMINE PLATINUM(II)|CIS-DICHLORODIAMMINEPLATINUM|CIS-DICHLORODIAMMINOPLATINUM(II)|CIS-PLATIN|CIS-PLATINOUS DIAMINODICHLORIDE|CIS-PLATINOUS DIAMMINE DICHLORIDE|CIS-PLATINUM|CIS-PLATINUM(II)|CIS-PLATINUM(II) DIAMINEDICHLORIDE|CISPLATIN|CISPLATYL|CISPT(II)|CPDC|CPDD|DDP|DIAMMINEDICHLOROPLATINUM|NCI-C55776|NEOPLATIN|NSC-119875|PEYRONE'S CHLORIDE|PLATIBLASTIN|P	15663-27-1	PHYSICAL DESCRIPTION: An anticancer drug. Orange-yellow to deep yellow solid or powder. (NTP, 1992)	1.0	2.5	5.0	1313.0	102.0	402.0	157.0	156.0	188.0	15.0	57.0	23.0	21.0	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
421	POLYSORBATE 80	(BLOB)	9005-65-6	PHYSICAL DESCRIPTION: Amber-colored viscous liquid. pH (5% aqueous solution) 5-7. Faint odor and bitter taste. (NTP, 1992)	2.5	5.0	2.5	1318.0	102.0	402.0	157.0	156.0	189.0	15.0	57.0	23.0	21.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
417	PETROLATUM	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed by strong acid and base.	A chloroacetanilide derivative.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
418	PHOSPHOROUS ACID	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water. Sensitive to prolonged exposure to light and moisture.	EPIBROMOHYDRIN reacts with acids, bases, oxidizing agents, Na, Zn, Al, Mg and their alloys. (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		133																	(NTP, 1992)		-40	
419	PHOSPHORUS TRICHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves. (USCG, 1999)	Water soluble.	ZINC NITRATE is an oxidizing agent. Reacts violently with combustible and reducing materials. [Handling Chemicals Safely 1980. p. 967]; mixtures of zinc nitrates with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979. p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		97	
420	PLATINOL	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Reacts with water to produce corrosive and toxic gaseous hydrogen chloride.	2-CHLOROETHANESULFONYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, amines, alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3385 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
421	POLYSORBATE 80	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Oxidize relatively rapidly in air. Water emulsifiable.	PYRETHRINS decompose rapidly in base; may generate heat with caustic solutions. May also react with acids to liberate heat. Generate flammable hydrogen with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		180 to 190																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
417	PETROLATUM																																								Poison	C11H14ClNO		20.0	2.0	44.0	3.0	5.0
418	PHOSPHOROUS ACID														(NTP, 1992)		1.601		68		(NTP, 1992)			273 to 277	760		(NTP, 1992)		136.98						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison|Flammable Liquid	C3H5BrO	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	13.0	1.0	62.0	4.0	5.0
419	PHOSPHORUS TRICHLORIDE														(USCG, 1999)		2.07		68								(USCG, 1999)		297.47										ZNT	Oxidizer	Zn(NO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	51.0	4.0	5.0
420	PLATINOL														(EPA, 1998)		1.55		68		(EPA, 1998)			392 to 397	760		(EPA, 1998)		163											Poison Inhalation Hazard|Dangerous When Wet	C2H4Cl2O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	16.0	1.0	67.0	4.0	5.0
421	POLYSORBATE 80	(NIOSH, 2003)	Low												(NIOSH, 2003)	(approx)	1							316 to 374	(NIOSH, 2003)		(NIOSH, 2003)		5000	mg/m3	(NIOSH, 2003)	Insoluble							Class 9		Dirt/Earth	18.0	1.0	80.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
422	POLYVINYLPYRROLIDONE	(BLOB)	9003-39-8	PHYSICAL DESCRIPTION: White powder. Compatible with a wide range of hydrophilic and hydrophobic resins. (NTP, 1992)	1.0	2.5	5.0	1318.0	102.0	402.0	157.0	156.0	189.0	15.0	57.0	23.0	21.0	(BLOB)	Behavior in Fire: Use water spray to cool exposed containers. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Carbon dioxide, dry chemical, water fog, or alcohol foam. (USCG, 1999)
423	POTASSIUM BICHROMATE	BICHROMATE OF POTASH|BICHROME|CHROMIC ACID, DIPOTASSIUM SALT|CHROMIUM POTASSIUM OXIDE (K2CR2O7)|DICHROMIC ACID (H2CR2O7), DIPOTASSIUM SALT|DICHROMIC ACID DIPOTASSIUM SALT|DICHROMIC ACID, DIPOTASSIUM SALT|DIPOTASSIUM BICHROMATE|DIPOTASSIUM BICHROMATE (K2CR2O7)|DIPOTASSIUM DICHROMATE|DIPOTASSIUM DICHROMATE (K2CR2O7)|DIPOTASSIUM DICHROMIUM HEPTAOXIDE|IOPEZITE|POTASSIUM BICHROMATE|POTASSIUM DICHROMATE|POTASSIUM DICHROMATE (K2(CR2O7))|POTASSIUM DICHROMATE (K2CR2O7)|POTASSIUM DICHROMATE	7778-50-9	Orange red crystals. Denser than water and soluble in water. No distinctive odor. May severely irritate the eyes and respiratory tract. Avoid contact with organic materials. Noncombustible. Used in pyrotehnic displays with tungsten and iron.	1.0	2.5	5.0	1323.0	102.0	402.0	157.0	156.0	190.0	15.0	57.0	23.0	21.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
424	POTASSIUM BROMIDE	BROMIDE SALT OF POTASSIUM|POTASSIUM BROMIDE|TR|POTASSIUM TRIBROMIDE	7758-02-3	PHYSICAL DESCRIPTION: Odorless colorless crystals or white crystalline powder or white granular solid with a pungent bitter saline taste. Aqueous solutions are neutral (pH about 7). (NTP, 1992)	1.0	2.5	5.0	1323.0	102.0	402.0	157.0	156.0	190.0	15.0	57.0	23.0	21.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
425	POTASSIUM CHROMATE	BIPOTASSIUM CHROMATE|DIPOTASSIUM CHROMATE|DIPOTASSIUM CHROMATE (K2CRO4)|DIPOTASSIUM CHROMATE(2-)|DIPOTASSIUM MONOCHROMATE|NEUTRAL POTASSIUM CHROMATE|POTASSIUM CHROMATE|POTASSIUM CHROMATE (K2(CRO4))|POTASSIUM CHROMATE (VI)|POTASSIUM CHROMATE(VI)	7789-00-6	Potassium chromate is a yellow crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in chemical analysis, in making pigments for paints and inks, as a fungicide, and to make other chromium compounds.	1.0	2.5	5.0	1323.0	102.0	402.0	157.0	156.0	190.0	15.0	57.0	23.0	21.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Stable in water. Hydrolyzed in alkali. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
426	POTASSIUM FLUORIDE	CLOCAT F|POTASSIUM FLUORIDE|POTASSIUM MONOFLUORIDE|POTASSIUM MONOFLUORIDE (KF)	7789-23-3	White powder or crystals with a sharp saline taste. Shipped as a solid or an aqueous solution. Strongly irritates skin, eyes and mucous membranes. Toxic by ingestion. Used in insecticides, solder flux and etching glass.	1.0	2.5	5.0	1323.0	102.0	402.0	157.0	156.0	190.0	15.0	57.0	23.0	21.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
427	POTASSIUM HYDROGEN OXALATE	POTASSIUM ACID OXALATE|POTASSIUM BINOXALATE|POTASSIUM HYDROGEN OXALATE|SALACETOSELLA|SALT OF SORREL	127-95-7	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1328.0	102.0	402.0	157.0	156.0	191.0	15.0	57.0	23.0	21.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
422	POLYVINYLPYRROLIDONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient conditions and protect it from moisture. Keep it away from oxidizing materials. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	Wear splash goggles, impervious apron, and impervious gloves. (USCG, 1999)	This chemical slowly hydrolyzes. Insoluble in water.	BIS(2-ETHYLHEXYL) ADIPATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250]. This chemical is incompatible with oxidizing materials and water. It is also incompatible with nitrates. (NTP, 1992)			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		385		(NTP, 1992)	at 468Â° F	0.38		%					(NTP, 1992)		710		(NTP, 1992)		-90	
423	POTASSIUM BICHROMATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Organometallics, such as BIS(CYCLOPENTADIENYL)VANADIUM CHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
424	POTASSIUM BROMIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-2-ETHYL-HEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Decomposes violently or explosively at temperatures 0-10Â°C owing to self- accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156]. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
425	POTASSIUM CHROMATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzed in alkali.	Organothiophosphates, such as ETHOPROPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
426	POTASSIUM FLUORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Decomposes violently or explosively at temperatures 0-10Â°C owing to self- accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156]. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
427	POTASSIUM HYDROGEN OXALATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIS(TRIBUTYLTIN) OXIDE may react vigorously with oxidizing agents and with reducing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		greater than 200																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
422	POLYVINYLPYRROLIDONE	(NTP, 1992)	; 2.6 mm Hg at 392Â° F		less than 0.01	68		mm Hg	(NTP, 1992)		12.8				(USCG, 1999)		0.923				(NTP, 1992)		783		760		(NTP, 1992)		370.57						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	DEH		C22H42O4		11.0	1.0	52.0	4.0	5.0
423	POTASSIUM BICHROMATE																										(NTP, 1992)		216.58												Poison	C10H10CIV		14.0	1.0	51.0	4.0	5.0
424	POTASSIUM BROMIDE																																								Organic Peroxide	C12H24O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	67.0	4.0	5.0
425	POTASSIUM CHROMATE	(EPA, 1998)		0.00035		78.8		mm Hg							(EPA, 1998)		1.094		68		(EPA, 1998)			187 to 196		0.2	(EPA, 1998)		242.36											Poison	C8H19O2PS2		17.0	1.0	69.0	4.0	5.0
426	POTASSIUM FLUORIDE																																								Organic Peroxide	C12H24O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	82.0	4.0	5.0
427	POTASSIUM HYDROGEN OXALATE														(NTP, 1992)		1.17		77		(NTP, 1992)		356		2		(NTP, 1992)		596.08						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Poison	C24H54OSn2		18.0	1.0	55.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
428	POTASSIUM IODIDE	POTASSIUM IODIDE	7681-11-0	Odorless white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1328.0	102.0	402.0	157.0	156.0	191.0	15.0	57.0	23.0	21.0	EYES: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride gas may form in fire. Behavior in Fire: Emits toxic fumes of chloride ion and bismuth when heated to decomposition. (USCG, 1999)	
429	POTASSIUM OXALATE	POTASSIUM OXALATE	6487-48-5	Odorless white solid. Sinks in and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1328.0	102.0	402.0	157.0	156.0	191.0	15.0	57.0	23.0	21.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
430	POTASSIUM PERMANGANATE	C.I. 77755|CAIROX|CHAMELEON MINERAL|CONDY'S CRYSTALS|PERMANGANIC ACID POTASSIUM SALT|POTASSIUM PERMANGANATE|PURE LIGHT E 2	7722-64-7	A purplish colored crystalline solid. Noncombustible but accelerates the burning of combustible material. If the combustible material is finely divided the mixture may be explosive. Contact with liquid combustible materials may result in spontaneous ignition. Contact with sulfuric acid may cause fire or explosion. Used to make other chemicals and as a disinfectant.	1.0	2.5	5.0	1328.0	107.0	407.0	157.0	161.0	191.0	16.0	58.0	23.0	22.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
431	P-PHENYLENEDIAMINE	4-AMINOANILINE|BASF URSOL D|1,4-BENZENEDIAMINE|BENZOFUR D|BLACK FOR FUR D|C.I. 76060|C.I. DEVELOPER 13|C.I. OXIDATION BASE 10|DEVELOPER 13|DEVELOPER PF|1,4-DIAMINOBENZENE|1,4-DIAMINOBENZOL|DURAFUR BLACK R|FOURAMINE D|FOURRINE 1|FOURRINE D|FOURRINE I|FUR BLACK 41867|FUR BLACK R|FUR BROWN 41866|FUR YELLOW|FURRO D|FUTRAMINE D|MAKO H|NAKO H|ORSIN|OXIDATION BASE 10|P-AMINOANILINE|P-BENZENEDIAMINE|P-DIAMINOBENZENE|P-PHENYLENE DIAMINE|P-PHENYLENEDIAMINE|PARA|PARAPHENYLEN-DIAMINE|PELAGOL D|PELAGOL DR|PELAGOL GREY D|PELTOL D|1,4-PHENYLENE	106-50-3	A white to purple crystalline solid (melting point 234 F) that turns purple to black in air. Flash point 309 F. Toxic by skin absorption, inhalation or ingestion. Used for production of aramid fiber, antioxidants, as a laboratory reagent, in photographic developing, and as a dye for hair and furs.	1.0	2.5	5.0	1333.0	107.0	407.0	157.0	161.0	192.0	16.0	58.0	23.0	22.0	INHALATION: only fumes from fire need be considered; metal-fume fever is not critical and lasts less than 36 hrs.; irritation of nose and throat by acid vapors may require treatment by a physician. EYES: flush gently with water for 15 min.; treat burns if fire occurred; get medical attention. SKIN: wash with water; treat burns caused by fire; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Intense smoke may cause metal-fume fever. Irritating hydrogen chloride also formed. Behavior in Fire: Contact with water applied to adjacent fires will cause formation of irritating smoke containing aluminum oxide and hydrogen chloride. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water, foam, dry chemicals, halogenated agents, or carbon dioxide Fire Extinguishing Agents: Inert dry powders such as dry graphite, soda ash, sand, limestone. (USCG, 1999)
432	PROGESTERONE	AGOLUTIN|BETA-PROGESTERONE|BIO-LUTON|CORLUTIN|CORLUTINA|CORLUVITE|CORPORIN|CORPUS LUTEUM HORMONE|CRINONE|DELTA(SUP4)-PREGNENE-3,20-DIONE|DELTA4-PREGNENE-3,20-DIONE|FLAVOLUTAN|FOLOGENON|GESTEROL|GESTONE|GESTORMONE|GESTRONG LAND|CORPIN|GYNLUTING|GYNOLUTONE|HORMOFLAVENE|HORMOLUTON|LIPO-LUTIN|LIPOLUTIN|LUCORTEUM SOL|LUTEAL HORMONE|LUTEINE|LUTEINIQUE|LUTEOCRIN NORMALE|LUTEODYN|LUTEOGAN|LUTEOHORMONE|LUTEOL|LUTEOPUR|LUTEOSAN|LUTEOSTAB|LUTEOVIS|LUTEUM|LUTEX|LUTIDON|LUTIN|LUTOCICLINA|LUTOCYCLIN|LUTOCYCLIN M|LUTOCYLIN|LUTOCYLOL|LUTOFORM|LUTOGYL|LUTREN|LUTROMONE|NALUTRON	57-83-0	PHYSICAL DESCRIPTION: White powder. Melting point 121Â°C. Stable in air. Insoluble in water. A female sex hormone. Low toxicity.	1.0	2.5	5.0	1333.0	107.0	407.0	157.0	161.0	192.0	16.0	58.0	23.0	22.0	(BLOB)	The flash point of this compound is not available, however it is probably non-flammable. (NTP, 1992)	Fires associated with this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
433	PROPYL-4-HYDROXYBENZOATE	ASEPTOFORM P|BENZOIC ACID, P-HYDROXY-, PROPYL ESTER|BETACIDE P|BONOMOLD OP|CHEMOCIDE PK|4-HYDROXYBENZOIC ACID PROPYL ESTER|4-HYDROXYBENZOIC PROPYL ESTER|MEKKINGS P|N-PROPYL 4-HYDROXYBENZOATE|N-PROPYL P-HYDROXYBENZOATE|N-PROPYLPARABEN|NIPAGIN P|NIPASOL|NIPASOL M|NIPASOL P|NIPAZOL|P-HYDROXYBENZOIC ACID PROPYL ESTER|P-HYDROXYBENZOIC PROPYL ESTER|P-HYDROXYPROPYL BENZOATE|PARABEN|PARASEPT|PASEPTOL|PRESERVAL P|PROPAGIN|PROPYL 4-HYDROXYBENZOATE|PROPYL ASEPTOFORM|PROPYL BUTEX|PROPYL CHEMOSEPT|PROPYL P-HYDROXYBENZOATE|PROPYL-4-	94-13-3	PHYSICAL DESCRIPTION: Colorless crystals or white powder or chunky white solid. Melting point 95-98Â°C. Odorless or faint aromatic odor. Low toxicity, Tasteless (numbs the tongue). pH: 6.5-7.0 (slightly acidic) in solution.	1.0	2.5	5.0	1333.0	107.0	407.0	157.0	161.0	192.0	16.0	58.0	23.0	22.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
428	POTASSIUM IODIDE		Goggles or face shield; protective gloves; dust mask (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	BISMUTH OXYCHLORIDE emits toxic fumes of chloride ion and bismuth when heated to decomposition (USCG, 1999).								0																							
429	POTASSIUM OXALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BISMUTH SUBSALICYLATE is stable in air but is sensitive to light. It is unstable in alkaline solutions. This compound decomposes in boiling water and alkalis into a more basic salt. (NTP, 1992)							0																							
430	POTASSIUM PERMANGANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to light; slowly oxidized upon exposure to air. Insoluble in water.	TRIAMTERENE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																						(NTP, 1992)		601	
431	P-PHENYLENEDIAMINE	Neutralizing Agents for Acids and Caustics: Rinse with sodium bicarbonate or lime solution. (USCG, 1999)	Full protective clothing, preferably of aluminized glass cloth; goggles, face shield, gloves; in case of fire, all-purpose canister or self-contained breathing apparatus. (USCG, 1999)	Highly flammable. Ignites when exposed to air. Reacts violently with water or moisture in air forming hydrogen chloride fumes and flammable ethane gas (Rose 1961).	Organometallics, such as ETHYL ALUMINUM DICHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			4	3	7																(USCG, 1999)	Ignites spontaneously in air at ambient temperature.			(USCG, 1999)		90	
432	PROGESTERONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIUREA is chemically classified as an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																						(NTP, 1992)		471 to 473	
433	PROPYL-4-HYDROXYBENZOATE			No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-2-ETHYL-HEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Decomposes violently or explosively at temperatures 0-10Â°C owing to self- accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156]. Danger of explosion when dry	Strong Oxidizing Agent					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
428	POTASSIUM IODIDE														(USCG, 1999)		7.7		68								(USCG, 1999)		260.4												BOC		BiClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	18.0	1.0	94.0	4.0	5.0
429	POTASSIUM OXALATE																									(NTP, 1992)		362.1						(NTP, 1992)	Insoluble (<1 mg/ml at 71.1Â° F)						C21H15BiO9.Bi2O3		18.0	1.0	55.0	4.0	5.0
430	POTASSIUM PERMANGANATE																									(NTP, 1992)		253.3						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H11N7	Mineral-Based & Clay-Based Absorbents	16.0	1.0	57.0	4.0	5.0
431	P-PHENYLENEDIAMINE														(USCG, 1999)		1.227		95		(USCG, 1999)		381		760		(USCG, 1999)		130											EAD	Spontaneously Combustible|Dangerous When Wet	C2H5AlCl2		12.0	1.0	52.0	4.0	5.0
432	PROGESTERONE																									(NTP, 1992)		118.1						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C2H6N4O2	Mineral-Based & Clay-Based Absorbents	12.0	1.0	53.0	4.0	5.0
433	PROPYL-4-HYDROXYBENZOATE																																									C12H24O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	56.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
434	RESORCINOL	1,3-BENZENEDIOL|C.I. 76505|C.I. DEVELOPER 4|C.I. OXIDATION BASE 31|DEVELOPER O|DEVELOPER R|DEVELOPER RS|1,3-DIHYDROXYBENZENE|DIHYDROXYBENZOL|DURAFOR DEVELOPER G|DURAFUR DEVELOPER G|FOURAMINE RS|FOURRINE 79|FOURRINE W|3-HYDROXYCYCLOHEXADIEN-1-ONE|3-HYDROXYPHENOL|M-BENZENEDIOL|M-DIHYDROXYBENZENE|M-HYDROQUINONE|M-HYDROXYPHENOL|M-PHENYLENEDIOL|NAKO TGG|NAKO-TGG|NCI-C05970|PELAGOL GREY RS|PELAGOL RS|RESO|RESORCIN|RESORCINE|RESORCINOL|RS 11H|RS 11L	108-46-3	Very white crystalline solid that becomes pink on exposure to light if not completely pure. Burns although ignition is difficult. Density approximately 1.28 g / cm3. Irritating to skin and eyes. Toxic by skin absorption. Used to make plastics and pharmaceuticals.	1.0	2.5	5.0	1338.0	107.0	407.0	157.0	161.0	193.0	16.0	58.0	23.0	22.0	(BLOB)	Behavior in Fire: Sealed containers may rupture explosively if hot. Heat can cause a violent polymerization reaction with rapid release of energy. Vapors are heavier than air and can travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
435	SELENIUM POWDER	C.I. 77805|ELEMENTAL SELENIUM|SELENIUM|SELENIUM ALLOY|SELENIUM METAL, [POWDER]|SELENIUM POWDER	7782-49-2	Selenium is a reddish colored powder that may become black upon exposure to air. It is toxic by ingestion. It is used to manufacture electronic components and rubber.	1.0	2.5	5.0	1338.0	107.0	412.0	157.0	161.0	193.0	16.0	59.0	23.0	22.0	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
436	SODIUM DICHROMATE	DICHROMIC ACID (H2CR2O7), DISODIUM SALT|DISODIUM DICHROMATE|DISODIUM DICHROMATE (NA2CR2O7)|DISODIUM DICHROMIUM HEPTAOXIDE|SODIUM BICHROMATE|SODIUM CHROMATE (NA2CR2O7)|SODIUM DICHROMATE|SODIUM DICHROMATE (NA2(CR2O7))|SODIUM DICHROMATE(VI)	10588-01-9	A red or red-orange crystalline solid. May be strongly irritating to skin, eyes and mucous membranes. Used as a corrosion inhibitor, and in the manufacture of other chemicals.	1.0	2.5	5.0	1338.0	112.0	412.0	157.0	166.0	193.0	17.0	59.0	23.0	23.0	(BLOB)	Special Hazards of Combustion Products: Decomposition gases are toxic and irritating. Behavior in Fire: Decomposes into toxic irritating gases. Reacts with hot metals such as aluminum and magnesium. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
437	SODIUM FLUORIDE	ALCOA SODIUM FLUORIDE|ANTIBULIT|CAVITROL|CHEMIFLUOR(CREDO)DI|SODIUM DIFLUORIDE|DURAPHAT|F1-TABS|FDA 0101|FLORIDINE|FLOROCID|FLOZENGES|FLUOR-O-KOTE|FLUORAL|FLUORIDE, SODIUM|FLUORIDENT|FLUORIGARD|FLUORINEED|FLUORINSE|FLUORITAB|FLUOROCID|FLUOROL|FLUOROS|FLURA|FLURA DROPS|FLURA-GEL|FLURA-LOZ|FLURCARE|FLURSOL|FUNGOIL B|GELII|GELUTION|GLEEM|IRADICAV|KARI-RINSE|KARIDIUM|KARIGEL|LEA-COV|LEMOFLUR|LURIDE|LURIDE LOZI-TABS|LURIDE-SF|NAFRINSE|NAFEEN|NAFPAK|NATRIUM FLUORIDE|NCI-C55221|NUFLUOR(OSSALIN)|OSSIN|OSTEOFLUOR|PEDIAFLOR|PEDIDENT|PENNWHITE|P	7681-49-4	Sodium fluoride is a colorless crystalline solid or white powder, or the solid dissolved in a liquid. It is soluble in water. It is noncombustible. It is corrosive to aluminum. It is used as an insecticide. It is also used to fluorinate water supplies, as a wood preservative, in cleaning compounds, manufacture of glass, and for many other uses.	1.0	2.5	5.0	1343.0	112.0	412.0	157.0	166.0	194.0	17.0	59.0	23.0	23.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
438	SODIUM FLUORIDE, SOLUTION	ACT|ANTIBULIT|DURAPHAT|FDA 0101|FLORIDINE|FLOROCID|FLUDENT|FLUORADAY|FLUORIGARD|FLUOROL|FLUORZOIN|FLURA DROPS|FLUREXAL|FLURSOL|FUNGOIL B|KARIDIUM|KARIGEL N|OSSIN|OSTEOFLUOR|PERGANTENE|PREVIDENT|PRODENT|SODIUM FLUORIDE|SODIUM FLUORIDE, SOLUTION|SODIUM FLUORIDE, [SOLUTION]|SODIUM MONOFLUORIDE|SODIUM MONOFLUORIDE (NAF)|T-FLUORIDE|THERA FLUR|ZYMAFLUOR	7681-49-4	An aqueous solution. Odorless. The maximum solubility of sodium fluoride in water at room temperature is 4.2 g per 100 g of water.	2.5	5.0	2.5	1343.0	112.0	412.0	157.0	166.0	194.0	17.0	59.0	23.0	23.0	INHALATION: remove to fresh air; if breathing stops, apply artificial respiration; administer oxygen; call a physician. INGESTION: if swallowed, do NOT induce vomiting because of aspiration hazard. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
434	RESORCINOL	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Impervious gloves; splash goggles; self-contained breathing apparatus if exposed to vapors; coveralls (USCG, 1999)	Highly flammable. A very dangerous fire and explosion hazard. Not soluble in water.	May polymerize if heated for prolonged periods or accidentally contaminated. If polymerization takes place inside a container, the container may violently rupture. Can react with oxidizing materials. When heated to decomposition it emits irritating fumes and acrid smoke [Sax, 9th ed., 1996, p. 1576].	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		60		(NTP, 1992)		1.8		%						(USCG, 1999)		740		(NTP, 1992)		-103	
435	SELENIUM POWDER	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable (gas).	Reactivity often inhibited by adding tributylamine [Lancaster].	Highly Flammable; Polymerizable	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									
436	SODIUM DICHROMATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water. May react slowly with moisture.	ETHYLENE DIBROMIDE slowly decomposes in the presence of light and heat. Turns brown upon exposure to light. Corrosive to iron and other metals. May decompose upon contact with alkalis. Incompatible with oxidizing agents. Reacts with sodium, potassium, calcium, powdered aluminum, zinc, magnesium and liquid ammonia. May attack some plastics, rubber and coatings. May poison platinum catalysts [Hawley]. Reacts as an alkylating agent (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1605 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																	(USCG, 1999)	Not flammable			(NTP, 1992)		49.9	
437	SODIUM FLUORIDE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Spontaneously flammable in air. Explodes violently in water [Rose 1961].	Hydrides, such as TRIPROPYLALUMINUM, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	3	6	No Water																								
438	SODIUM FLUORIDE, SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respiratory organic vapor canister or air-supplied mask; face splash shield. (USCG, 1999)	Flammable. Insoluble in water.	1-NONENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		78		(USCG, 1999)		0.8		%										(USCG, 1999)		-115	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
434	RESORCINOL	(NTP, 1992)	; 26.2 mm Hg at 73Â° F; 67.0 mm Hg at 118Â° F	14		36		mm Hg	(NTP, 1992)		3.94				(USCG, 1999)		0.9151		68		(NTP, 1992)		243		760		(NTP, 1992)		114.15						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL	ETM	Flammable Liquid	C6H10O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	65.0	4.0	5.0
435	SELENIUM POWDER																																								Flammable Gas	C2BrF3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	23.0	2.0	46.0	3.0	5.0
436	SODIUM DICHROMATE	(NTP, 1992)	; 17.4 mm Hg at 86Â° F	11		68		mm Hg	(NTP, 1992)		6.48				(USCG, 1999)		2.18		68		(NTP, 1992)			268 to 270	760		(NTP, 1992)		187.88		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	EDB	Poison Inhalation Hazard	C2H4Br2		15.0	1.0	51.0	4.0	5.0
437	SODIUM FLUORIDE																													156.25											Spontaneously Combustible|Dangerous When Wet	C9H21Al		16.0	1.0	85.0	4.0	5.0
438	SODIUM FLUORIDE, SOLUTION	(USCG, 1999)		10.86				mm Hg							(USCG, 1999)		0.733		68		(USCG, 1999)		297		760		(USCG, 1999)		126.2											NNE	Flammable Liquid	C9H18	Dirt/Earth	16.0	1.0	85.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
439	SODIUM FLUOROSILICATE	DISODIUM HEXAFLUOROSILICATE|DISODIUM HEXAFLUOROSILICATE (NA2SIF6)|DISODIUM HEXAFLUOROSILICATE(2-)|PRODAN|PRODAN (PESTICIDE)|SALUFER|SILICON SODIUM FLUORIDE (NA2SIF6)|SODIUM FLUOROSILICATE|SODIUM FLUOROSILICATE (NA2SIF6)|SODIUM FLUOSILICATE|SODIUM FLUOSILICATE (NA2SIF6)|SODIUM HEXAFLUOROSILICATE|SODIUM HEXAFLUOROSILICATE (NA2SIF6)|SODIUM SILICOFLUORIDE|SODIUM SILICOFLUORIDE (NA2SIF6)|SODIUM SILICOFLUORIDE, [SOLID]|SODIUM SILICON FLUORIDE (NA2SIF6)	16893-85-9	Fine, white, odorless, powdered solid. Toxic by ingestion, inhalation and skin absorption. Used as a rodenticide.	1.0	2.5	5.0	1343.0	112.0	412.0	157.0	166.0	194.0	17.0	59.0	23.0	23.0	(BLOB)	Very toxic fumes of fluoride may be emitted in a fire. (EPA, 1998)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
440	SODIUM HYDROSULFIDE, SOLID, WITH LESS THAN 25% WATER OF CRYSTALLIZATION	SODIUM HYDROSULFIDE|SODIUM HYDROSULFIDE, SOLID, WITH LESS THAN 25% WATER OF CRYSTALLIZATION|SODIUM HYDROSULFIDE, WITH LESS THAN 25% WATER OF CRYSTALLIZATION|SODIUM HYDROSULFIDE, [SOLID, WITH < 25% WATER OF CRYSTALLIZATION]|SODIUM HYDROSULPHIDE, SOLID, WITH LESS THAN 25% WATER OF CRYSTALLIZATION|SODIUM HYDROSULPHIDE, WITH LESS THAN 25% WATER OF CRYSTALLIZATION	16721-80-5	Sodium hydrosulfide is a colorless to light yellow crystalline solid or fused mass. It is corrosive to skin and metal. Used in paper pulping, manufacturing dyes, and dehairing hides.	1.0	2.5	5.0	1348.0	112.0	412.0	157.0	166.0	195.0	17.0	59.0	23.0	23.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
441	SODIUM HYDROSULFIDE, SOLUTION	SODIUM BISULFIDE|SODIUM HYDROGEN SULFIDE|SODIUM HYDROSULFIDE|SODIUM HYDROSULFIDE SOLUTION|SODIUM HYDROSULFIDE, SOLUTION|SODIUM HYDROSULFIDE, [SOLUTION]|SODIUM HYDROSULPHIDE, SOLUTION|SODIUM SULFHYDRATE	16721-80-5	A colorless to light-yellow liquid. Corrosive to metals and tissue. It is used in paper pulping, manufacturing dyes and dehairing hides.	2.5	5.0	2.5	1353.0	112.0	417.0	157.0	166.0	196.0	17.0	60.0	23.0	23.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
442	SODIUM HYDROSULFITE	BLANKIT|BLANKIT IN|BURMOL|DISODIUM DITHIONITE|DISODIUM HYDROSULFITE|HYDROS|HYDROSULFITE R CONC|SODIUM DITHIONITE|SODIUM DITHIONITE (NA2S2O4)|SODIUM DITHIONITE (NA2S2O4)|SODIUM HYDROSULFITE|SODIUM HYDROSULFITE (NA2S2O4)|SODIUM HYDROSULPHITE|SODIUM HYPOSULFITE|V-BRITE B|VATROLITE	7775-14-6	Sodium dithionite is a whitish to light yellow crystalline solid having a sulfur dioxide-like odor. It spontaneously heats on contact with air and moisture. This heat may be sufficient to ignite surrounding combustible materials. It is soluble in water. Under prolonged exposure to fire or intense heat containers of this material may violently rupture. It is used in dyeing and to bleach paper pulp.	1.0	2.5	5.0	1353.0	112.0	417.0	157.0	166.0	196.0	17.0	60.0	23.0	23.0	INHALATION: Call for medical aid. Remove from exposure EYES: Flush with water for at least 15 minutes. SKIN: Wash with copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: On decomposition, it emits acrid smoke and irritating fumes. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide. (USCG, 1999)
443	SODIUM METHYLATE	FELDALAT NM|METHOXYSODIUM|SODIUM METHANOLATE|SODIUM METHOXIDE|SODIUM METHYLATE|SODIUM METHYLATE, DRY|SODIUM METHYLATE, [DRY]	124-41-4	Sodium methylate is a white amorphous powder. It reacts with water to form sodium hydroxide, a corrosive material, and methyl alcohol, a flammable liquid. The heat from this reaction may be sufficient to ignite surrounding combustible material or the sodium methylate itself if the water is present in only small amounts. It is used to process edible fats and oils, and to make other chemicals.	1.0	2.5	5.0	1353.0	112.0	417.0	157.0	166.0	196.0	17.0	60.0	23.0	23.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
444	SODIUM METHYLATE-METHANOL MIXTURE	SODIUM METHOXIDE-ALCOHOL MIXTURE|SODIUM METHOXIDE-METHANOL MIXTURE|SODIUM METHYLATE-ALCOHOL MIXTURE|SODIUM METHYLATE-METHANOL MIXTURE	124-41-4	A colorless cloudy white liquid consisting of sodium methylate, a solid, dissolved in methyl alcohol. Corrosive to metals and tissue. Used to process edible fats and oils and as a catalyst in chemical manufacture.	1.0	2.5	5.0	1353.0	112.0	417.0	157.0	166.0	196.0	17.0	60.0	23.0	23.0	(BLOB)	When heated to decomposition it emits very toxic fumes of nitrogen oxides and sulfur oxides. (EPA, 1998)	(Non-Specific -- Poisonous Solid, n.o.s.) Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Stay upwind, keep out of low areas. Move container from fire area if you can do so without risk. (Non-Specific -- Poisonous Solid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
439	SODIUM FLUOROSILICATE	Avoid inhalation and skin contact. (Non-Specific -- Fluoroacetic Acid) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	ETHYLENE FLUOROHYDRIN generates very toxic fumes of fluoride that will be emitted in a fire. [EPA, 1998].		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)		87.8														(EPA, 1998)		-15.61	
440	SODIUM HYDROSULFIDE, SOLID, WITH LESS THAN 25% WATER OF CRYSTALLIZATION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Water soluble.	ETHYLENE GLYCOL DIACETATE reacts with aqueous acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		205		(USCG, 1999)		1.6		%	(USCG, 1999)		8.4		%	(USCG, 1999)		900		(NTP, 1992)		-24	
441	SODIUM HYDROSULFIDE, SOLUTION	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Less dense than water and slightly soluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols, such as SEC-AMYL ALCOHOL, with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NIOSH, 2003)		95																	
442	SODIUM HYDROSULFITE		Protective goggles or face shield; rubber gloves. (USCG, 1999)	Oxidizes in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	ETHYLENE GLYCOL DIBUTYL ETHER may react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides. Relatively inert in other reactions, which typically involve the breaking of the carbon-oxygen bond.	Peroxidizable Compound		(NFPA, 2010)		1	2	0	2		(USCG, 1999)		185															
443	SODIUM METHYLATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An organosulfide amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(NTP, 1992)		309	
444	SODIUM METHYLATE-METHANOL MIXTURE	(Non-Specific -- Poisonous Solid, n.o.s.) Do not touch spilled material. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry container and cover. Move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	THIOCARBAZIDE is a thioamide, which may behave as a weak base and therefore will react with acids forming salts with production of heat. It may react with acids and reducing agents to form toxic hydrogen sulfide gas. This may be vigorous depending on the nature of the reducing agent. Organic amides/imides react with azo and diazo compounds to generate toxic gases. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(EPA, 1998)	Decomposes	338	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
439	SODIUM FLUOROSILICATE														(EPA, 1998)		1.104		68		(EPA, 1998)		218.3		760		(EPA, 1998)		64.07												Poison|Flammable Liquid	C2H5FO	Cellulose-Based Absorbents	14.0	1.0	69.0	4.0	5.0
440	SODIUM HYDROSULFIDE, SOLID, WITH LESS THAN 25% WATER OF CRYSTALLIZATION	(NTP, 1992)	; 1 mm Hg at 100.9Â° F; 760 mm Hg at 374.9Â° F	0.4		68		mm Hg	(NTP, 1992)		5.04				(USCG, 1999)		1.104		68		(NTP, 1992)			367 to 369	760		(NTP, 1992)		146.16						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	EGY	Combustible Liquid	C6H10O4		18.0	1.0	52.0	4.0	5.0
441	SODIUM HYDROSULFIDE, SOLUTION	(NIOSH, 2003)		1				mm Hg							(NIOSH, 2003)		0.82				(NIOSH, 2003)		234		760		(NIOSH, 2003)		88.2		(NIOSH, 2003)		500	ppm							Flammable Liquid	C5H12O	Cellulose-Based Absorbents	18.0	1.0	52.0	4.0	5.0
442	SODIUM HYDROSULFITE														(USCG, 1999)		0.8				(USCG, 1999)		399		760		(USCG, 1999)		174.32										EGB		C10H22O2		20.0	2.0	48.0	3.0	5.0
443	SODIUM METHYLATE														(NTP, 1992)		1.32				(NTP, 1992)	Decomposes					(NTP, 1992)		228.32						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL		Poison	C13H12N2S		11.0	1.0	56.0	4.0	5.0
444	SODIUM METHYLATE-METHANOL MIXTURE																											(EPA, 1998)		106.17										Poison	CH6N4S	Mineral-Based & Clay-Based Absorbents	11.0	1.0	56.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
445	SODIUM NITRITE	ANTI-RUST|DIAZOTING SALTS|ECRINITRIT|ERINITRI TE|FILMERINE|NCI-C0284|NITROUS ACID SODIUM SALT (1:1)|NITROUS ACID, SODIUM SALT|SODIUM NITRITE|SODIUM NITRITE (NANO2)|SYNFAT 1004	7632-00-0	A yellowish white crystalline solid. Noncombustible but will accelerate the burning of combustible material. If large quantities are involved in a fire or if the combustible material is finely divided, an explosion may result. If contaminated by ammonium compounds, spontaneous decomposition can occur and the resulting heat may ignite surrounding combustible material. Prolonged exposure heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. Used as a food preservative, and to make other chemicals.	1.0	2.5	5.0	1358.0	112.0	422.0	157.0	166.0	197.0	17.0	61.0	23.0	23.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
446	SODIUM NITRITE MIXTURE	SODIUM NITRITE MIXTURE	7632-00-0	A yellowish white crystalline solid. Noncombustible when dry but accelerates the burning of combustible material. Somewhat toxic. Harmful to the environment. A fire risk when dry near organic materials. May ignite by friction and may explode when shocked or heated to 1000Â°F. Used as a preservative, and to make other chemicals.	1.0	2.5	5.0	1363.0	117.0	427.0	157.0	171.0	198.0	18.0	62.0	23.0	24.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
447	SODIUM NITRITE SOLUTION	ANTI-RUST|ERINITRIT|FILMERINE|NITROUS ACID SODIUM SALT (1:1)|SODIUM NITRITE|SODIUM NITRITE (NANO2)|SODIUM NITRITE LIQUOR|SODIUM NITRITE SOLUTION|SYNFAT 1004	7632-00-0	A clear colorless to yellow solution. Harmful to the environment and somewhat toxic. Used as a preservative, and to make other chemicals.	2.5	5.0	2.5	1368.0	117.0	432.0	157.0	171.0	199.0	18.0	63.0	23.0	24.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
448	SODIUM OXALATE	ETHANEDIOIC ACID, DISODIUM SALT|SODIUM OXALATE	62-76-0	Odorless white solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1368.0	117.0	432.0	157.0	171.0	199.0	18.0	63.0	23.0	24.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
449	SODIUM SELENITE	DISODIUM SELENITE|DISODIUM SELENIUM TRIOXIDE|SELENIOUS ACID (H2SEO3), DISODIUM SALT|SELENIOUS ACID|H2SEO3), DISODIUM SALT|SELENIOUS ACID, DISODIUM SALT|SODIUM SELENATE (NA2SEO3)|SODIUM SELENITE|SODIUM SELENIUM OXIDE|SODIUM SELENIUM OXIDE (NA2SEO3)|SODIUM SELENIUM OXIDE[NA2SEO3]	10102-18-8	A white colored crystalline solid. Soluble in water and more dense than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	1368.0	117.0	432.0	157.0	171.0	199.0	18.0	63.0	23.0	24.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water fog, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
445	SODIUM NITRITE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	ETHYLENE GLYCOL DIFORMATE reacts exothermically with acids. With strong oxidizing acids; the heat may ignite the reaction products. Also reacts exothermically with basic solutions. Generates hydrogen with with strong reducing agents (alkali metals, hydrides).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NFPA, 2010)		200																			
446	SODIUM NITRITE MIXTURE		(BLOB)	No rapid reaction with air No rapid reaction with water Soluble in water	ETHYLENE GLYCOL DINITRATE is explosive. Acts as a strong oxidizing agent. Heating to 114Â°C or above may cause a violent combustion or explosion producing toxic fumes (nitrogen oxides). May also decompose explosively from shock, friction or from a build-up of electrostatic charge that sparks suddenly to ground. Can begin a vigorous reaction that culminates in an explosion if mixed with reducing agents including hydrides, sulfides, and nitrides and numerous ordinary combustible materials. Reacts violently with Al, BP, cyanides, esters, PN2H, P, NaCN, SnCl2, sodium hypophosphite, and thiocyanates. Reacts with acids and with alkalis, including ammonia and amines. Must be stored in a cool, ventilated place, away from acute fire hazards and easily oxidized materials (Sax and Lewis, 1987 p.664).	Explosive; Strong Oxidizing Agent						0		(NIOSH, 2003)		419																	(NIOSH, 2003)		-8	
447	SODIUM NITRITE SOLUTION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-OCTADECANETHIOL is non-flammable but combustible (Flash point >100Â°F and <140Â°F). Incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite(Ca(OCl)2) to generate SOx. Reacts with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield HX. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(NIOSH, 2003)		77	
448	SODIUM OXALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. This organic acid has a moderate soluble in water. The resulting solutions contain concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid.	C.I. ACID RED 114 is an azo compound. Toxic gases are formed by mixing compounds containing azo groups with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							
449	SODIUM SELENITE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Positive pressure self-contained breathing apparatus, protective clothing chemical goggles, gloves and boots. (USCG, 1999)	Oxidizes in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Water soluble.	ETHYLENE GLYCOL PHENYL ETHER may react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound		(NFPA, 2010)		3	1	0	1		(NTP, 1992)		250															(NTP, 1992)		57	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	mdh_source	mdh_note	mdh_value	mdh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
445	SODIUM NITRITE																									(NIOSH, 2003)	152.1				(NIOSH, 2003)									Combustible Liquid	C4H6O4		16.0	1.0	80.0	4.0	5.0
446	SODIUM NITRITE MIXTURE	(NIOSH, 2003)		0.05										(NIOSH, 2003)		1.49				(NIOSH, 2003)		387		760		(NIOSH, 2003)					75	mg/m3	(NIOSH, 2003)		Insoluble		mm Hg			O2NOCH2CH2ON O2	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	16.0	1.0	80.0	4.0	5.0
447	SODIUM NITRITE SOLUTION													(NIOSH, 2003)		0.85										(NIOSH, 2003)							(NIOSH, 2003)		Insoluble				Flammable Liquid	Poison	CH3(CH2)17SH		16.0	1.0	80.0	4.0	5.0
448	SODIUM OXALATE																									(NTP, 1992)	830.63							(NTP, 1992)	at 72.5Â°F	less than 0.1	mg/mL			C37H30N4O10S2.2Na		18.0	1.0	54.0	4.0	5.0
449	SODIUM SELENITE	(NTP, 1992)	; 1 mm Hg at 172.4Â° F	0.05	less than 0.01	68		(NTP, 1992)		4.77				(USCG, 1999)		1.104				(NTP, 1992)		473.4		760		(NTP, 1992)	138.17							(NTP, 1992)	at 68Â°F	10 to 50	mg/mL	EPE	C8H18O2	Cellulose-Based Absorbents	15.0	1.0	51.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
450	STANNOUS CHLORIDE, SOLID	C.I. 77864|DICHLOROTIN|NCI-C02722|STANNOCHLOR|STANNOUS CHLORIDE|STANNOUS CHLORIDE, SOLID|STANNOUS CHLORIDE, [SOLID]|STANNOUS DICHLORIDE|TIN CHLORIDE|TIN CRYSTALS|TIN DICHLORIDE|TIN DICHLORIDE (SNCL2)|TIN PROTOCHLORIDE|TIN SALT|TIN(II) CHLORIDE|TIN(II) CHLORIDE (1:2)|TIN(II) CHLORIDE, ANHYDROUS|UNISTON CR-HT 200	7772-99-8	Crystalline mass or flaky solid with a fatty appearance. Density 3.95 g / cm3. Melting point 247Â°C. Burns, but may be difficult to ignite. Toxic by ingestion. Irritates skin and eyes. Used in the manufacture of dyes, pharmaceuticals and as a tanning agent.	1.0	2.5	5.0	1368.0	117.0	437.0	157.0	171.0	199.0	18.0	64.0	23.0	24.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
451	STRONTIUM NITRATE	NITRIC ACID STRONTIUM SALT (2:1)|STRONTIUM DINITRATE|STRONTIUM NITRATE|STRONTIUM NITRATE (SR(NO3)2)|STRONTIUM(2+) NITRATE	10042-76-9	A white crystalline solid. Noncombustible but accelerates burning of combustible materials. May explode if large quantities are involved in a fire or the combustible material is finely divided. May explode under prolonged exposure to heat or fire. Toxic oxides of nitrogen are produced in fires. Used in pyrotechnics, in medicine, and to make other chemicals.	1.0	2.5	5.0	1368.0	117.0	442.0	157.0	171.0	199.0	18.0	65.0	23.0	24.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
452	SUCCINIC ACID	AMBER ACID|ASUCCIN|BUTANEDIOIC ACID|1,4-BUTANEDIOIC ACID|DIHYDROFUMARIC ACID|1,2-ETHANEDICARBOXYLIC ACID|KATASUCCIN|SUCCINIC ACID|WORMWOOD|WORMWOOD ACID	110-15-6	PHYSICAL DESCRIPTION: White crystals or shiny white odorless crystalline powder. pH of 0.1 molar solution: 2.7. Very acid taste. (NTP, 1992)	1.0	2.5	5.0	1373.0	122.0	442.0	167.0	171.0	200.0	19.0	65.0	25.0	24.0	(BLOB)	Irritating vapors are generated when heated. Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. May polymerize in fires with evolution of heat and container rupture. Runoff to sewer may create fire or explosion hazard. Ethyleneimine vapors are not inhibited and may form polymers in vents or flame arresters, resulting in stopping of the vents. Toxic oxides of nitrogen are produced during combustion. Upon treatment with sodium hypochlorite, it gives off the explosive compound 1-chloroazidine. Avoid acids, sodium hypochlorite. If heated under pressure, instability may result. Hazardous polymerization may occur. Avoid contact with silver or aluminum. Explosive polymerization may occur upon contact with acids. Polymerization is catalyzed by carbon dioxide. (EPA, 1998)	Do not extinguish fire unless flow can be stopped; use water in flooding quantities as a fog. Solid streams of water may be ineffective. Apply water from as far a distance as possible. If tank car or truck is involved in fire, isolate the surrounding area in a 1/2 mile radius. Dry chemical, alcohol foam, or carbon dioxide are useful for small fires. For large fires: water spray, fog or foam. (EPA, 1998)
453	SULFAMIC ACID	ALPROJET W|AMIDOSULFONIC ACID|AMIDOSULFURIC ACID|AMINESULFONIC ACID|AMINOSULFONIC ACID|AMINOSULFURIC ACID|JUMBO|SCALE CLEEN|SULFAMIC ACID|SULFAMIDIC ACID|SULFAMINIC ACID|SULPHAMIC ACID	5329-14-6	A white crystalline solid. Density 2.1 g / cm3. Melting point 205Â°C. Combustible. Irritates skin, eyes, and mucous membranes. Low toxicity. Used to make dyes and other chemicals.	1.0	2.5	5.0	1378.0	122.0	442.0	167.0	171.0	201.0	19.0	65.0	25.0	24.0	INHALATION: Remove from exposure area. Prompt medical attention required. EYES: Flush eyes with water for at least 10 minutes. Follow with a neutralizing or buffer solution if available. SKIN: Remove contaminated clothing. A dilute acetic acid (i.e vinegar) solution followed by a water rinse should be used to cleanse affected skin areas. (USCG, 1999)	Behavior in Fire: Dangerous when exposed to heat or flame. Can react vigorously with oxidizing materials. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
454	TAXOL	BENZENEPROPANOIC ACID, BETA-(BENZOYLAMINO)-ALPHA-HYDROXY-, 6,12B-BIS(ACETYLOXY)-12-(BENZOYLOXY)-2A,3,4,4A,5,6,9,10,11,12,12A,12B-DODECAHYDRO-4,11-DIHYDROXY-4A,8,13,13-TETRAMETHYL-5-OXO-7,11-METHANO-1H-CYCLODECA[3,4]BENZ[1,2-B]OXET-9-YL ESTER, [2AR-[2AALPHA,4BETA,AABETA,6BETA,9.ALPHA[ALPHA.R*,BETAS*),11ALPHA,12ALPHA,12AALPHA,12BALPHA]]-[5-BETA,20-EPOXY-1,2-ALPHA,4,7-BETA,10-BETA,13-ALPHA-HEXAHYDROXY-TAX-11-EN-9-ONE 4,10-DIACETATE 2-BENZOATE 13-ESTER WITH (2R,3S)-N-BENZOYL-3-PHENYL-ISOSERINE|BMS 181339-01|7,11-METHANO-1H-CYCLODECA[3,4]BENZ[1,2-B]OXETE, BENZENEPROPANOIC ACID DERIV.|NSC 125973|NSC-	33069-62-4	PHYSICAL DESCRIPTION: Needles (from aqueous methanol) or fine white powder. An anti-cancer drug.	1.0	2.5	5.0	1378.0	122.0	442.0	167.0	171.0	201.0	19.0	65.0	25.0	24.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
450	STANNOUS CHLORIDE, SOLID	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
451	STRONTIUM NITRATE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Generally soluble in water and denser than water. When dissolved in water, it is a strong base	React violently with acids, strong oxidants and halogens; attack copper, aluminum, zinc and their alloys; react with mercury and silver oxides to form shock sensitive compounds. [Handling Chemicals Safely 1980.. p. 139]; reacts with hypochlorites to give N-chloroamines, some of which, are explosives when isolated [Bretherick 1979. p. 108].	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
452	SUCCINIC ACID	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	ETHYLENEIMINE vapors are not inhibited and may form polymers in vents or flame arresters, resulting in stopping of the vents. Produces toxic oxides of nitrogen during combustion. Reacts with sodium hypochlorite and other chlorinating agents to give the explosive compound 1-chloroazidine. Decomposes if heated under pressure. or else hazardous polymerization may occur. Incompatible with silver or aluminum, which induce polymerization May polymerize explosively upon contact with acids. Polymerization is catalyzed by carbon dioxide [EPA, 1998].	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1185 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	3	6		(EPA, 1998)		12		(EPA, 1998)		3.6		%	(EPA, 1998)		46		%	(USCG, 1999)		608		(EPA, 1998)	Freezing Point	-98	
453	SULFAMIC ACID	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Gas mask suitable for ammonia; face shield or splash proof goggles; rubber gloves. If entering spill area, wear self-contained breathing apparatus and full protective clothing, including boots. (USCG, 1999)	Highly flammable. Slightly soluble in water.	ETHYL-N-CYCLOHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(USCG, 1999)	; 115Â°F (cc)	85											(USCG, 1999)		545		(USCG, 1999)		-49	
454	TAXOL			Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	C.I. SOLVENT ORANGE 7 is an azo compound. Toxic gases are formed by mixing azo compounds with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
450	STANNOUS CHLORIDE, SOLID																																								Non-Flammable Gas	C2H4O(C2H2F4	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	13.0	1.0	63.0	4.0	5.0
451	STRONTIUM NITRATE																																									Flammable Liquid|Corrosive	C2H5N	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	14.0	1.0	57.0	4.0	5.0
452	SUCCINIC ACID	(EPA, 1998)		160		68		mm Hg	(EPA, 1998)		1.48				(EPA, 1998)		0.8321		68		(EPA, 1998)			131 to 133	760		(EPA, 1998)		43.07		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NIOSH, 2003)	Miscible				ETI	Poison Inhalation Hazard|Flammable Liquid	C2H5N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	19.0	1.0	52.0	4.0	5.0
453	SULFAMIC ACID														(USCG, 1999)		0.8527		77		(USCG, 1999)		329		760		(USCG, 1999)		127.23											ECC	Flammable Liquid	C8H17N	Mineral-Based & Clay-Based Absorbents	15.0	1.0	56.0	4.0	5.0
454	TAXOL																																										C18H16N2O		17.0	1.0	94.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
455	THIAZOLE	THIAZOLE	288-47-1	PHYSICAL DESCRIPTION: Colorless or pale yellow liquid with a foul odor. (NTP, 1992)	2.5	5.0	2.5	1383.0	122.0	442.0	167.0	171.0	202.0	19.0	65.0	25.0	24.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
456	THIOUREA	BETA-THIOPSEUDOUREA|ISOTHIOUREA|PSEUDOTHIOUREA|PSEUDOUREA, 2-THIO-|SULOUREA|THIOCARBAMIDE|THIOUREA|2-THIOUREA|THU|TSIZP 34|UREA, THIO-	62-56-6	White or off-white crystals or powder. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1388.0	122.0	442.0	167.0	171.0	203.0	19.0	65.0	25.0	24.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
457	THIRAM	(BLOB)	137-26-8	A liquid solution of a white crystalline solid. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminates groundwater and waterways.	1.0	2.5	5.0	1388.0	122.0	442.0	167.0	171.0	203.0	19.0	65.0	25.0	24.0			
458	TOLUENE SULFONIC ACID, LIQUID, WITH MORE THAN 5% FREE SULFURIC ACID	AR-TOLUENESULFONIC ACID|CYZAC 4040|K-CURE 1040|METHYLBENZENESULFONIC ACID|4-METHYLBENZNESULFONIC ACID|NACURE 1040|P-METHYLBENZENESULFONIC ACID|P-METHYLPHENYLSULFONIC ACID|P-TOLUENESULFONIC ACID|P-TOLUENESULPHONIC ACID|P-TOLYLSULFONIC ACID|P-TSA|TOLUENE SULFONIC ACID, LIQUID, WITH MORE THAN 5% FREE SULFURIC ACID|TOLUENE SULFONIC ACID, [LIQUID]|TOLUENE SULPHONIC ACID, LIQUID, WITH MORE THAN 5% FREE SULPHURIC ACID|TOLUENESULFONIC ACID|4-TOLUENESULFONIC ACID|TOSIC ACID	104-15-4	Colorless to black solid. Odorless or nearly odorless. (USCG, 1999)	1.0	2.5	5.0	1388.0	122.0	442.0	167.0	171.0	203.0	19.0	65.0	25.0	24.0	EYES or SKIN: flush with water and seek medical assistance. (USCG, 1999)	Special Hazards of Combustion Products: May give off toxic oxides of nitrogen when involved in fire. Behavior in Fire: Greatly intensifies the burning of all combustible materials. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
459	TOLUENE SULFONIC ACID, SOLID, WITH NOT MORE THAN 5% FREE SULFURIC ACID	TOLUENE SULFONIC ACID, SOLID, WITH NOT MORE THAN 5% FREE SULFURIC ACID|TOLUENE SULPHONIC ACID, SOLID, WITH NOT MORE THAN 5% FREE SULPHURIC ACID	104-15-4	Probably the ortho isomer, which is manufactured by treating toluene with concentrated sulfuric acid. Used to make dyes and in organic sythesis.	2.5	5.0	2.5	1388.0	122.0	442.0	167.0	171.0	203.0	19.0	65.0	25.0	24.0	(BLOB)	Flash point data are not available for this compound, but it is probably combustible. (NTP, 1992)	Fires involving it may be controlled using dry chemical, carbon dioxide, and/or Halon extinguishers. (NTP, 1992)
460	TOLUENESULFONIC ACID, SOLID, WITH MORE THAN 5% FREE SULFURIC ACID	TOLUENE SULFONIC ACID, SOLID, WITH MORE THAN 5% FREE SULFURIC ACID|TOLUENE SULFONIC ACID, [SOLID]|TOLUENE SULPHONIC ACID, SOLID, WITH MORE THAN 5% FREE SULPHURIC ACID|TOLUENESULFONIC ACID, SOLID, WITH MORE THAN 5% FREE SULFURIC ACID	104-15-4		2.5	5.0	2.5	1393.0	122.0	442.0	167.0	171.0	204.0	19.0	65.0	25.0	24.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
455	THIAZOLE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is soluble in water.	Salts, basic, such as SODIUM CHLOROACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
456	THIOUREA	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	FERRIC ARSENITE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
457	THIRAM			Hydrolysis occurs rapidly at pH <7 or >12.	A sulfonylurea derivative.								0																								
458	TOLUENE SULFONIC ACID, LIQUID, WITH MORE THAN 5% FREE SULFURIC ACID	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust respirator and rubber gloves. (USCG, 1999)	Deliquescent. Water soluble.	An oxidizing agent. Noncombustible but accelerates the burning of combustible materials. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure to fire or heat may result in an explosion. May explode if shocked or heated [Hawley]. Heating causes release of toxic oxides of nitrogen. Mixtures with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		1042	
459	TOLUENE SULFONIC ACID, SOLID, WITH NOT MORE THAN 5% FREE SULFURIC ACID	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			374 to 401
460	TOLUENESULFONIC ACID, SOLID, WITH MORE THAN 5% FREE SULFURIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	2-(2-AMINOETHOXY) ETHANOL is an organic compound with both amine and alcohol substituents. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
455	THIAZOLE																																								Poison	C2H3ClO2.Na		16.0	1.0	62.0	4.0	5.0
456	THIOUREA																																								Poison	AsO3.Fe.5H2O.O		14.0	1.0	54.0	4.0	5.0
457	THIRAM																																									C15H17N5O6S	Mineral-Based & Clay-Based Absorbents	17.0	1.0	72.0	4.0	5.0
458	TOLUENE SULFONIC ACID, LIQUID, WITH MORE THAN 5% FREE SULFURIC ACID														(USCG, 1999)		2.5		64.4								(USCG, 1999)		164											CNT	Oxidizer	Ca(NO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	63.0	4.0	5.0
459	TOLUENE SULFONIC ACID, SOLID, WITH NOT MORE THAN 5% FREE SULFURIC ACID																										(NTP, 1992)		275.22						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Flammable Solid	C12H9N3O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	63.0	4.0	5.0
460	TOLUENESULFONIC ACID, SOLID, WITH MORE THAN 5% FREE SULFURIC ACID																																								Corrosive	C4H11NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	15.0	1.0	63.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
461	TRICHLOROETHYLENE	ACETYLENE TRICHLORIDE|ALGYLEN|ANAMENTH|BENZINOL|BLACOSOLV|BLANCOSOLV|CECOLENE|CHLORILEN|1-CHLORO-2,2-DICHLOROETHYLENE|CHLORYLEA|CHLORYLEN|CHORYLEN|CIRCOSOLV|CRAWHASPOL|DENSINFLUAT|1,1-DICHLORO-2-CHLOROETHYLENE|DOW-TRI|DUKERON|ETHINYL TRICHLORIDE|ETHYLENE TRICHLORIDE|ETHYLENE, TRICHLORO-|F 1120|FLECK-FLIP|FLOCK FLIP|FLUATE|GEMALGENE|GERMALGENE|LANADIN|LETHURIN|NARCOGEN|NARKOGEN|NARKOSOID|NCI-C04546|NIALK|PERM-A-CHLOR|PERM-A-CLOR|PETZINOL|PHILEX|R 1120|TCE|THRETHYLEN|THRETHYLENE|TRETHYLENE|TRI|TRI-CLENE|TRI-PLUS|TRI-PLUS M|TRIAD|TRIAL|TRIASOL|TRI	79-01-6	A clear colorless volatile liquid having a chloroform-like odor. Denser than water and is slightly soluble in water. Noncombustible. Used as a solvent, fumigant, in the manufacture of other chemicals, and for many other uses.	2.5	5.0	2.5	1393.0	122.0	442.0	167.0	171.0	204.0	19.0	65.0	25.0	24.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
462	TRIFLUOROACETIC ACID	PERFLUOROACETIC ACID|TRIFLUOROACETIC ACID|2,2,2-TRIFLUOROACETIC ACID|TRIFLUOROETHANOIC ACID	76-05-1	A colorless fuming liquid with a pungent odor. Soluble in water and denser than water. Corrosive to skin, eyes and mucous membranes. Used to make other chemicals and as a solvent.	2.5	5.0	2.5	1393.0	127.0	442.0	167.0	176.0	204.0	20.0	65.0	25.0	25.0	(BLOB)	Fire may produce irritating or poisonous gas. Emits toxic selenium and sodium oxide fumes when heated to decomposition. Avoid decomposing heat. (EPA, 1998)	Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Extinguish fire with dry chemical, carbon dioxide, water spray, fog, or foam. Move container from fire area if it can be done without risk. (EPA, 1998)
463	TRIPHENYL PHOSPHINE	P 100|P 100 (ACCELERATOR)|PP 360|TRIPHENYL PHOSPHIDE|TRIPHENYL PHOSPHINE|TRIPHENYL PHOSPHORUS|TRIPHENYLPHOSPHIDE|TRIPHENYLPHOSPHINE|TRIPHENYLPHOSPHORUS	603-35-0	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	1398.0	127.0	442.0	167.0	176.0	205.0	20.0	65.0	25.0	25.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Fire Extinguishing Agents: Solution fires; Water, foam, dry chemical, CO 2 (USCG, 1999)
464	VANILLIN	4-FORMYL-2-METHOXYPHENOL|4-HYDROXY-3-METHOXYBENZALDEHYDE|4-HYDROXY-5-METHOXYBENZALDEHYDE|4-HYDROXY-M-ANISALDEHYDE|LIOXIN|M-METHOXY-P-HYDROXYBENZALDEHYDE|2-METHOXY-4-FORMYLPHENOL|3-METHOXY-4-HYDROXYBENZALDEHYDE|METHYLPROTOCATECHUALDEHYDE|P-HYDROXY-M-METHOXYBENZALDEHYDE|P-VANILLIN|VANILLA|VANILLALDEHYDE|VANILLICALDEHYDE|VANILLIN	121-33-5	White or very slightly yellow needles.	1.0	2.5	5.0	1403.0	127.0	447.0	167.0	176.0	206.0	20.0	66.0	25.0	25.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
465	VITAMIN D3	ACTIVATED 7-DEHYDROCHOLESTEROL|ARACHITOL|(3 BETA, 5Z, 7E)-9,10-SECOCHOLESTA-5,7,10(19)-TRIEN-3-OL|CALCIOL|CCHOLECALCIFEROL|5,7-CHOLESTADIEN-3-BETAL-OL|COLECALCIFEROL|D3-VICOTRAT|D3-VIGANTOL|7-DEHYDROCHOLESTEROL|DELSTEROL|DEPARAL|DUPHARAL D3 1000|EBIVIT|GRANUVIT D3|NEO DOHYFRAL D3|OLEOVITAMIN D3|PROVITINAQUINTOX|RICKETON|9,10-SECOCHOLESTA-5,7,10(19)-TRIEN-3BETA-OL|TRIVITAN|VI-DE-3-HYDROSOL|VI-DE3|VIDEKHOL|VIGANTOL|VIGORSAN|VITAMIN D3|VITINC DAN-DEE-3	67-97-0	PHYSICAL DESCRIPTION: Fine colorless crystals. Water insoluble. (NTP, 1992)	1.0	2.5	5.0	1403.0	127.0	447.0	167.0	176.0	206.0	20.0	66.0	25.0	25.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
461	TRICHLOROETHYLENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	SODIUM NAPHTHENATE is soap-like. Weakly basic in its reactions.								0		(NTP, 1992)			greater than 200																	
462	TRIFLUOROACETIC ACID	Avoid breathing dust. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	SODIUM SELENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Light sensitive		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																				(NTP, 1992)	Decomposes		
463	TRIPHENYL PHOSPHINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Slightly soluble in water.	CARBARYL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This compound is unstable in an alkaline media. (NTP, 1992). This compound is incompatible with the following: Strong oxidizers, strongly alkaline pesticides (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																(USCG, 1999)	Not flammable			(USCG, 1999)		288	
464	VANILLIN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	2,2-DICHLORO-1,1,1,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																							
465	VITAMIN D3	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Dust is explosive when exposed to heat or flame. Freshly prepared material can heat and spontaneously ignite in air. The presence of water assists ignition, as do contaminants such as oils. Insoluble in water.	CARBON, ACTIVATED is incompatible with very strong oxidizing agents such as fluorine, ammonium perchlorate, bromine pentafluoride, bromine trifluoride, chlorine trifluoride, dichlorine oxide, chlorine trifluoride, potassium peroxide, etc. (NIOSH, 1997). Also incompatible with air, metals, unsaturated oils. [Lewis].	Pyrophoric	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
461	TRICHLOROETHYLENE														(NTP, 1992)		1.059		68																(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL					17.0	1.0	55.0	4.0	5.0
462	TRIFLUOROACETIC ACID														(EPA, 1998)		3.098				(NTP, 1992)	Decomposes					(EPA, 1998)		188.94						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	H2O4Se.2Na		14.0	1.0	52.0	4.0	5.0
463	TRIPHENYL PHOSPHINE														(USCG, 1999)		1.23		68		(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		201.2		(NIOSH, 2003)		100	mg/m3	(NIOSH, 2003)		0.01		%	CBY	Poison	C12H11NO2		13.0	1.0	58.0	4.0	5.0
464	VANILLIN																																									Class 9	C3HCl2F5		17.0	1.0	64.0	4.0	5.0
465	VITAMIN D3																																								Spontaneously Combustible	C		14.0	1.0	52.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
466	XENON	XENON|XENON ATOM|XENON, COMPRESSED	7440-63-3	A colorless odorless gas. Noncombustible. Heavier than air. May asphyxiate by the displacement of air. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	1403.0	127.0	452.0	167.0	176.0	206.0	20.0	67.0	25.0	25.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
467	XENON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	XENON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|XENON, [LIQUID]	7440-63-3	A colorless odorless nonflammable cold liquid. Boils at -150Â°F. Contact with the liquid may cause frost bite. Can asphyxiate by displacing air in enclosed spaces. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket. Used to make flash bulbs for photography.	2.5	5.0	2.5	1403.0	127.0	452.0	172.0	176.0	206.0	20.0	67.0	26.0	25.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
468	ZINC BROMIDE	ZINC BROMIDE|ZINC DIBROMIDE	7699-45-8	A white crystalline noncombustible solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in medicine, in photography.	1.0	2.5	5.0	1403.0	127.0	452.0	172.0	176.0	206.0	20.0	67.0	26.0	25.0	(BLOB)	Combustible. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
469	ZINC CARBONATE	C.I. 77950|CALAMINE|SMITHSONITE|ZINC CARBONATE|ZINC CARBONATE (1:1)|ZINC CARBONATE (ZNCO3)|ZINC MONOCARBONATE	3486-35-9	A white crystalline solid or powder that is insoluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. Used in pharmaceuticals, to make other zinc compounds, as a feed additive.	1.0	2.5	5.0	1408.0	127.0	452.0	172.0	176.0	207.0	20.0	67.0	26.0	25.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
470	ZINC CHLORIDE, ANHYDROUS	BUTTER OF ZINC|ZINC BUTTER|ZINC CHLORIDE|ZINC CHLORIDE FUME|ZINC CHLORIDE, ANHYDROUS|ZINC CHLORIDE, [ANHYDROUS]|ZINC DICHLORIDE|ZINC DICHLORIDE FUME|ZINC(II) CHLORIDE	7646-85-7	Zinc chloride is a white crystalline solid. It is soluble in water. It is corrosive to metals and therefore irritating to the skin, eyes and mucous membranes. It is used for preserving wood, in soldering fluxes, as a catalyst in chemical metals and manufacturing, and for many other uses.	1.0	2.5	5.0	1413.0	132.0	452.0	182.0	181.0	208.0	21.0	67.0	28.0	26.0	INGESTION: do NOT induce vomiting. ASPIRATION: enforce bed rest; administer oxygen; seek medical attention. EYES: wash with copious quantity of water. SKIN: remove solvent by wiping and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
466	XENON	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIPHENYLTIN HYDROXIDE is sensitive to temperatures above 113Â°F and prolonged exposure to light. Incompatible with strongly acidic compounds. Also incompatible with oils used in oil spray formulations (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)			244 to 248
467	XENON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	SULFAPYRIDINE is an amino acid. Slowly darkens on exposure to light (NTP, 1992). Soluble in both acidic and basic aqueous solutions					0																						(NTP, 1992)			376 to 379
468	ZINC BROMIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in FUEL OIL, [DIESEL], may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		125		(NTP, 1992)		1.3		%	(NTP, 1992)		6		%	(USCG, 1999)		350 to 625		(NTP, 1992)		0	
469	ZINC CARBONATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus; goggles or face shield; rubber gloves (USCG, 1999)	Highly flammable. May be sensitive to air (NTP, 1992). Soluble in water.	TERT-BUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Undergoes highly exothermic reaction with 2,2-dibromo-1,3-dimethylcyclopropanoic acid [J. Chem. Soc., 1, 1979, 2324].	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		50		(NTP, 1992)	at 212Â° F	1.7		%	(NTP, 1992)	at 212Â° F	8.9		%	(USCG, 1999)		716		(NTP, 1992)		-89.5	
470	ZINC CHLORIDE, ANHYDROUS	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	FUEL OIL, [NO. 2] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		136												(USCG, 1999)		494		(USCG, 1999)		-20	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
466	XENON	(NTP, 1992)		3.50E-07		122		mm Hg							(NTP, 1992)		1.54		68									(NTP, 1992)		367.03						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C18H16OSn		24.0	2.0	37.0	3.0	5.0
467	XENON, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																									(NTP, 1992)		249.29						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C11H11N3O2S	Mineral-Based & Clay-Based Absorbents	24.0	2.0	37.0	3.0	5.0
468	ZINC BROMIDE	(USCG, 1999)		2.17		70		mm Hg							(USCG, 1999)		0.841		60.8		(NTP, 1992)			540 to 640	760										(NTP, 1992)	at 66Â° F		less than 1	mg/mL	ODS	Flammable Liquid			10.0	1.0	51.0	4.0	5.0
469	ZINC CARBONATE	(USCG, 1999)		568.7				mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		0.696		68		(NTP, 1992)		111.9		760		(NTP, 1992)		73.16						(NTP, 1992)	Very soluble				BUA	Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	13.0	1.0	56.0	4.0	5.0
470	ZINC CHLORIDE, ANHYDROUS														(USCG, 1999)		0.879		68		(USCG, 1999)			540 to 640	760														OTW	Flammable Liquid			19.0	1.0	85.0	4.0	5.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
471	ZINC CHLORIDE, SOLUTION	ZINC CHLORIDE|ZINC CHLORIDE SOLUTION|ZINC CHLORIDE, SOLUTION|ZINC DICHLORIDE|ZINC(II) CHLORIDE	7646-85-7	Zinc chloride, solution is a colorless liquid. It is mildly corrosive to metals. It causes burns to eyes, skin and mucous membranes.	2.5	5.0	2.5	1413.0	132.0	452.0	182.0	181.0	208.0	21.0	67.0	28.0	26.0	INGESTION: induce vomiting. SKIN OR EYE CONTACT: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic, irritating gases may be generated in fires. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemicals, or carbon dioxide (USCG, 1999)
472	ZINC NITRATE	AEROTEX ACCELERATOR NUMBER 5|CATALYST FT|CELLOXAN|X 4|X 4 (NITRATE)|ZINC DINITRATE|ZINC NITRATE|ZINC NITRATE (ZN(NO3)2)|ZINC NITRATE HEXAHYDRATE|ZINC(II) NITRATE	7779-88-6	Zinc nitrate is a colorless crystalline solid. Noncombustible, but accelerates the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. It is used as a catalyst in the manufacture of other chemicals, in medicine, and in dyes.	1.0	2.5	5.0	1413.0	132.0	452.0	187.0	181.0	208.0	21.0	67.0	29.0	26.0	INGESTION: do NOT lavage or induce vomiting. ASPIRATION: treatment probably not required; delayed development of pulmonary irritation can be detected by serial chest x-rays; consider prophylactic antibiotic regime if condition warrants. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
473	1,1,1,2-TETRAFLUOROETHANE	DAIFLON 134A|REFRIGERANT GAS R-134A|TETRAFLUOROETHANE|1,1,1,2-TETRAFLUOROETHANE	811-97-2	A colorless gas with a slight ethereal odor. Vapors are heavier than air. Shipped liquefied under own vapor pressure. Flash point 351Â°F. Inhalation at high concentrations is harmful and may cause heart irregularities, unconsciousness or death without warning. Liquid contact may cause frostbite. Vapors can replace the available oxygen.	5.0	1.0	1.0	1413.0	132.0	452.0	187.0	181.0	208.0	21.0	67.0	29.0	26.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
474	1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL	BIS(TRIFLUOROMETHYL)METHANOL|1,1,1,3,3,3-HEXAFLUORO-2-HYDROXYPROPANE|1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL|HEXAFLUOROISOPROPANOL|HEXAFLUOROISOPROPANOL|HEXAFLUOROISOPROPYL ALCOHOL|1,1,1,3,3,3-HEXAFLUOROISOPROPYL ALCOHOL|HFIP|2,2,2-TRIFLUORO-1-(TRIFLUOROMETHYL)ETHANOL	920-66-1	PHYSICAL DESCRIPTION: Clear colorless oily liquid with an aromatic odor. (NTP, 1992) Combustible, may cause burns to skin, eyes and mucous membranes.	2.5	5.0	2.5	1413.0	136.0	452.0	187.0	181.0	208.0	22.0	67.0	29.0	26.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
475	1,1,1-TRICHLOROETHANE	AEROTHENE|AEROTHENE TT|ALPHA-T|ALPHA-TRICHLOROETHANE|CF 2|CHLOROETENE|CHLOROETHENE|CHLOROETHENE NU|CHLOROTENE|CHLOROTHANE NU|CHLOROTHENE|CHLOROTHENE (INHIBITED)|CHLOROTHENE NU|CHLOROTHENE SM|CHLOROTHENE VG|CHLORTEN|CLEANITE|ETHANA NU|F 140A|GENKLENE LB|HCC 140A|ICI-CF 2|INHIBISOL|METHYL CHLOROFORM|METHYLCHLOROFORM|METHYLTRICHLOROMETHANE|NCL-C04626|SOLVENT 111|STROBANE|TAFCLEAN|TCA|1,1,1-TCE|THREE ONE A|THREE ONE S|TRI-ETHANE|1,1,1-TRICHLORETHANE|TRICHLOROETHANE|1,1,1-TRICHLOROETHANE (STABILIZED)|1,1,1-TRICHLOROETHANE|TRICHL	71-55-6	A colorless liquid with a sweet, pleasant odor. May irritate skin, eyes and mucous membranes. In high concentrations the vapors may have a narcotic effect. Nonflammable, but may decompose and emit toxic chloride fumes if exposed to high temperatures. Used as a solvent.	2.5	5.0	2.5	1413.0	136.0	452.0	187.0	181.0	208.0	22.0	67.0	29.0	26.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon ioxide or Halon extinguisher. (NTP, 1992)
476	1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, [TECHNICALLY PURE]	1,1-BIS(TERT-BUTYLDIOXY)CYCLOHEXANE|1,1-BIS(TERT-BUTYLPEROXY)CYCLOHEXANE|CHALOXYD P 1250A|1,1-DI(T-BUTYLPEROXY)CYCLOHEXANE|1,1-DI(TERT-BUTYLPEROXY)CYCLOHEXANE|1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, [TECHNICALLY PURE]|1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE|LUPERCO 331XL|LUPEROX 331M50|LUPERSOL 321|LUPERSOL 331|LUPERSOL 331-80B|PERHEXA C|PEROXIDE, CYCLOHEXYLIDENEBIS[TERT-BUTYL|TRIGONOX 22|TRIGONOX 22B50|TRIGONOX 22B75|USP 400	3006-86-8	Particularly heat and contamination sensitive.	2.5	5.0	2.5	1417.0	136.0	452.0	195.0	181.0	209.0	22.0	67.0	31.0	26.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
471	ZINC CHLORIDE, SOLUTION	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Water soluble.	Mixing SULFOLANE in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid and oleum [NFPA 1991]. With nitrating agents (nitronium tetrafluoroborate in sulfolane) very highly exothermic reactions are known to occur [J. Org. Chem., 1978, 43, 4677].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(USCG, 1999)		330												(USCG, 1999)		79	
472	ZINC NITRATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	FUEL OIL, [NO. 6] may be incompatible with strong oxidizing agents such as nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		greater than 150	(USCG, 1999)		1	%	(USCG, 1999)		5	%	(USCG, 1999)		765		(USCG, 1999)		55	
473	1,1,1,2-TETRAFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	TRYPAN BLUE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic acides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents and strong acids. (NTP, 1992)	Explosive			3.00	1.00	1.00	2																(NTP, 1992)			greater than 572
474	1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Water soluble.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2																(NTP, 1992)	(decomposes)	230	
475	1,1,1-TRICHLOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	GALLIUM OXIDE may react with acids. Heating (to 1292Â° F) with magnesium causes a violent reduction to metallic slate. (NTP, 1992)				3.00	1.00	1.00	2																(NTP, 1992)			3236 to 3290
476	1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, [TECHNICALLY PURE]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This chemical may be sensitive to exposure to light and air. Insoluble in water.	(E)-1,4-DIBROMO-2-BUTENE is incompatible with strong oxidizers and strong bases. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	3.00	3.00	6		(NTP, 1992)		greater than 235												(NTP, 1992)		128.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
471	ZINC CHLORIDE, SOLUTION														(USCG, 1999)		1.26		86		(USCG, 1999)		545		760		(USCG, 1999)		120.17											SFL	Class 9	C4H8O2S		19.0	1.0	85.0	4.0	5.0
472	ZINC NITRATE														(USCG, 1999)	(approx.)	0.95		68		(USCG, 1999)			415 to 1093	760														OSX	Flammable Liquid			19.0	1.0	51.0	4.0	5.0
473	1,1,1,2-TETRAFLUOROETHANE																										(NTP, 1992)		964.88						(NTP, 1992)	at 68Â° F		1 to 10	mg/mL			C34H28N6O14S4.4Na		13.0	1.0	32.0	3.0	4.0
474	1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL																										(NTP, 1992)		255.75						(NTP, 1992)	Very soluble				Oxidizer	Ga.3HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	41.0	3.0	4.0
475	1,1,1-TRICHLOROETHANE														(NTP, 1992)		6.44		68																(NTP, 1992)	Insoluble					Ga2O3		10.0	1.0	14.0	3.0	4.0
476	1,1-DI-(TERT-BUTYLPEROXY)CYCLOHEXANE, [TECHNICALLY PURE]																				(NTP, 1992)		397		760		(NTP, 1992)		213.91						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C4H6Br2	Dirt/Earth	11.0	1.0	21.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
477	1,2,4-TRICHLOROBENZENE	BENZENE, 1,2,4-TRICHLORO-|HOSTETEX L-PEC|1,2,4-TRICHLOROBENZENE|1,3,4-TRICHLOROBENZENE|1,2,4-TRICHLOROBENZOL|UNSYM TRICHLOROBENZENE	120-82-1	Colorless liquid or white solid with a sharp chlorobenzene odor. Melting point 16.95Â°C (62.5Â°F) . (USCG, 1999)	2.5	5.0	2.5	1417.0	136.0	452.0	195.0	181.0	209.0	22.0	67.0	31.0	26.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
478	1,2-DI-(DIMETHYLAMINO)ETHANE	1,2-BIS(DIMETHYLAMINO)ETHANE|1,2-DI(DIMETHYLAMINO)ETHANE|1,2-DI-(DIMETHYLAMINO)ETHANE|2,5-DIMETHYL-2,5-DIAZAHEXANE|DIMETHYL[2(DIMETHYLAMINO)ETHYL]AMINE|ETHYLENEDIAMINE, N,N,N',N'-TETRAMETHYL-|KAOLIZER 11|MR|MR (AMINE)|N,N'-TETRAMETHYLETHYLENEDIAMINE|N,N,N',N'-TETRAMETHYL-1,2-DIAMINOETHANE|N,N,N',N'-TETRAMETHYL-1,2-ETHANEDIAMINE|N,N,N',N'-TETRAMETHYLDIAMINOETHANE|N,N,N',N'-TETRAMETHYLETHENEDIAMINE|N,N,N',N'-TETRAMETHYLETHYLENEDIAMINE|PROPAMINE D|TEMED|TETRAMEEN|TETRAMETHYL ETHYLENE DIAMINE|TMEDA|TOYOCAT TE	110-18-9	A water-white colored liquid with a fishlike odor. Flash point 68Â°F. Less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	1417.0	136.0	452.0	195.0	181.0	209.0	22.0	67.0	31.0	26.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated (USCG, 1999)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
479	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE POLYMER	ACETONANIL|AGERITE MA|AGERITE RESIN D|ANOX HB|ANTAGE RD|ANTIGENE RD|ANTIGENE RD-G|ANTIGENE RDF|ANTIOXIDANT HS|ANTIOXIDANT HSL|1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE HOMOPOLYMER|1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE POLYMER|FLECTOL FLAKES|FLECTOL H|FLECTOL H, POLYMER|FORTE RD|HS|HS (ANTIOXIDANT)|HSL|LOWINOX ACP|NAUGARD Q|NOCRAC 224|NOCRAC 224S|NONFLEX QS|NONFLEX RD|PERMANAX 45|PERMANAX TQ|POLNOKS R|POLY(1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE)|POLY(2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE)|POLY(2,2,4-TRIMETHYL-1,2-DIHYDROQUINONE)|QUINOLINE, 1,2-DIHYDRO-2,2,4-	26780-96-1	PHYSICAL DESCRIPTION: Yellowish to amber pellets, powder or flakes or beige powder. Slight odor. (NTP, 1992)	1.0	2.5	5.0	1417.0	136.0	452.0	195.0	181.0	209.0	22.0	67.0	31.0	26.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
480	1,2-DIMETHOXYETHANE	ALPHA,BETA-DIMETHOXYETHANE|ANSUL ETHER 12|ANSUL ETHER 121|DIMETHOXYETHANE|1,2-DIMETHOXYETHANE|DIMETHYL CELLOSOLVE|DIMETHYLCELLOSOLVE|2,5-DIOXAHEXANE|DME|DME (GLYCOL ETHER)|DME (SOLVENT)|EGDME|ETHANE, 1,2-DIMETHOXY-|1,2-ETHANEDIOL, DIMETHYL ETHER|ETHYLENE DIMETHYL ETHER|ETHYLENE GLYCOL DIMETHYL ETHER|GDME|GLYCOL DIMETHYL ETHER|GLYME|MONOETHYLENE GLYCOL DIMETHYL ETHER|MONOGLYME	110-71-4	A liquid with a sharp odor. Less dense than water. Flash point 34Â°F. Mildly toxic by ingestion and inhalation. Severely irritates skin and eyes. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	1421.0	136.0	452.0	195.0	181.0	210.0	22.0	67.0	31.0	26.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
481	1,3,5-TRIMETHYLBENZENE	AROMOSOL H|MESITYLENE|METHYLXYLENE|SYM-TRIMETHYLBENZENE|SYMMETRICAL TRIMETHYLBENZENE|TRIMETHYLBENZENE|1,3,5-TRIMETHYLBENZENE	108-67-8	A colorless liquid with a peculiar odor. Insoluble in water and less dense than water. Flash point near 123Â°F. May be toxic by ingestion and inhalation. Used to make plastics and dyes.	2.5	5.0	2.5	1421.0	136.0	452.0	195.0	181.0	210.0	22.0	67.0	31.0	26.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
477	1,2,4-TRICHLOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TERT-BUTYLPHENYL DIPHENYL PHOSPHATE hydrolyzes under acidic or basic conditions, and can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0		(NTP, 1992)		435																				
478	1,2-DI-(DIMETHYLAMINO)ETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Polyethylene-coated apron and gloves and close-fitting goggles. (USCG, 1999)	Flammable. Slightly water soluble.	Epoxides, such as GLYCIDYL METHACRYLATE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	4.00	1.00	5		(NTP, 1992)		181																				
479	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE POLYMER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Very hygroscopic. Insoluble in water.	2,3,5-TRICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0.00	1.00	0.00	1																						(NTP, 1992)		135 to 138
480	1,2-DIMETHOXYETHANE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Highly flammable. The dry powder reacts with moisture to produce hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen. It does not appreciably react with large quantities of water.	(BLOB)	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	2.00	2.00	4																						(NIOSH, 2003)		4041	
481	1,3,5-TRIMETHYLBENZENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	HC YELLOW 4 may be sensitive to prolonged exposure to light. (NTP, 1992)					1.00	1.00	0.00	1																		(NTP, 1992)		284 to 291

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
477	1,2,4-TRICHLOROBENZENE														(NTP, 1992)		1.16		77		(NTP, 1992)			473 to 500	5		(NTP, 1992)		382.4						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C22H23O4P		10.0	1.0	27.0	3.0	4.0
478	1,2-DI-(DIMETHYLAMINO)ETHANE														(USCG, 1999)		1.073		68		(NTP, 1992)		372		760		(NTP, 1992)		142.15						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL	GCM	Poison	C7H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	35.0	3.0	4.0
479	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE POLYMER																				(NTP, 1992)			478 to 480	760		(NTP, 1992)		197.45						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C6H3Cl3O		10.0	1.0	29.0	3.0	4.0
480	1,2-DIMETHOXYETHANE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		13.31				(NIOSH, 2003)		8316		760		(NIOSH, 2003)		178.5		(NIOSH, 2003)	(as Hf)	50	mg/m3	(NIOSH, 2003)	Insoluble					Spontaneously Combustible	Hf		11.0	1.0	30.0	3.0	4.0
481	1,3,5-TRIMETHYLBENZENE																				(NTP, 1992)						(NTP, 1992)		242.26						(NTP, 1992)	at 68.9Â°F		less than 0.1	mg/mL			C10H14N2O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	23.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
482	1,3-DICHLORO-2-PROPANOL	ALPHA,GAMMA-DICHLOROHYDRIN|ALPHA-DICHLOROHYDRIN|2-CHLORO-1-(CHLOROMETHYL)ETHANOL|1,3-DICHLORO-2-HYDROXYPROPANE|1,3-DICHLORO-2-PROPANOL|DICHLOROHYDRIN|1,3-DICHLOROHYDRIN|1,3-DICHLOROISOPROPANOL|1,3 DICHLOROISOPROPYL ALCOHOL|1,3-DICHLOROPROPANOL-2|ENODRIN|GLYCEROL 1,3-DICHLOROHYDRIN|GLYCEROL ALPHA,GAMMA-DICHLOROHYDRIN|2-PROPANOL, 1,3-DICHLORO-|PROPYLENE DICHLOROHYDRIN|SYM-DICHLOROISOPROPYL ALCOHOL|SYM-GLYCEROL DICHLOROHYDRIN|U 25,354	96-23-1	PHYSICAL DESCRIPTION: Colorless to yellow slightly viscous liquid with an ethereal odor. (NTP, 1992)	2.5	5.0	2.5	1421.0	136.0	452.0	195.0	181.0	210.0	22.0	67.0	31.0	26.0	(BLOB)		
483	1,3-DIPHENYLGUANIDINE	ACCEL DM-R|ACCELERATOR D|CHLOROSTAIN BR|DENAX|DENAX DPG|DFG|DIPHENYLGUANIDINE|1,2-DIPHENYLGUANIDINE|1,3-DIPHENYLGUANIDINE|DPG|DPG ACCELERATOR|GUANIDINE, 1,3-DIPHENYL-|MELANILINE|N,N'-DIPHENYLGUANIDINE|NCI-C60924|NOCCELER D|PERKACIT DP|RHENOGRAN DPG|SANCELER D|SOXINOL D|SYM-DIPHENYLGUANIDINE|USAF B-19|USAF EK-1270|VANAX DPG|VULCACID D|VULCAFOR DPG|VULKACIT D|VULKACIT D/C|VULKACITE D|VULKAZIT	102-06-7	White to cream-colored chalky powder. Bitter taste and slight odor.	1.0	2.5	5.0	1425.0	136.0	456.0	195.0	181.0	211.0	22.0	68.0	31.0	26.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
484	1,4-BUTANEDIOL	BUTANE-1,4-DIOL|BUTANEDIOL|1,4-BUTANEDIOL|BUTYLENE GLYCOL|1,4-BUTYLENE GLYCOL|DABCO DBO|DIHYDROXYBUTANE|1,4-DIHYDROXYBUTANE|DIOL 14B|POLYCURE D|SUCCOL B|TETRAMETHYLENE 1,4-DIOL|TETRAMETHYLENE GLYCOL|1,4-TETRAMETHYLENE GLYCOL	110-63-4	Odorless colorless liquid or solid (depending upon temperature). (USCG, 1999)	2.5	5.0	2.5	1429.0	136.0	460.0	195.0	181.0	212.0	22.0	69.0	31.0	26.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
485	1,4-DIMETHOXYBENZENE	BENZENE, P-DIMETHOXY-|1,4-DIMETHOXYBENZENE|1,4-DIMETHOXYBENZOL|DIMETHYL ETHER HYDROQUINONE|DIMETHYLHYDROQUINONE ETHER|DMB|HYDROQUINONE DIMETHYL ETHER|4-METHOXYANISOLE|METHYL 4-METHOXYPHENYL ETHER|METHYL P-METHOXYPHENYL ETHER|P-DIMETHOXYBENZENE|P-HYDROQUINONE DIMETHYL ETHER|P-METHOXYANISOLE|QUINOL DIMETHYL ETHER|USAF AN-9	150-78-7	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	1429.0	136.0	460.0	195.0	181.0	212.0	22.0	69.0	31.0	26.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
486	1,8-CINEOL	CAJEPUTOL|CINEOL|1,8-CINEOL|CINEOLE|1,8-CINEOLE|1,8-EPOXY-P-MENTHANE|EUCALYPTOL|EUCALYPTOLE|EUCAPUR|LIMONENE OXIDE|NCI-C56575|2-OXA-1,3,3-TRIMETHYLBICYCLO[2.2.2]OCTANE|1,8-OXIDO-P-MENTHANE|P-CINEOLE|P-MENTHANE, 1,8-EPOXY-|TERPAN|1,3,3-TRIMETHYL-2-OXABICYCLO[2.2.2.]OCTANE|1,3,3-TRIMETHYL-2-OXABICYCLO[2.2.2]OCTANE	470-82-6	PHYSICAL DESCRIPTION: Colorless liquid with a camphor-like odor. Spicy cooling taste. (NTP, 1992)	2.5	5.0	2.5	1433.0	136.0	460.0	195.0	181.0	213.0	22.0	69.0	31.0	26.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
482	1,3-DICHLORO-2-PROPANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in hot water, slightly water soluble in cold (NTP, 1992).	Sensitive to light. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]					3.00	2.00	0.00	2																			(NTP, 1992)			212 to 248
483	1,3-DIPHENYLGUANIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	2,3-DICHLORO-1,1,1,2,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
484	1,4-BUTANEDIOL	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.			Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3023 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
485	1,4-DIMETHOXYBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,3-DICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			136 to 140
486	1,8-CINEOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	HEXACHLOROPROPENE is substantially less reactive than less heavily chlorinated propenes. Nonflammable and not polymerizable. May be incompatible with strong oxidizing agents, strong reducing agents, many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3382 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
482	1,3-DICHLORO-2-PROPANOL																									(NTP, 1992)		302.14							(NTP, 1992)	Slightly soluble in cold; soluble in hot						C16H14O6		10.0	1.0	21.0	3.0	4.0
483	1,3-DIPHENYLGUANIDINE																																									Class 9	C3HCl2F5		14.0	1.0	34.0	3.0	4.0
484	1,4-BUTANEDIOL																																								Poison Inhalation Hazard|Flammable Liquid	C8H18S		15.0	1.0	43.0	3.0	4.0
485	1,4-DIMETHOXYBENZENE																						(NTP, 1992)		403		760	(NTP, 1992)		163					(NTP, 1992)	at 68Â° F		less than 1	mg/mL			Poison	C6H4Cl2O		10.0	1.0	23.0	3.0	4.0
486	1,8-CINEOL																																								Poison Inhalation Hazard	C3Cl6	Dirt/Earth	16.0	1.0	35.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
487	1-BROMO-3-CHLOROPROPANE	3-BROMO-1-CHLOROPROPANE|1-BROMO-3-CHLOROPROPANE|3-BROMOPROPYL CHLORIDE|3-CHLORO-1-BROMOPROPANE|1-CHLORO-3-BROMOPROPANE|CHLOROBROMOPROPANE|3-CHLOROPROPYL BROMIDE|OMEGA-CHLOROBROMOPROPANE|TRIMETHYLENE BROMIDE CHLORIDE|TRIMETHYLENE CHLOROBROMIDE	109-70-6	A colorless liquid. Insoluble in water and denser than water. May be toxic by inhalation, ingestion or skin absorption. Used to make pharmaceuticals and other chemicals.	2.5	5.0	2.5	1437.0	136.0	464.0	195.0	181.0	214.0	22.0	70.0	31.0	26.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
488	1-BROMO-4-FLUOROBENZENE	4-BROMO-1-FLUOROBENZENE|1-BROMO-4-FLUOROBENZENE|4-BROMOFLUOROBENZENE|4-FLUORO-1-BROMOBENZENE|1-FLUORO-4-BROMOBENZENE|4-FLUOROBENZENE BROMIDE|4-FLUOROBROMOBENZENE|4-FLUOROPHENYL BROMIDE|P-BROMOFLUOROBENZENE|P-FLUOROBROMOBENZENE|P-FLUOROPHENYL BROMIDE	460-00-4	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	1437.0	136.0	464.0	195.0	181.0	214.0	22.0	70.0	31.0	26.0	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
489	1-BROMOBUTANE	1-BROMOBUTANE|BUTYL BROMIDE|BUTYL BROMIDE, [NORMAL]|1-BUTYL BROMIDE|N-BROMOBUTANE|N-BUTYL BROMIDE	109-65-9	A clear colorless liquid. Flash point 65Â°F. Denser than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1441.0	136.0	464.0	195.0	181.0	215.0	22.0	70.0	31.0	26.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
490	1-CHLORO-2,3-EPOXYPROPANE	ALPHA-EPICHLOROHYDRIN|ALPHA-EPICHORHYDRIN|3-CHLORO-1, 2-PROPYLENE OXIDE|3-CHLORO-1,2-EPOXYPROPANE|3-CHLORO-1,2-PROPYLENE OXIDE|1-CHLORO-2,3-EPOXYPROPANE|CHLOROHYDRINS|CHLOROMETHYL (OXIRANE) (EPICHLOROHYDRIN)|(CHLOROMETHYL)ETHYLENE OXIDE|(CHLOROMETHYL)OXIRANE|2-(CHLOROMETHYL)OXIRANE|CHLOROMETHYLOXIRANE|3-CHLOROPROPENE-1,2-OXIDE|CHLOROPROPYLENE OXIDE|2-CHLOROPROPYLENE OXIDE|3-CHLOROPROPYLENE OXIDE|CRUDE EPICHLOROHYDRIN|(DL)-ALPHA-EPICHLOROHYDRIN|DL-ALPHA-EPICHLOROHYDRIN|ECH|EPI	106-89-8	A clear colorless liquid with an irritating chloroform-like odor. Density 9.8 lb / gal. Flash point 87Â°F. Polymerizable. If polymerization takes place inside a closed container, the container is subject to violent rupture. Irritates the skin and respiratory system. Toxic by ingestion. A confirmed carcinogen. Vapors heavier than air. Used to make plastics and as a solvent.	2.5	5.0	2.5	1445.0	136.0	464.0	195.0	181.0	216.0	22.0	70.0	31.0	26.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
491	1-CHLORO-2,4-DINITROBENZENE	CDNB|4-CHLORO-1,3-DINITROBENZENE|6-CHLORO-1,3-DINITROBENZENE|1-CHLORO-2, 4-DINITROBENZENE {DINITROCHLOROBENZENE}|1-CHLORO-2,4-DINITROBENZENE|2,4-DINITRO-1-CHLOROBENZENE|1,3-DINITRO-4-CHLOROBENZENE|DINITROCHLOROBENZENE|2,4-DINITROCHLOROBENZENE|2,4-DINITROPHENYL CHLORIDE|DNCB	97-00-7	Pale yellow needles, almond odor.	1.0	2.5	5.0	1445.0	136.0	468.0	195.0	181.0	216.0	22.0	71.0	31.0	26.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
487	1-BROMO-3-CHLOROPROPANE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	HEXADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions at low temperatures in ammonia synthesis units have been traced to the addition products of dienes and nitrogen dioxide [Bretherick, 5th Ed., 1995].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
488	1-BROMO-4-FLUOROBENZENE	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as HEXAETHYL TETRAPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1612 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
489	1-BROMOBUTANE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is soluble in water and gradually decomposed by it.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
490	1-CHLORO-2,3-EPOXYPROPANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact and to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Hygroscopic. Reacts with water to release a large amount of heat.	HEXAFLUOROACETONE HYDRATE is incompatible with water, and acids. Reacts with moisture to form a highly acidic sesquihydrate (NIOSH, 1997).	Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		-188	
491	1-CHLORO-2,4-DINITROBENZENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,1,1,2-TETRACHLORO-2-FLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
487	1-BROMO-3-CHLOROPROPANE																																								Flammable Liquid	C6H10	Dirt/Earth	12.0	1.0	35.0	3.0	4.0
488	1-BROMO-4-FLUOROBENZENE																																								Poison Gas	C12H30O13P4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	42.0	3.0	4.0
489	1-BROMOBUTANE																																								Poison	C12H30O13P4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	50.0	3.0	4.0
490	1-CHLORO-2,3-EPOXYPROPANE	(NIOSH, 2003)		5.8				atm													(NIOSH, 2003)		-18		760		(NIOSH, 2003)		166						(NIOSH, 2003)	Reacts with water						Poison	C3H2F6O2	Cellulose-Based Absorbents	16.0	1.0	48.0	3.0	4.0
491	1-CHLORO-2,4-DINITROBENZENE																																								Non-Flammable Gas	C2HCl4F		10.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
492	1-CHLOROPROPYLENE	1-CHLOROPROPYLENE|1-PROPENE, 1-CHLORO-	590-21-6	Colorless liquid with disagreeable odor.	2.5	5.0	2.5	1445.0	136.0	468.0	195.0	181.0	216.0	22.0	71.0	31.0	26.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
493	1-HEXENE	ALPHA-HEXENE|DIALENE 6|HEXENE|1-HEXENE|HEXYLENE|1-N-HEXENE|1(OR 2)-HEXENE|2(OR 3)-HEXENE	592-41-6	A clear colorless liquid with a petroleum like odor. Flash point -9Â°F. Less dense than water and insoluble in water. Vapors heavier than air. Used as a solvent, paint thinner, and chemical reaction medium.	2.5	5.0	2.5	1449.0	136.0	468.0	195.0	181.0	217.0	22.0	71.0	31.0	26.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
494	1H-TETRAZOLE	1H-1,2,3,4-TETRAZOLE|1H-TETRAZOLE|2H-TETRAZOLE|NSC 36712|TETRAAZACYCLOPENTADIENE	288-94-8	1H-tetrazole is an odorless white to light-yellow crystalline powder. Mp:1 55-157Â°C. When heated to decomposition it emits toxic oxides of nitrogen fumes. Can explode if exposed to shock or heat from friction or fire. The primary hazard is from blast effect where the entire load can explode instantaneously and not from flying projectiles and fragments.	1.0	2.5	5.0	1453.0	140.0	468.0	195.0	185.0	218.0	23.0	71.0	31.0	27.0	(BLOB)	Special Hazards of Combustion Products: Burning in open flame can form toxic phosgene and hydrogen chloride gases. Behavior in Fire: Heavy vapor can travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
495	1-METHOXY-2-PROPANOL	ALPHA-PROPYLENE GLYCOL MONOMETHYL ETHER|ARCOSOLV PM|DOWANOL 33B|DOWANOL PM|DOWANOL-33B|DOWTHERM 209|DOWTHERMÃ® 209|GLYCOL ETHER PM|KUR|RARAY PGM|METHOXY ETHER OF PROPYLENE GLYCOL|2-METHOXY-1-METHYLETHANOL|1-METHOXY-2-HYDROXYPROPANE|(+/-)-1-METHOXY-2-PROPANOL|1-METHOXY-2-PROPANOL|3-METHOXY-2-PROPANOL|METHOXYISOPROPANOL|METHOXYPROPANOL|METHYL PROPASOL|PGME|POLY-SOLVE MPM|POLYPROPYLENE GLYCOL METHYL ETHER|PROPANOL, METHOXY-|PROPASOL SOLVENT M|PROPYLENE	107-98-2	A colorless liquid. Flash point near 89Â°F. Less dense than water. Contact irritates skin, eyes and mucous membranes. Prolonged exposure to vapors may cause coughing, shortness of breath, dizziness and intoxication. Vapors heavier than air. Used as a solvent and as an antifreeze agent.	2.5	5.0	2.5	1453.0	140.0	468.0	195.0	185.0	218.0	23.0	71.0	31.0	27.0	(BLOB)	Special Hazards of Combustion Products: Formaldehyde gas and ammonia may be given off when hot. (USCG, 1999)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
496	2-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE	2-CHLOROMETHYL PYRIDINE HYDROCHLORIDE|2-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE|NCI-C03907|PICOLYL CHLORIDE HYDROCHLORIDE|2-PICOLYL CHLORIDE HYDROCHLORIDE|PYRIDINE, 2-CHLOROMETHYL-, HYDROCHLORIDE|2-PYRIDYLMETHYL CHLORIDE HYDROCHLORIDE|2-PYRIDYLMETHYLCHLORIDE HYDROCHLORIDE	6959-47-3	PHYSICAL DESCRIPTION: Off-white chunky solid. (NTP, 1992)	1.0	2.5	5.0	1457.0	140.0	468.0	195.0	185.0	219.0	23.0	71.0	31.0	27.0	Call a doctor. INHALATION: Remove to fresh air. If needed give artificial respiration. EYES: Flush with running water. SKIN: Wash with soap and water. INGESTION: Give activated charcoal followed by emesis or gastric lavage. Follow by saline cathartic. (USCG, 1999)	Special Hazards of Combustion Products: Emits noxious fumes. Behavior in Fire: Emits noxious fumes, including chlorides. (USCG, 1999)	Fire Extinguishing Agents: Water fog, CO 2 or dry chemical. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
492	1-CHLOROPROPYLENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	HEXAHYDROPHTHALIMIDE GLUTARIMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																								(NTP, 1992)		356.9 to 358.7
493	1-HEXENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	HEXAMETHYLENEDIAMINE is hygroscopic. Can react with strong oxidizing materials. Incompatible with acids, acid chlorides and acid anhydrides. Also incompatible with ketones, aldehydes, nitrates, phenols, isocyanates, monomers and chlorinated compounds (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
494	1H-TETRAZOLE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	CHLOROBENZENE undergoes a sometimes explosive reaction with powdered sodium or phosphorus trichloride + sodium. May react violently with dimethyl sulfoxide. Reacts vigorously with oxidizing agents. Attacks some forms of plastic, rubber and coatings. Forms a shock sensitive solvated salt with silver perchlorate. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		75	(NTP, 1992)		1.3		%	(NTP, 1992)		7.1		%	(USCG, 1999)		1099		(NTP, 1992)		-49	
495	1-METHOXY-2-PROPANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. Protect from exposure to moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Burns readily on contact with a flame with a smokeless flame. Finely powdered dust is significant dust explosion hazard. Water soluble.	HEXAMETHYLENETETRAMINE is hygroscopic. It is sensitive to exposure to heat. This chemical is incompatible with oxidizing agents. It is also incompatible with acids. It reacts violently with sodium peroxide. It reacts explosively with 1-bromopentaborane(9) at temperatures above 194Â° F. The complex with iodine deflagrates at 280Â° F. The 1:1 addition complex with iodoform has exploded at 352Â° F. It is corrosive to some metals, such as aluminum and zinc (NTP, 1992). Special Hazards of Combustion Products: Formaldehyde gas and ammonia may be given off when hot (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		482														(NTP, 1992)		greater than 700	(NTP, 1992)	(sublimes)	536	
496	2-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear rubber gloves and boots, safety goggles or face mask, hooded suit and a self-contained breathing apparatus. (USCG, 1999)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
492	1-CHLOROPROPYLENE																									(NTP, 1992)		264.31						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C13H16N2O4		16.0	1.0	48.0	3.0	4.0
493	1-HEXENE																																									Corrosive	C6H16N2 (aqueous)	Mineral-Based & Clay-Based Absorbents	10.0	1.0	15.0	3.0	4.0
494	1H-TETRAZOLE	(NTP, 1992)	: 11.8 mm Hg at 77Â° F	8.8		68		mm Hg	(NTP, 1992)		3.88				(USCG, 1999)		1.11		68		(NTP, 1992)		270		760		(NTP, 1992)		112.56		(NIOSH, 2003)	(as chloroben zene)	1000	ppm	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CRB	Flammabl e Liquid	C6H5Cl		10.0	1.0	17.0	3.0	4.0
495	1-METHOXY-2-PROPANOL								(NTP, 1992)		4.9				(USCG, 1999)		1.35		68		(NTP, 1992)	Sublimes					(NTP, 1992)		140.19						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	HMT	Flammabl e Solid	C6H12N4	Mineral-Based & Clay-Based Absorbents	10.0	1.0	31.0	3.0	4.0
496	2-(CHLOROMETHYL)PYRIDIN E HYDROCHLORIDE																											(USCG, 1999)		254.48											TAS	Poison	C8Cl3H4 NaO3		10.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
497	2,2'-AZODI-(2-METHYLBUTYRONITRILE)	AZODI(2-METHYLBUTYRONITRILE)|2,2'-AZODI-(2-METHYLBUTYRONITRILE)	13472-08-7	An odorless white powdered solid. May burst into flames upon exposure to fire or high heat. Dust may form an explosive mixture in air.	1.0	2.5	5.0	1457.0	144.0	472.0	195.0	189.0	219.0	24.0	72.0	31.0	28.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
498	2,2-BIS(BROMOMETHYL)-1,3-PROPANEDIOL	2,2-BIS(BROMOMETHYL)-1,3-PROPANEDIOL|1,3-DIBROMO-2,2-DIHYDROXYMETHYLPROPANE|1,3-DIBROMO-2,2-DIMETHYLOLPROPANE|DIBROMOHYDRIN PENTAERYTHRITOL|2,2-DIBROMOMETHYL-1,3-PROPANEDIOL|DIBROMONEOPENTYL GLYCOL|DIBROMOPENTAERYTHRITOL|FR 1138|FR 522|NCI-C55516|PENTAERYTHRITOL DIBROMIDE|PENTAERYTHRITOL DIBROMOHYDRIN	3296-90-0	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	1457.0	144.0	472.0	195.0	189.0	219.0	24.0	72.0	31.0	28.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
499	2,2-DI-(TERT-BUTYLPEROXY)BUTANE	2,2-BIS(TERT-BUTYLDIOXY)BUTANE|2,2-BIS(TERT-BUTYLPEROXY)BUTANE|CHALOXYD P 1200AL|CHALOXYD P 1293AL|2,2-DI(TERT-BUTYLPEROXY)BUTANE|2,2-DI-(TERT-BUTYLPEROXY)BUTANE, [<= 55% IN SOLUTION]|2,2-DI-(TERT-BUTYLPEROXY)BUTANE|LUPERSOL 220|PERHEXA 22|PEROXIDE, SEC-BUTYLIDENEBIS[TERT-BUTYL|SEC-BUTYLIDENEBIS[TERT-BUTYL PEROXIDE]|3,4,6,7-TETRAOXANONANE, 5-ETHYL-2,2,5,8,8-PENTAMETHYL-|TRIGONOX D|TRIGONOX D-E 50|TRIGONOX DB 50|TRIGONOX DM 50|VP 1200	2167-23-9		2.5	5.0	2.5	1461.0	144.0	472.0	195.0	189.0	220.0	24.0	72.0	31.0	28.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases are generated in fires. (USCG, 1999)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
500	2,2-DIBROMO-3-NITRILOPROPIONAMIDE	2,2-DIBROMO-3-NITRILOPROPIONAMIDE	10222-01-2	Colorless to yellow liquid with a moldy pungent odor.	2.5	5.0	2.5	1465.0	144.0	476.0	195.0	189.0	221.0	24.0	73.0	31.0	28.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
501	2,2-DIMETHYLPROPANE-1,3-DIOL	DIMETHYLOL PROPANE|2,2-DIMETHYLPROPANE-1,3-DIOL|DIMETHYLTRIMETHYLENE GLYCOL|NEOL|NEOPENTYL GLYCOL|NEOPENTYLENE GLYCOL|1,3-PROPANEDIOL, 2,2-DIMETHYL	126-30-7	White crystalline solid. Melting point 130Â°C.	1.0	2.5	5.0	1465.0	144.0	480.0	195.0	189.0	221.0	24.0	74.0	31.0	28.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
497	2,2'-AZODI-(2-METHYLBUTYRONITRILE)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. Keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Viton North F-091 0.41 mm 480 min Butyl rubber North B-164 0.91 mm 190 min PVA Edmont 25-545 0.66 mm 36 min Polyvinyl Edmont 34-100 0.20 mm 2 min	Insoluble in water.	CHLORODIBROMOMETHANE is incompatible with strong bases, strong oxidizing agents and magnesium (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200												(NTP, 1992)		-8	
498	2,2-BIS(BROMOMETHYL)-1,3-PROPANEDIOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	2,4,5-TRIMETHOXYBENZALDEHYDE is light sensitive. (NTP, 1992).				0																(NTP, 1992)		234 to 237	
499	2,2-DI-(TERT-BUTYLPEROXY)BUTANE	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water. Absorbs some water.	1,1,1-TRICHLOROETHANE decomposes in the presence of chemically active metals. This includes aluminum, magnesium and their alloys. It will react violently with dinitrogen tetraoxide, oxygen, liquid oxygen, sodium and sodium-potassium alloys. It will also react violently with acetone, zinc and nitrates. It can react with sodium hydroxide. It is incompatible with strong oxidizers and strong bases. Mixtures with potassium or its alloys are shock-sensitive and may explode on light impact. This chemical can react with an aqueous suspension of calcium hydroxide, and with chlorine in sunlight. It will attack some forms of plastics, rubber and coatings. Upon contact with hot metal or on exposure to ultraviolet radiation, it will decompose to form irritant gases. A cobalt/molybdenum-alumina catalyst will generate a substantial exotherm on contact with its vapor at ambient temperatures. Hazardous reactions also occur with (aluminum oxide + heavy metals). (NTP, 1992).		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		greater than 200	(NTP, 1992)		7.5		%	(NTP, 1992)		12.5		%	(USCG, 1999)		932		(NTP, 1992)		-26.5	
500	2,2-DIBROMO-3-NITRILOPROPIONAMIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,2-DIETHYL- HYDRAZINE is a chemical base and a reducing agent. Neutralizes acids in exothermic reactions to form salts plus water. Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may generated in combination with strong reducing agents, such as hydrides.	Strong Reducing Agent	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
501	2,2-DIMETHYLPROPANE-1,3-DIOL	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	CHLORODIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdlh_source	fdlh_note	fdlh_value	fdlh_unit	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
497	2,2'-AZODI(2-METHYLBUTYRONITRILE)	(NTP, 1992)	: 54.9 mm Hg at 75A°F	45.7		63		mm Hg							(NTP, 1992)		2.451		68		(NTP, 1992)		284	246 to 248	748				208.29						(NTP, 1992)	at 68Â°F	less than 1	mg/mL					10.0	1.0	20.0	3.0	4.0
498	2,2-BIS(BROMOMETHYL)-1,3-PROPANEDIOL	(NTP, 1992)													(NTP, 1992)						(NTP, 1992)	(Sublimes)	284		4				196.2						(NTP, 1992)	at 72Â°F	less than 1	mg/mL					10.0	1.0	13.0	3.0	4.0
499	2,2-DI-(TERT-BUTYLPEROXY)BUTANE	(NTP, 1992)	: 125 mm Hg at 77A°F	100		68		mm Hg	(NTP, 1992)		4.6				(USGG, 1999)		1.31		68		(NTP, 1992)		165.4		760				133.4		(NIOSH, 2003)		700	ppm	(NTP, 1992)	at 68Â°F	less than 1	mg/mL		TCE	Poison	C2H5Cl3		10.0	1.0	11.0	3.0	4.0
500	2,2-DIBROMO-3-NITRILOPROPIONAMIDE																																								Class 9	C4H12N2		11.0	1.0	38.0	3.0	4.0
501	2,2-DIMETHYLPROPANE-1,3-DIOL																																								Flammable Gas	C5H12O2		13.0	1.0	31.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
502	2,2'-DITHIOBISBENZOTHIAZOLE	ACCEL DM|ACCEL TM|ALTAX|BENZOTHIAZOLE DISULFIDE|BENZOTHIAZOLYL DISULFIDE|2,2'-BENZOTHIAZOLYL DISULFIDE|2-BENZOTHIAZOLYL DISULFIDE|BENZOTHIAZYL DISULFIDE|2,2'-BENZOTHIAZYL DISULFIDE|2-BENZOTHIAZYL DISULFIDE|BIS(2-BENZOTHIAZOLE) 2,2'-DISULFIDE|BIS(2-BENZOTHIAZOLYL) 2,2'-DISULFIDE|BIS(2-BENZOTHIAZOLYL) DISULFIDE|BIS(2-BENZOTHIAZYL) DISULFIDE|BIS(BENZOTHIAZOLYL) DISULFIDE|DBTD|DI-2-BENZOTHIAZOLYL DISULFIDE|2,2'-DIBENZOTHIAZOLE DISULFIDE|DIBENZOTHIAZOLYL DISULFIDE|2,2'-DIBENZOTHIAZOLYL	120-78-5	PHYSICAL DESCRIPTION: Cream to light yellow powder. (NTP, 1992)	1.0	2.5	5.0	1465.0	144.0	480.0	195.0	189.0	221.0	24.0	74.0	31.0	28.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
503	2',3'-DIDEHYDRO-3'-DEOXYTHYMIDINE	BMY 27857|D 4T|D 4T (NUCLEOSIDE)|D4T|3'-DEOXY-2',3'-DIDEHYDROTHYMIDINE|3'-DEOXY-2'-THYMIDINENE|3'-DEOXYTHYMIDIN-2'-ENE|2',3'-DIDEHYDRO-3'-DEOXYTHYMIDINE|-(2,3-DIDEOXY-BETA-D-GLYCERO-PENT-2-ENOFURANOSYL)THYMINE|SANILVUDINE|STAVUDINE|2'-THYMIDINENE, 3'-DEOXY-|THYMINE, 1-(2,3-DIDEOXY-BETA-D-GLYCERO-PENT-2-ENOFURANOSYL)-	3056-17-5	PHYSICAL DESCRIPTION: White crystalline solid or powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	1469.0	144.0	480.0	195.0	189.0	222.0	24.0	74.0	31.0	28.0	(BLOB)	Container may explode in heat of fire. When heated to decomposition, it emits very toxic fumes of fluorides and sulfur oxides. Reacts violently with water. It is decomposed by concentrated sulfuric acid. Thermostable to 1112F. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and full protective clothing. Evacuate area endangered by gas. This material is non-combustible. Small fires: dry chemical or carbon dioxide. Large fires: water spray, fog or foam. Do not get water inside container. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Spray cooling water on containers that are exposed to flames until well after fire is out. Isolate area until gas has dispersed. (EPA, 1998)
504	2,4,6-TRIBROMOPHENOL	BROMKAL PUR 3|BROMOL|FLAMMEX 3BP|1,3,5-TRIBROMO-2-HYDROXYBENZENE|TRIBROMOPHENOL|2,4,6-TRIBROMOPHENOL	118-79-6	PHYSICAL DESCRIPTION: Soft, long, white crystals with a bromine odor. (NTP, 1992)	1.0	2.5	5.0	1469.0	144.0	480.0	195.0	189.0	222.0	24.0	74.0	31.0	28.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
505	2,4-DICHLOROPHENOXYACETIC ACID	ACETIC ACID, (2,4-DICHLOROPHENOXY)-|AGROTECT|AMIDOX|AMINO PIELIK 50SL|AMOXONE|AQUA-KLEEN|B-SELEKTONON|BASALCOAT|BH 2,4-D|BRUSH-RHAP|CHIPCO TURF HERBICIDE "D"|CHLOROXONE|CROP RIDER|CROTILIN|D 50|2,4-D ACID|2,4-D, SALTS AND ESTERS|2,4-D|DACAMINE|DEBROUSSAILANT 600|DECAMINE|DED-WEED|DED-WEED LV-69|DEHERBAN|DESORMONE|(2,4-DICHLOROPHENOXY)ACETIC ACID|DICHLOROPHENOXYACETIC ACID|2,4-DICHLOROPHENOXYACETIC ACID|2,4-DICHLOROPHENOXYETHANOIC ACID|2,4-DICHLORPHENOXYACETIC ACID|DIGLORDON|DICOPUR|	94-75-7	Odorless white to tan solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1469.0	144.0	480.0	195.0	189.0	222.0	24.0	74.0	31.0	28.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
506	2,4-DIFLUOROANILINE	ANILINE, 2,4-DIFLUORO-|2,4-DIFLUOROANILINE|2,4-DIFLUOROBENZENAMINE	367-25-9	PHYSICAL DESCRIPTION: Dark reddish-purple liquid. (NTP, 1992)	2.5	5.0	2.5	1473.0	144.0	480.0	195.0	189.0	223.0	24.0	74.0	31.0	28.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
502	2,2'-DITHIOBISBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4,6-TRICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. It can be converted to the sodium salt by reaction with sodium carbonate. Forms ethers, esters and salts by reaction with metals and amines. Undergoes substitution reactions such as nitration, alkylation, acetylation and halogenation. Can be hydrolyzed by reaction with bases at elevated temperatures and pressures. Reacts with alkalis at high temperatures (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		157.1	
503	2',3'-DIDEHYDRO-3'-DEOXYTHYMIDINE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Violent reaction with water. It reacts vigorously with water and acids to yield toxic fluoride and sulfur oxide fumes and an acidic solution.	SULFUR TETRAFLUORIDE is a highly toxic and corrosive gas. On contact with water, steam, or mineral acids it decomposes and produces toxic and highly irritating fumes. When heated to decomposition it emits very toxic fluoride and sulfur oxides fumes [Lewis, 3rd ed., 1993, p. 1197]. Explosively violent reactions with 2-(hydroxymethyl)furan or 2-methyl-3-butyn-2-ol even below -50Â° C have been recorded [Bretherick, 5th ed., 1995, p. 1432]. Ignition or explosion may occur on contact with dioxygen difluoride even below -100Â° C [Streng, A. G., Chem. Rev., 1963, 63, p. 615].	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2418 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)					0																					(EPA, 1998)		-191	
504	2,4,6-TRIBROMOPHENOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4-DIMETHOXYANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		92.3	
505	2,4-DICHLOROPHENOXYACETIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer or refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to heat, light and air. (NTP, 1992). Insoluble in water.	2,5-DICHLOROANILINE is incompatible with acids, acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		235																(NTP, 1992)		120 to 124	
506	2,4-DIFLUOROANILINE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	An aqueous solution.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	3	3	Oxidizer																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
502	2,2'-DITHIOBISBENZOTHIAZOLE	(NTP, 1992)	; 5 mm Hg at 222.6Â° F	1		169.7		mm Hg							(NTP, 1992)		1.675		77		(NTP, 1992)		475		760		(NTP, 1992)		197.45						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C6H3Cl3O		14.0	1.0	38.0	3.0	4.0
503	2',3'-DIDEHYDRO-3'-DEOXYTHYMIDINE	(NIOSH, 2003)		10.5		70		atm							(EPA, 1998)		1.95		-108		(EPA, 1998)		-40		760		(EPA, 1998)		108.06						(NIOSH, 2003)	Reacts with water					Poison Gas|Corrosive	F4S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	36.0	3.0	4.0
504	2,4,6-TRIBROMOPHENOL																										(NTP, 1992)		153.2						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Poison	C8H11NO2		11.0	1.0	16.0	3.0	4.0
505	2,4-DICHLOROPHENOXYACETIC ACID																				(NTP, 1992)		484		760		(NTP, 1992)		162.02						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Poison	C6H5Cl2N		10.0	1.0	36.0	3.0	4.0
506	2,4-DIFLUOROANILINE																															(NIOSH, 2003)		75	ppm						Oxidizer|Corrosive	H2O2, aqueous	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
507	2,4-DINITROFLUOROBENZENE	DFB|2,4-DINITRO-1-FLUOROBENZENE|1,3-DINITRO-4-FLUOROBENZENE|2,4-DINITROBENZENE FLUORIDE|DINITROFLUOROBENZENE|2,4-DINITROFLUOROBENZENE|2,4-DINITROPHENYL FLUORIDE|1-FLUORO-2,4-DNFB|2,4-DNFB|DNP-F|FDNB|4-FLUORO-1,3-DINITROBENZENE|1-FLUORO-2,4-DINITROBENZENE|FLUORODINITROBENZENE|1,2,4-FLUORODINITROBENZENE|SANGER'S REAGENT	70-34-8	PHYSICAL DESCRIPTION: Clear yellow crystals or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	1473.0	144.0	480.0	195.0	189.0	223.0	24.0	74.0	31.0	28.0	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
508	2,4-PENTANEDIONE	ACAC|ACETOACETONE|ACETYLACETONE|DIACETYLMETHANE|2,4-DIOXOPENTANE|2,4-PENTADIONE|PENTAN-2,4-DIONE|PENTANE-2,4-DIONE|2,4-PENTANEDIONE|2-PROPANONE, ACETYL-	123-54-6	A colorless or yellow colored liquid. Less dense than water. Flash point 105Â°F. Vapors are heavier than air. Used as a solvent in paints and varnishes.	2.5	5.0	2.5	1477.0	144.0	480.0	195.0	189.0	224.0	24.0	74.0	31.0	28.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
509	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE	(BLOB)	78-63-7	PHYSICAL DESCRIPTION: Clear, yellow liquid. (NTP, 1992)also for storage and transport mixed with inert solid.	2.5	5.0	2.5	1477.0	144.0	480.0	195.0	189.0	224.0	24.0	74.0	31.0	28.0	INHALATION: move from contaminated atmosphere; if symptoms of respiratory discomfort persist, see a physician. EYES: immediately flush with large quantities of running water for a minimum of 15 minutes; obtain medical attention if irritation persists. SKIN: immediately flush affected areas with water; obtain medical attention if irritation persists. INGESTION: give large amounts of water or warm salty water to induce vomiting; if this measure is unsuccessful, vomiting may be induced by tickling the back of the patient's throat with a finger; vomiting should be encouraged until vomitus is clear; obtain medical attention if abdominal discomfort persists. (USCG, 1999)	Combustible. Containers may explode in fire. May give off dense white smoke. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
510	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, [<= 52% WITH INERT SOLID]	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, [<= 52% WITH INERT SOLID]	78-63-7	PHYSICAL DESCRIPTION: Clear, yellow liquid. (NTP, 1992)also for storage and transport mixed with inert solid.	2.5	5.0	2.5	1481.0	144.0	480.0	195.0	189.0	225.0	24.0	74.0	31.0	28.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
511	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3	2,5-BIS(TERT-BUTYLPEROXY)-2,5-DIMETHYL-3-HEXYNE|2,5-BIS(TERT-BUTYLPEROXY)-2,5-DIMETHYLHEXYNE|CAB-O-CURE 2P|2,5-DI(TERT-BUTYLPEROXY)-2,5-DIMETHYL-3-HEXYNE|2,5-DIMETHYL-2,5-BIS(TERT-BUTYLDIOXY)-3-HEXYNE|2,5-DIMETHYL-2,5-BIS(TERT-BUTYLPEROXY)-3-HEXYNE|2,5-DIMETHYL-2,5-DI(T-BUTYLPEROXY)-3-HEXYNE|2,5-DIMETHYL-2,5-DI(TERT-BUTYLPEROXY)-3-HEXYNE|2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3, [TECHNICALLY PURE]|2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3|KAYAHEXA YD|L 130|L 130 (PEROXIDE)|LUPERCO 130XL|LUPEROX 130|LUPEROX XL 130|LUPERSOL 130|PERHEXYNE 2.5B|PERHEXYNE	1068-27-5	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported as a mixture, with an inert solid.	2.5	5.0	2.5	1485.0	144.0	484.0	195.0	193.0	226.0	24.0	75.0	31.0	29.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
507	2,4-DINITROFLUOROBENZENE	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	(BLOB)	Explosive	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1581 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for chloropicrin, CAS number 76-06-2	4	1	3	4																								
508	2,4-PENTANEDIONE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																								
509	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Reacts with water to form butanol and titanium dioxide, the reaction is not generally thought to be hazardous.	Organometallics are strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Generally highly toxic. Often react on contact with tissues to give toxic products.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		170		(USCG, 1999)		2		%	(USCG, 1999)		12		%							(USCG, 1999)		-67	
510	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, [<= 52% WITH INERT SOLID]	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Halogenated aliphatic compounds, such as TETRACHLOROETHANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Decomposed by heat and UV light, forming phosgene and HCl; reacts violently with finely dispersed metals. [Handling Chemicals Safely 1980. p. 886].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
511	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TETRACHLORONAPHTHALENE is non-flammable, but combustible. Gives off irritating or toxic gases in a fire. Incompatible with strong oxidizing agents. Reacts violently with aluminum, with bases, and with liquid O2.					0		(NIOSH, 2003)		410																	(NIOSH, 2003)		360	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
507	2,4-DINITROFLUOROBENZENE																																								Poison Gas	CCl3NO2 (chloropicrin)|CH3Br (methyl bromide)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	21.0	3.0	4.0
508	2,4-PENTANEDIONE																														(NIOSH, 2003)		75	ppm							Oxidizer	H2O2, aqueous	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	42.0	3.0	4.0
509	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE														(USCG, 1999)		0.998		77		(USCG, 1999)		593		760		(USCG, 1999)		340											TBT	Corrosive|Flammable Liquid	C4H10O.1|4Ti	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	10.0	1.0	21.0	3.0	4.0
510	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, [<= 52% WITH INERT SOLID]																																								Poison	C2H2Cl4		10.0	1.0	21.0	3.0	4.0
511	2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXYNE-3	(NIOSH, 2003)			less than 1			mm Hg							(NIOSH, 2003)		1.59 to 1.65		(NIOSH, 2003)			599 to 680	760		(NIOSH, 2003)		265.9								(NIOSH, 2003)	Insoluble						C10H4Cl4		11.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
512	2,5-HEXANEDIONE	ACETONYL ACETONE|ACETONYLACETONE|ALPHA, BETA-DIACETYLETHANE|ALPHA,BETA-DIACETYLETHANE|DIACETONYL|1,2-DIACETYLETHANE|2,5-DIKETOHEXANE|2,5-DIOXOHEXANE|2,5-HEXANEDIONE	110-13-4	PHYSICAL DESCRIPTION: Clear colorless to amber liquid with a sweet aromatic odor. (NTP, 1992)	2.5	5.0	2.5	1485.0	144.0	484.0	195.0	193.0	226.0	24.0	75.0	31.0	29.0	(BLOB)	Compound is heavier than air and may travel a considerable distance to source of ignition and flash back. It forms explosive mixtures with air over a wide range. Also reacts explosively with bromine pentafluoride, chlorine trifluoride, nitrogen triiodide, nitrogen trichloride, oxygen difluoride, and phenyl diazonium chloride. When heated to decomposition, it emits highly toxic fumes of oxides of sulfur. Incompatible with many materials including strong oxidizers, metals, strong nitric acid, bromine pentafluoride, chlorine trifluoride, nitrogen triiodide, nitrogen trichloride, oxygen difluoride and phenyl diazonium chloride. Avoid physical damage to containers; sources of ignition; storage near nitric acid, strong oxidizing materials, and corrosive liquids or gases. (EPA, 1998)	Stop flow of gas. Use water to keep fire-exposed containers cool and to protect men effecting the shut-off. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Evacuate area endangered by gas. Move container from fire area. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration on tank due to fire. Cool containers with water using unmanned device until well after the fire is out. Isolate for one-half mile in all directions if tank car or truck is involved in fire. A very flammable gas. For small fires let burn unless leak can be stopped immediately. For large fires, use water spray, fog or foam. (EPA, 1998)
513	2-AMINOBENZOTHIAZOLE	2-AMINOBENZOTHIAZOLE|2-AMINOBENZTHIAZOLE|2-BENZOTHIAZOLAMINE|BENZOTHIAZOLE, 2-AMINO-|2-BENZOTHIAZOLYLAMINE|2(3H)-BENZOTHIAZOLIMINE|2-IMINOBENZOTHIAZOLINE|MU-AMINOBENZTHIAZOLE|USAF EK-3941|USAF XR-27	136-95-8	PHYSICAL DESCRIPTION: Odorless gray to white powder. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
514	2-AMINOBIPHENYL	2-AMINOBIPHENYL|2-AMINODIPHENYL|(1,1'-BIPHENYL)-2-AMINE|2-BIPHENYLAMINE|O-AMINOBIPHENYL|O-AMINODIPHENYL|O-BIPHENYLAMINE|O-PHENYLANILINE|2-PHENYLANILINE|2-PHENYLBENZENAMINE	90-41-5	PHYSICAL DESCRIPTION: Colorless or purplish crystals. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
515	2-AMINOPYRIDINE	ALPHA-AMINOPYRIDINE|ALPHA-PYRIDINAMINE|ALPHA-PYRIDYLAMINE|AMINO-2-PYRIDINE|2-AMINOPYRIDINE|1,2-DIHYDRO-2-IMINOPYRIDINE|O-AMINOPYRIDINE|2-PYRIDINAMINE|PYRIDINE, 2-AMINO-|2-PYRIDYLAMINE	504-29-0	PHYSICAL DESCRIPTION: White powder or crystals or light brown solid. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
516	2-AMINOTHIAZOLE	ABADOL|ABADOLE|2-AMINO-1,3-THIAZOLE|AMINOTHIAZOLE|2-AMINOTHIAZOLE|BASEDOL|2-THIAZOLAMINE|THIAZOLE, 2-AMINO-|2-THIAZOLYLAMINE|2-THIAZYLAMINE|USAF EK-P-5501	96-50-4	PHYSICAL DESCRIPTION: Light brown crystals or brown granular solid. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
512	2,5-HEXANEDIONE	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable; a flame can very easily flash back to the source of leak. Soluble in water to a maximum of 0.4% by mass at room temperature (NIOSH, 1997).	(BLOB)	Highly Flammable	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1053 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	0	4					(EPA, 1998)		4.3		%	(EPA, 1998)		45		%	(USCG, 1999)		500		(EPA, 1998)		-121.9	
513	2-AMINOBENZOTHIAZOLE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	An amine/nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
514	2-AMINOBIPHENYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Acidic salt of an amine. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.					0																							(NTP, 1992)		392 to 396
515	2-AMINOPYRIDINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Soluble in water. Dissolution generates heat, which is slightly unless acid concentration is above 80-90% when the heat may cause severe burns [Merck 11th ed. 1989] and lead to localized boiling and spattering.	SULFURIC ACID, [SPENT] is diluted and partly neutralized sulfuric acid recovered from industrial use. Likely to contain multiple impurities. Reacts an an acid and as a weak oxidizing agent. Chars wood and most other organic matter, but is unlikely to cause a fire. Zinc iodide reacts violently with H2SO4. (Pascal, 1962, Vol. 5, 168).	Known Catalytic Activity	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																						(USCG, 1999)	Not flammable			(NIOSH, 2003)		51	
516	2-AMINOTHIAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Alkaline aqueous solutions will decompose on standing or heating (NTP, 1992). [[Details on specifics of reactivity not yet available.]]					0																							(NTP, 1992)	(Decomposes)		648 to 649

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idth_source	idth_note	idth_value	idth_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chem_codes	det_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
512	2,5-HEXANEDIONE	(EPA, 1998)		15200		77.9		mm Hg	(EPA, 1998)		1.19				(EPA, 1998)		0.916		-76		(EPA, 1998)		-76.59		760		(EPA, 1998)		34.08		(NIOSH, 2003)		100	ppm	(NIOSH, 2003)		0.4		%	HDS	Poison Gas;Flammable Gas	H2S		10.0	1.0	17.0	3.0	4.0
513	2-AMINOBENZOTHIAZOLE																																										Flammable Liquid;Poison	C6H10N2	Mineral-Based & Clay-Based Absorbents	10.0	1.0	15.0	3.0	4.0
514	2-AMINOBIPHENYL	(NTP, 1992)																																									C8H9N;C8H11N	Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
515	2-AMINOPYRIDINE	(NIOSH, 2003)		0.001				mm Hg							(USCG, 1999)		1.39		68		(USCG, 1999)		212		760		(NIOSH, 2003)		98.1		(NIOSH, 2003)		15	mg/m3	(NIOSH, 2003)					SAC	Corrosive	H2O4S	Cellulose-Based Absorbents;Clay and/or Polymeric Absorbents	10.0	1.0	27.0	3.0	4.0
516	2-AMINOTHIAZOLE																																				less than 1	mg/mL					C3H4GN3OAS2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	20.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
517	2-BROMOETHYLAMINE HYDROBROMIDE	1-AMINO-2-BROMOETHANE HYDROBROMIDE|2-AMINOETHYL BROMIDE HYDROBROMIDE|2-AMINOETHYLBROMIDE HYDROBROMIDE|BETA-BROMOETHYLAMINE HYDROBROMIDE|2-BROMOETHYLAMINE HYDROBROMIDE|2-BROMOETHYLAMMONIUM BROMIDE|ETHANAMINE, 2-BROMO-, HYDROBROMIDE|ETHYLAMINE, 2-BROMO-, HYDROBROMIDE	2576-47-8	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
518	2-CHLOROBENZALDEHYDE	BENZALDEHYDE, O-CHLORO-|BENZALDEHYDE,2 CHLORO-|2-CHLOROBENZALDEHYDE|0-CHLOROBENZENECARBOXYALDEHYDE|O-CHLOROBENZALDEHYDE|O-CHLOROBENZENECARBOXALDEHYDE|O-CHLOROFORMYLBENZENE|ORTHO-CHLOROBENZALDEHYDE|USAF M-7	89-98-5	PHYSICAL DESCRIPTION: Clear colorless to yellowish liquid. (NTP, 1992)	2.5	5.0	2.5	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Flash point data for this compound is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
519	2-DIMETHYLAMINOETHANOL	AMIETOL M 21|B-DIMETHYLAMINOETHYL ALCOHOL|BETA-(DIMETHYLAMINO)ETHANOL|BETA-DIMETHYLAMINOETHANOL|BETA-DIMETHYLAMINOETHYL ALCOHOL|BETA-HYDROXYETHYLDIMETHYLAMINE|BIMANOL|DEANOL|DIMETHOL|DIMETHYL(2-HYDROXYETHYL)AMINE|DIMETHYL(HYDROXYETHYL)AMINE|(DIMETHYLAMINO)ETHANOL|2-(DIMETHYLAMINO)ETHANOL|2-(DIMETHYLAMINO)ETHYL ALCOHOL|DIMETHYLAMINOETHANOL|DIMETHYLAMINOETHANOL, [CORROSIVE LIQUID]|2-DIMETHYLAMINOETHANOL|DIMETHYLETHANOLAMINE|DIMETHYLMONOETHANOLAMINE|DMAE|(2-HYDROXYETHYL)DIMETHYLAMINE|KALPUR	108-01-0	A clear colorless liquid with a fishlike odor. Flash point 105Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used to make other chemicals.	2.5	5.0	2.5	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)		
520	2-ETHOXYBENZAMIDE	ANOVIGAM|BENZAMIDE, O-ETHOXY-|ETAMIDE|ETHBENZAMIDE|ETHENZAMID|ETHENZAMIDE|ETHOSALCYL|2-ETHOXYBENZAMIDE|ETOCIL|ETOSALICIL|ETOSALICYL|EUSAL|H.P. 209|KATAGRIPPE|LINDATOX|LUCAMIDE|O-ETHOXYBENZAMIDE|PIROSOLVINA|PROTOPYRIN|TRANCALGYL	938-73-8	PHYSICAL DESCRIPTION: White or almost-white crystalline powder. Almost odorless. Tasteless. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	This chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
521	2-ETHYLHEXYL ACRYLATE	ACRYLIC ACID, 2-ETHYLHEXYL ESTER|ACRYLIC ACID, 2-ETHYLHEXYLESTER|2-ETHYLHEXYL 2-PROPENOATE|2-ETHYLHEXYL ACRYLATE|2-ETHYLHEXYL-2-PROPENOATE|1-HEXANOL, 2-ETHYL-, ACRYLATE|OCTYL ACRYLATE|2-PROPENOIC ACID, 2-ETHYLHEXYL ESTER	103-11-7	A clear colorless liquid with a pleasant odor. Less dense than water and insoluble in water. Vapors heavier than air. Flash point 180Â°F. Used in making of paints and plastics.	2.5	5.0	2.5	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		Fire Extinguishing Agents: Water spray, dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
522	2-ETHYLHEXYL GLYCIDYL ETHER	DENACOL EX 12|EPIOL EH|EPODIL 746|1,2-EPOXY-3-((2-ETHYLHEXYL)OXY)PROPANE|2-ETHYLHEXYL GLYCIDYL ETHER|(((2-ETHYLHEXYL)OXY)METHYL)OXIRANE|[(2-ETHYLHEXYL)OXY]METHYL]OXIRANE|1-(2-ETHYLHEXYLOXY)-2,3-EPOXYPROPANE|GLYCIDYL 2-ETHYLHEXYL ETHER|1-GLYCIDYLOXY-2-ETHYLHEXANE|HELOXY 116|HELOXY MK 116|PROPANE, 1,2-EPOXY-3-[(2-ETHYLHEXYL)OXY]-	2461-15-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Chlorine is evolved when this material is heated above 410F. Avoid acids, certain metal salts, and catalytically active carriers. (EPA, 1998)	(Non-Specific -- Dry Insecticide) Avoid breathing dusts and fumes from burning material. Keep upwind. Avoid bodily contact with the material. Wear full protective clothing including boots, protective gloves, goggles, and wear self-contained breathing apparatus. (Non-Specific -- Dry Insecticide) Use agent suitable for type of surrounding fire. Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
517	2-BROMOETHYLAMINE HYDROBROMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	(BLOB)								0																					(NTP, 1992)			189 to 190
518	2-CHLOROBENZALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Sensitive to light. Very sensitive to oxidizing agents. Color is readily discharged by nitric acid, chlorates, etc. Color of aqueous solutions fades on standing. (NTP, 1992)								0																								
519	2-DIMETHYLAMINOETHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Sensitive to light. (NTP, 1992)								0																								
520	2-ETHOXYBENZAMIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a freezer and protect it from light. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLOROWAX 40 discolors in sunlight. It is sensitive to prolonged exposure to heat or light (can darken). Aluminum, zinc or iron will catalyze this decomposition. This chemical can react with strong oxidizing agents and reducing agents. It can be decomposed by strong alkalis (the presence of iron or zinc in any form will catalyze this deterioration). (NTP, 1992)							0		(NTP, 1992)			greater than 450																
521	2-ETHYLHEXYL ACRYLATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	ISOAMYL ALCOHOL attacks plastics [Handling Chemicals Safely, 1980. p. 236]. Mixtures with concentrated sulfuric acid and strong hydrogen peroxide may cause explosions. Mixing with hypochlorous acid in water or water/carbon tetrachloride solution can generate isoamyl hypochlorites, which may explode, particularly on exposure to sunlight or heat. Mixing with chlorine would also yield isoamyl hypochlorites [NFPA 491 M, 1991]. Base-catalysed reactions with isocyanates can occur with explosive violence [Wischmeyer,1969].	Highly Flammable		(NFPA, 2010)		1	2	0	2		(USCG, 1999)		114		(USCG, 1999)	(212Â°F)	1.2		%	(USCG, 1999)	(212Â°F)	9		%	(USCG, 1999)		662		(NIOSH, 2003)		-179	
522	2-ETHYLHEXYL GLYCIDYL ETHER	(Non-Specific -- Dry Insecticide) Keep upwind. Avoid bodily contact with the material. (Non-Specific -- Insecticide, Dry, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	Chlorine is evolved when ISOBENZAN is heated above 410F. Avoid acids, certain metal salts, and catalytically active carriers. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0					(EPA, 1998)	Non-flammable and non-explosive.				(EPA, 1998)	Non-flammable and non-explosive.							(EPA, 1998)			248 to 252

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
517	2-BROMOETHYLAMINE HYDROBROMIDE																										(NTP, 1992)		187.22						(NTP, 1992)	at 72Â° F		1 to 5	mg/mL			C7H9NO3S		11.0	1.0	20.0	3.0	4.0
518	2-CHLOROBENZALDEHYDE																										(NTP, 1992)		466.4						(NTP, 1992)	at 70.7Â° F		10 to 50	mg/mL			C16H10N2O8S2.2Na	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	44.0	3.0	4.0
519	2-DIMETHYLAMINOETHANOL																										(NTP, 1992)		244.99						(NTP, 1992)	Soluble						CH3IO3S.Na		10.0	1.0	37.0	3.0	4.0
520	2-ETHOXYBENZAMIDE	(NTP, 1992)	Nonvolatile												(NTP, 1992)		1.17		77		(NTP, 1992)	Decomposes				(NTP, 1992)	(average)	560						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C24H43Cl7		10.0	1.0	14.0	3.0	4.0
521	2-ETHYLHEXYL ACRYLATE	(NIOSH, 2003)		28				mm Hg							(USCG, 1999)		0.81		68		(USCG, 1999)		270		760	(USCG, 1999)		88.15		(NIOSH, 2003)		500	ppm	(NIOSH, 2003)	at 57Â° F	2		%	IAA		C5H11O	Cellulose-Based Absorbents	12.0	1.0	24.0	3.0	4.0
522	2-ETHYLHEXYL GLYCIDYL ETHER	(EPA, 1998)		1.00E-05		77		mm Hg							(EPA, 1998)		1.87									(EPA, 1998)		411.73											Poison	C9H4Cl8O	Dirt/Earth	10.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
523	2-HYDROXYBENZAMIDE	ACKET|AFKO-SAL|ALGAMON|ALGIAMIDA|ALLEVIN|AMID-SAL|AMIDOSAL|ANAMID|BENESAL|BENZAMIDE, 2-HYDROXY-|BENZAMIDE, O-HYDROXY-|2-CARBAMOYLPHENOL|2-CARBOXAMIDOPHENOL|CETAMIDE|CIDAL|CYMIDON|DOLOMIDE|DROPSPRIN|H.P. 34|2-HYDROXYBENZAMIDE|LIQUIPRIN|MORSARINAS|NOVECYL|O-HYDROXYBENZAMIDE|OHB|ORAMID|PANITHAL|RASPBERIN|SALAMID|SALAMIDE|SALIAMID|SALIAMIN|SALICIM|SALICYLAMID|SALICYLAMIDE|SALICYLAMIDE, 2-HYDROXYBENZOICACIDAMIDE|SALICYLIC ACID AMIDE|SALIPUR|SALIZELL|SALRIN|SALYMID|SAM|SAMIDE|SERRAMIDA|SR 4326|URTOSAL	65-45-2	PHYSICAL DESCRIPTION: Odorless white or slightly pink crystals. Bitter taste, leaves a sensation of warmth on the tongue. pH (saturated aqueous solution at 82Â°F) about 5. Sublimation begins at the melting point. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	193.0	227.0	24.0	76.0	31.0	29.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
524	2-MERCAPTOBENZIMIDAZOLE	ANTAGE MB|ANTIEGENE MB|ANTIGENE MB|ANTIOXIDANT MB|ANTIOXIDANT MB/K|AO-MB|AOMB|ASM MB|2-BENZIMIDAZOLETHIOL|2-BENZIMIDAZOLETHIONE|2-BENZIMIDAZOLINETHIONE|2,3-D|HYDRO-1H-BENZIMIDAZOLE-2-THIONE|1,3-DIHYDRO-2H-BENZIMIDAZOLE-2-THIONE|G 580|1H-BENZIMIDAZOLE-2-THIOL|MB|MB/K|2-MERCAPTO-1H-BENZIMIDAZOLE|MERCAPTOBENZIMIDAZOLE|2-MERCAPTOBENZIMIDAZOLE|MERCAPTOBENZOIMIDAZOLE|2-MERCAPTOBENZOIMIDAZOLE|NCI-C60980|NOCRAC MB|NONFLEX MB|O-PHENYLENETHIOUREA|PERMANAX 2|SUMILIZER MB|2-THIOBENZIMIDAZOLE|USAF EK-6540|USAF XF-21|VULKANOX	583-39-1	PHYSICAL DESCRIPTION: White to yellow crystals or cream colored powder. Slight odor. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	197.0	227.0	24.0	76.0	31.0	30.0	(BLOB)	This chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
525	2-MERCAPTOBENZOTHIAZOLE	ACCEL M|ACCELERATOR M|AERO PROMOTER 412|BENZ-1,3-THIAZOLIDINE-2-THIONE|1,3-BENZOTHIAZOLE-2-THIONE|2-BENZOTHIAZOLETHIOL|2-BENZOTHIAZOLINETHIONE|2-BENZOTHIAZOLYL MERCAPTAN|CAPTAX|DERMACID|2,3-DIHYDROBENZOTHIAZOLE-2-THIONE|EKAGOM G|KAPTAKS|KAPTAX|MBT|MBT (VULCANIZATION ACCELERATOR)|2-MBT|MEBETIZOL|MEBETIZOLE|MEBITHIZOL|MERCAPTOBENZOTHIAZOLE|2-MERCAPTOBENZOTHIAZOLE|MERCAPTOBENZTHIAZOLE|2-MERCAPTOBENZTHIAZOLE|MERTAX|NCI-C56519|NOCCELER M|NONFLEX NB|NUODEB 84|PENNAC MBT POWDER|PNEUMAX MBT|ROKON|ROTAX|ROYAL	149-30-4	PHYSICAL DESCRIPTION: Pale yellow to tan crystalline powder with a disagreeable odor. (NTP, 1992)	1.0	2.5	5.0	1489.0	144.0	488.0	195.0	197.0	227.0	24.0	76.0	31.0	30.0	(BLOB)	(Non-Specific -- Pesticide, Solid, n.o.s.) Fire may produce irritating or poisonous gases. When heated to decomposition it emits very toxic fumes of chlorides and nitrogen oxides. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Avoid breathing vapors or dust. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Pesticide, Solid, n.o.s.) For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
526	2-METHYL-2-ETHOXYPROPANE	1,1-DIMETHYLETHYL ETHYL ETHER|ETHER, TERT-BUTYL ETHYL|2-ETHOXY-2-METHYLPROPANE|ETHYL 1,1-DIMETHYLETHYL ETHER|ETHYL TERT-BUTYL ETHER|ETHYL TERT-BUTYL OXIDE|2-METHYL-2-ETHOXYPROPANE|PROPANE, 2-ETHOXY-2-METHYL-|TERT-BUTYL ETHYL ETHER	637-92-3	PHYSICAL DESCRIPTION: Clear light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	1493.0	144.0	492.0	195.0	197.0	228.0	24.0	77.0	31.0	30.0	(BLOB)	Behavior in Fire: Containers may explode in fire. Vapor is heavier than air and may travel a long distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)
527	2-METHYL-4-NITROANILINE	(BLOB)	99-52-5	PHYSICAL DESCRIPTION: Yellow needles or mustard yellow powder. (NTP, 1992)	1.0	2.5	5.0	1493.0	144.0	492.0	195.0	197.0	228.0	24.0	77.0	31.0	30.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
523	2-HYDROXYBENZAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)		307 to 311
524	2-MERCAPTOBENZIMIDAZOLE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLOROWAX 500C gives evidence of instability at temperatures greater than 77Â° F. It discolors in sunlight. It is sensitive to prolonged exposure to heat or light (can darken). Aluminum, zinc or iron will catalyze this decomposition. This chemical is incompatible with strong oxidizing and reducing agents. It is also incompatible with strong alkalis. (NTP, 1992)						0		(NTP, 1992)			greater than 450																			
525	2-MERCAPTOBENZOTHIAZOLE	(Non-Specific -- Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Use caution with this material. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Fire may produce irritating or poisonous gases. When heated to decomposition it emits very toxic fumes of chlorides and nitrogen oxides. [EPA, 1998].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0					(EPA, 1998)	Non-flammable.					(EPA, 1998)	Non-flammable.								(EPA, 1998)		304 to 306
526	2-METHYL-2-ETHOXYPROPANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Chemical gloves and eye protection; organic vapor canister or self-contained breathing apparatus. (USCG, 1999)	Highly flammable.	ISOBUTYLENE is incompatible with oxidizers. It polymerizes easily. It reacts easily with numerous materials, such as alkyl halides, halogens, concentrated sulfuric acid, hypochlorous acid, aluminum chloride, carbon monoxide and hydrogen with a cobalt catalyst. Polymerization is catalyzed by aluminum chloride and boron trifluoride. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(NTP, 1992)		-105		(NTP, 1992)		1.8		%	(NTP, 1992)		9.6		%	(USCG, 1999)		869		(NTP, 1992)		-220.5	
527	2-METHYL-4-NITROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Acidic salt of an amine. Materials in this group have variable solubility in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																				(NTP, 1992)		354 to 358

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressNMH G	bp_range_pressNMH G	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	molwgt_note	hlfn_value	hlfn_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chris_codes	doi_labels	formulas	incompatible_substances	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
523	2-HYDROXYBENZAMIDE																									(NTP, 1992)																								4.0
524	2-METHOXYPROPANE	(NTP, 1992)	1	-157.2	124	mm Hg	(NTP, 1992)	1.9					(USCG, 1999)	0.59	68	19.6	(NTP, 1992)		760					(NTP, 1992)				56.11	275.17		(NTP, 1992)			(NTP, 1992)	Insoluble	at 72Â° F	mg/mL	less than 1				Mineral-Based & Clay-Based Absorbents	11.0	1.0	13.0	3.0	4.0
525	MERCAPTOBENZOTHIAZOLE	(EPA, 1998)	1.80E-09		68	mm Hg		1.34					(EPA, 1998)											(EPA, 1998)				290.7												C15H10N2O2	C15H15C	13.0	1.0	43.0	3.0	4.0
526	ETHOXYPROPANE	(NTP, 1992)	1	-157.2	124	mm Hg	(NTP, 1992)	1.9					(USCG, 1999)	0.59	68	19.6	(NTP, 1992)		760					(NTP, 1992)				56.11	275.17		(NTP, 1992)			(NTP, 1992)	Insoluble	at 67.1Â° F	mg/mL	less than 1		HBL	Flammable Gas	C4H8	Mineral-Based & Clay-Based Absorbents|Universal Earth	11.0	1.0	13.0	3.0	4.0
527	2-METHYL-4-NITROANILINE																																			at 72Â° F	(NTP, 1992)					C9H8N2S	3H1.H2O	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
528	2-METHYL-5-NITROANILINE																																			at 75Â° F	(NTP, 1992)					C7H8N2O2	16	Mineral-Based & Clay-Based Absorbents	12.0	1.0	45.0	3.0	4.0
529	2-METHYLACRYLONITRILE																																			at 75Â° F	(NTP, 1992)					C4H5N	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
530	2-METHYLANILINE																																			at 75Â° F	(NTP, 1992)					C7H9N	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
531	2-METHYLBENZOTHIAZOLE																																			at 75Â° F	(NTP, 1992)					C8H7NS	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
532	2-METHYLBUTANE																																			at 75Â° F	(NTP, 1992)					C5H12	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
533	2-METHYLBUTENE																																			at 75Â° F	(NTP, 1992)					C5H10	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
534	2-METHYLFURAN																																			at 75Â° F	(NTP, 1992)					C5H6O	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
535	2-METHYLHEXANE																																			at 75Â° F	(NTP, 1992)					C7H16	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
536	2-METHYLHEXANOIC ACID																																			at 75Â° F	(NTP, 1992)					C7H14O2	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
537	2-METHYLHEXYL ACRYLATE																																			at 75Â° F	(NTP, 1992)					C14H26O2	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
538	2-METHYLNAPHTHALENE																																			at 75Â° F	(NTP, 1992)					C11H10	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
539	2-METHYLPENTANE																																			at 75Â° F	(NTP, 1992)					C6H14	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
540	2-METHYLPHENOL																																			at 75Â° F	(NTP, 1992)					C7H8O	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
541	2-METHYLPROPENE																																			at 75Â° F	(NTP, 1992)					C4H8	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
542	2-METHYLPYRIDINE																																			at 75Â° F	(NTP, 1992)					C6H7N	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
543	2-NAPHTHYLAMINE																																			at 75Â° F	(NTP, 1992)					C10H9N	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
544	2-NITROANILINE																																			at 75Â° F	(NTP, 1992)					C6H6N2O2	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
545	2-NITROPROPANE																																			at 75Â° F	(NTP, 1992)					C3H7NO2	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
546	2-PICOLINE																																			at 75Â° F	(NTP, 1992)					C6H7N	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
547	3,3'-DICHLOROBENZIDINE																																			at 75Â° F	(NTP, 1992)					C12H10C	12N2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
548	3,3'-DIMETHOXYBENZIDINE																																			at 75Â° F	(NTP, 1992)					C14H16N2O2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
549	3,3'-DIMETHYLBENZIDINE																																			at 75Â° F	(NTP, 1992)					C14H16N2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
550	3-METHYLCHOLANTHRENE																																			at 75Â° F	(NTP, 1992)					C19H16		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
551	3-METHYLPENTANE																																			at 75Â° F	(NTP, 1992)					C6H14	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
552	4,4'-METHYLENE BIS(2-CHLOROANILINE)																																			at 75Â° F	(NTP, 1992)					C13H12C	12N2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
553	4,4'-METHYLENEDIANILINE																																			at 75Â° F	(NTP, 1992)					C13H14N2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
554	4-AMINOBIPHENYL																																			at 75Â° F	(NTP, 1992)					C12H11N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
555	4-METHYL-2-PENTANONE																																			at 75Â° F	(NTP, 1992)					C6H12O	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
556	4-METHYLPHENOL																																			at 75Â° F	(NTP, 1992)					C7H8O	1H2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
557	4-NITROANILINE																																			at 75Â° F	(NTP, 1992)					C6H6N2O2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
558	4-NITROPHENOL																																			at 75Â° F	(NTP, 1992)					C6H5NO3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
559	4-PHENYLCYCLOHEXENE																																			at 75Â° F	(NTP, 1992)					C12H14		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
560	4-VINYL-1-CYCLOHEXENE																																			at 75Â° F	(NTP, 1992)					C8H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
561	4-VINYLBENZYL CHLORIDE																																			at 75Â° F	(NTP, 1992)					C9H9Cl		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
562	4-VINYLCYCLOHEXENE																																			at 75Â° F	(NTP, 1992)					C8H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
563	ACENAPHTHENE																																			at 75Â° F	(NTP, 1992)					C12H10		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
564	ACENAPHTHYLENE																																			at 75Â° F	(NTP, 1992)					C12H8		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
565	ACETALDEHYDE																																			at 75Â° F	(NTP, 1992)					C2H4O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
566	ACETAMIDE																																			at 75Â° F	(NTP, 1992)					C2H5NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
567	ACETONE																																			at 75Â° F	(NTP, 1992)					C3H6O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
568	ACETONITRILE																																			at 75Â° F	(NTP, 1992)					C2H3N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
569	ACETOPHENONE																																			at 75Â° F	(NTP, 1992)					C8H8O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
570	ACETYLAMINOFLUORENE																																			at 75Â° F	(NTP, 1992)					C15H13NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
571	ACETYLENE																																			at 75Â° F	(NTP, 1992)					C2H2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
572	ACETYLENE DICHLORIDE, 1,2-CIS																																			at 75Â° F	(NTP, 1992)					C2H2Cl2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
573	ACETYLENE DICHLORIDE, 1,2-TRANS																																			at 75Â° F	(NTP, 1992)					C2H2Cl2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
574	ACETYLSALICYLIC ACID																																			at 75Â° F	(NTP, 1992)					C9H8O4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
575	ACRIDINE																																			at 75Â° F	(NTP, 1992)					C13H9N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
576	ACROLEIN																																			at 75Â° F	(NTP, 1992)					C3H4O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
577	ACRYLAMIDE																																			at 75Â° F	(NTP, 1992)					C3H5NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
578	ACRYLIC ACID																																			at 75Â° F	(NTP, 1992)					C3H4O2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
579	ACRYLONITRILE																																			at 75Â° F	(NTP, 1992)					C3H3N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
580	ACRYLONITRILE-BUTADIENE-STYRENE COPOLYMER																																			at 75Â° F	(NTP, 1992)					C8H3N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
581	ALACHLOR																																			at 75Â° F	(NTP, 1992)					C14H20C	1NO2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
582	ALDRIN																																			at 75Â° F	(NTP, 1992)					C12H8Cl6		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
583	ALLYL ALCOHOL																																			at 75Â° F	(NTP, 1992)					C3H6O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
584	ALLYL CHLORIDE																																			at 75Â° F	(NTP, 1992)					C3H5Cl		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
585	ALUMINUM																																			at 75Â° F	(NTP, 1992)					Al		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
586	AMINOBIPHENYL, 4-																																			at 75Â° F	(NTP, 1992)					C12H11N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
587	AMINOPHENOL, M-																																			at 75Â° F	(NTP, 1992)					C6H7NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
588	AMINOPHENOL, P-																																			at 75Â° F	(NTP, 1992)					C6H7NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
589	AMITROLE																																			at 75Â° F	(NTP, 1992)					C2H4N4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
590	ANILINE																																			at 75Â° F	(NTP, 1992)					C6H7N		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
591	ANISIDINE, O-																																			at 75Â° F	(NTP, 1992)					C7H9NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
592	ANISIDINE, P-																																			at 75Â° F	(NTP, 1992)					C7H9NO		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
593	ANTHANTHRENE																																			at 75Â° F	(NTP, 1992)					C20H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
594	ANTHRACENE																																			at 75Â° F	(NTP, 1992)					C14H10		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
595	ANTIMONY																																			at 75Â° F	(NTP, 1992)					Sb		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
596	ANTIMONY PENTOXIDE																																			at 75Â° F	(NTP, 1992)					Sb2O5		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
597	ANTIMONY POTASSIUM TARTRATE																																			at 75Â° F	(NTP, 1992)					C8H4K2O12Sb2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
598	ANTIMONY TRIOXIDE																																			at 75Â° F	(NTP, 1992)					Sb2O3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
599	ARAMITE																																			at 75Â° F	(NTP, 1992)					C13H19O4	1S	Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
600	ARSENIC																																			at 75Â° F	(NTP, 1992)					As		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
601	ARSENIC ACID																																			at 75Â° F	(NTP, 1992)					AsH3O4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
602	ARSENIC PENTOXIDE																																			at 75Â° F	(NTP, 1992)					As2O5		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
603	ARSENIC TRIOXIDE																																			at 75Â° F	(NTP, 1992)					As2O3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
604	ASBESTOS																																			at 75Â° F	(NTP, 1992)							Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
605	ATRAZINE																																			at 75Â° F	(NTP, 1992)					C8H14ClN5		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
606	AZOBENZENE																																			at 75Â° F	(NTP, 1992)					C12H10N2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
607	BARIUM																																			at 75Â° F	(NTP, 1992)					Ba		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
608	BARIUM CHROMATE																																			at 75Â° F	(NTP, 1992)					BaCrO4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
609	BENZ[A]ANTHRACENE																																			at 75Â° F	(NTP, 1992)					C18H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
610	BENZENE																																			at 75Â° F	(NTP, 1992)					C6H6		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
611	BENZIDINE																																			at 75Â° F	(NTP, 1992)					C12H12N2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
612	BENZO[A]PYRENE																																			at 75Â° F	(NTP, 1992)					C20H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
613	BENZO[B]FLUORANTHENE																																			at 75Â° F	(NTP, 1992)					C20H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
614	BENZO[J]FLUORANTHENE																																			at 75Â° F	(NTP, 1992)					C20H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
615	BENZO[K]FLUORANTHENE																																			at 75Â° F	(NTP, 1992)					C20H12		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
616	BENZOIC ACID																																			at 75Â° F	(NTP, 1992)					C7H6O2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
617	BENZOTRICHLORIDE																																			at 75Â° F	(NTP, 1992)					C7H5Cl3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
618	BENZYL ALCOHOL																																			at 75Â° F	(NTP, 1992)					C7H8O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
619	BENZYL CHLORIDE																																			at 75Â° F	(NTP, 1992)					C7H7Cl		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
620	BERYLLIUM																																			at 75Â° F	(NTP, 1992)					Be		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
621	BERYLLIUM SULFATE																																			at 75Â° F	(NTP, 1992)					BeSO4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
622	BIPHENYL																																			at 75Â° F	(NTP, 1992)					C12H10		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
623	BIS(2-CHLOROETHOXY)METHANE																																			at 75Â° F	(NTP, 1992)					C5H10Cl2O2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
624	BIS(2-CHLOROETHYL) ETHER																																			at 75Â° F	(NTP, 1992)					C4H8Cl2O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
625	BIS(2-CHLOROISOPROPYL) ETHER																																			at 75Â° F	(NTP, 1992)					C6H14Cl2O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
626	BIS(CHLOROMETHYL) ETHER																																			at 75Â° F	(NTP, 1992)					C2H4Cl2O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
627	BIS(2-ETHYLHEXYL) PHTHALATE																																			at 75Â° F	(NTP, 1992)					C24H38O4		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
628	BORON TRIFLUORIDE																																			at 75Â° F	(NTP, 1992)					BF3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
629	BROMOCHLOROMETHANE																																			at 75Â° F	(NTP, 1992)					CH2BrCl		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
630	BROMODICHLOROMETHANE																																			at 75Â° F	(NTP, 1992)					CHBrCl2		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
631	BROMOFORM																																			at 75Â° F	(NTP, 1992)					CHBr3		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
632	BROMOMETHANE																																			at 75Â° F	(NTP, 1992)					CH3Br		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
633	BUTADIENE, 1,3-																																			at 75Â° F	(NTP, 1992)					C4H6		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
634	BUTANE																																			at 75Â° F	(NTP, 1992)					C4H10		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
635	BUTANOL																																			at 75Â° F	(NTP, 1992)					C4H10O		Mineral-Based & Clay-Based Absorbents	11.0	1.0	23.0	3.0	4.0
636	BUTYL ACRYLATE, N-																																			at 75

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
528	2-METHYLFURAN	ALPHA,-METHYLFURAN\METHYLFURAN\2-METHYLFURAN\5-METHYLFURAN\SYLVAN	534-22-5	A clear colorless liquid with an ethereal odor. Flash point -22Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	1493.0	144.0	492.0	195.0	197.0	228.0	24.0	77.0	31.0	30.0	(BLOB)	Inhalation of dust is poisonous; fire may produce irritating or poisonous gases. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
529	2-NITROPHENOL	2-HYDROXYNITROBENZENE\2-NITROPHENOL\O-HYDROXYNITROBENZENE\ONITROPHENOL\ONPORTHO-NITROPHENOL\PHENOL, O-NITRO-	88-75-5	Yellow solid. Sinks in and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1497.0	144.0	492.0	195.0	197.0	229.0	24.0	77.0	31.0	30.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
530	2-PHENYLPHENOL	ANTHRAPOLE 73\(1,1'-BIPHENYL)-2-OL\2-BIPHENYLOL\BRITEWOODS\2-DIPHENYLOL\DOWCIDE 1\DOWICIDE 1\2-HYDROXY-1,1'-BIPHENYL\2-HYDROXYBIPHENYL\2-HYDROXYDIPHENYL\INVALON OP\NCI-C50351\NECTRYL\O-BIPHENYLOL\O-DIPHENYLOL\O-HYDROXYBIPHENYL\O-HYDROXYDIPHENYL\O-PHENYLPHENOL\O-XENOL\ORTHOHYDROXYDIPBENYL\ORTHOPHENYLPHENOL\ORTHOXENOL\2-PHENYLPHENOL\PREVENTOL 3041\PREVENTOL OEXTRA\REMOL TRF\TETROSIN OE\TETROSIN OE-N\TORSITE\TUMESCAL OPE\USAF EK-2219	90-43-7	PHYSICAL DESCRIPTION: Light lavender crystals or solid. (NTP, 1992)	1.0	2.5	5.0	1497.0	144.0	492.0	195.0	197.0	229.0	24.0	77.0	31.0	30.0	(BLOB)	This chemical is relatively nonflammable. (NTP, 1992)	To fight fires involving this chemical, you should be equipped with an air line or self-contained breathing apparatus. Extinguish with a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)
531	3,3',5,5'-TETRAMETHYLBENZIDINE	BENZIDINE, 3,3',5,5'-TETRAMETHYL-\3,3',5,5'-TETRAMETHYL-(1,1-BIPHENYL)-4,4'-DIAMINE\3,3',5,5'-TETRAMETHYLBENZIDINE\3,5,3',5'-TETRAMETHYLBENZIDINE	54827-17-7	PHYSICAL DESCRIPTION: Pale yellow crystals or off-white powder. (NTP, 1992)	1.0	2.5	5.0	1501.0	144.0	492.0	195.0	197.0	230.0	24.0	77.0	31.0	30.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
532	3,4-DIAMINOTOLUENE	2-AMINO-5-METHYLANILINE\1,2-BENZENEDIAMINE, 4-METHYL-\3,4-DIAMINO-1-METHYLBENZENE\1,2-DIAMINO-4-METHYLBENZENE\DIAMINOTOLUENE\3,4-DIAMINOTOLUENE\4-METHYL-1,2-BENZENEDIAMINE\4-METHYL-1,2-DIAMINOBENZENE\4-METHYL-1,2-PHENYLENEDIAMINE\4-METHYL-2-AMINOANILINE\4METHYL-O-PHENYLENEDIAMINE\TOLUENE, 3,4-DIAMINO\TOLUENE-3,4-DIAMINE\3,4-TOLUYLENEDIAMINE\3,4-TOLYLENEDIAMINE	496-72-0	A colorless to brownish purple crystalline solid. Toxic by ingestion and inhalation and an irritant to skin and eyes. Soluble in water, alcohol and ether. Decomposes to emit toxic oxides of nitrogen when heated to high temperature. Used in making dyes.	1.0	2.5	5.0	1501.0	144.0	492.0	195.0	197.0	230.0	24.0	77.0	31.0	30.0	(BLOB)	Behavior in Fire: Containers may explode (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
533	3,4-DIHYDROXYCINNAMIC ACID	CAFFEIC ACID\4-(2-CARBOXYETHENYL)-1,2-DIHYDROXYBENZENE\4-(2'-CARBOXYVINYL)-1,2-DIHYDROXYBENZENE\CINNAMIC ACID, 3,4-DIHYDROXY-\3,4-DIHYDROXYBENZENEACRYLIC ACID\3,4-DIHYDROXYCINNAMIC ACID\3-(3,4-DIHYDROXYPHENYL)-2-PROPENOIC ACID\3-(3,4-DIHYDROXYPHENYL)PROPENOIC ACID\2-PROPENOIC ACID, 3-(3,4-DIHYDROXYPHENYL)-	331-39-5	PHYSICAL DESCRIPTION: Yellow prisms or plates (from chloroform or ligroin) or pale yellow granules. Alkaline solutions turn from yellow to orange. (NTP, 1992)	1.0	2.5	5.0	1501.0	144.0	492.0	195.0	197.0	230.0	24.0	77.0	31.0	30.0	(BLOB)	Flash point data for this compound is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinquisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
528	2-METHYLFURAN	Avoid inhalation of dust. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as ISOCYANIC ACID, 3,4-DICHLOROPHENYL ESTER, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(EPA, 1998)		113	
529	2-NITROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-AMINO-6-METHOXYBENZOTHIAZOLE may be sensitive to exposure to light. This chemical is incompatible with strong oxidizers. (NTP, 1992)					0																								(NTP, 1992)		329 to 333	
530	2-PHENYLPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: A laboratory coat and leather shoes should provide you with adequate protection for working with this chemical. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Very soluble in water. (NTP, 1992)	Choline chloride is a quaternary ammonium salt. Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics. Unlike the ammonium ion, [NH4]+, and the primary, secondary, or tertiary ammonium cations, the quaternary ammonium cations are permanently charged, independent of the pH of their solution.					0																								(NTP, 1992)	(Decomposes)	577 to 581	
531	3,3',5,5'-TETRAMETHYLBENZIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
532	3,4-DIAMINOTOLUENE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Goggles and respirator. (Special chromic acid filters are available for respirators to prevent inhalation of dust or mist.) (USCG, 1999)	Deliquescent. Water soluble, giving acidic solutions.	CHROMIUM TRIOXIDE is a powerful oxidizing agent. Can react violently upon contact with reducing reagents, including organic matter, leading to ignition or explosion. Dangerously reactive with acetone, alcohols, alkali metals (sodium, potassium), ammonia, arsenic, dimethylformamide, hydrogen sulfide, phosphorus, peroxyformic acid, pyridine, selenium, sulfur, and many other chemicals [Sax, 9th ed., 1996, p. 852]. Noncombustible but can accelerate the burning of combustible materials. Sufficient heat may be generated from the reaction with combustible materials to ignite the mass. Aqueous solutions corrode many metals rapidly. Often mixed with sulfuric acid to make "cleaning solution" for glass. Used cleaning solution in closed bottles may explode due to the build up of gaseous carbon dioxide arising from oxidation of organic impurities [Bryson, W. R., Chem. Brit., 1975, 11, p. 377].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																		(USCG, 1999)	May ignite organic materials on contact.			(NTP, 1992)		385	
533	3,4-DIHYDROXYCINNAMIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines/imides, such as 1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)TETRADECANAMIDE, are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
528	2-METHYLFURAN																				(EPA, 1998)		244		18		(EPA, 1998)		188.01												Poison	C7H3Cl2NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	22.0	3.0	4.0
529	2-NITROPHENOL																				(NTP, 1992)	(decomposes)	464		760		(NTP, 1992)		180.23						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C8H8N2OS	Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
530	2-PHENYLPHENOL																										(NTP, 1992)		139.63						(NTP, 1992)	Very soluble						C5H14NO.Cl	Cellulose-Based Absorbents	11.0	1.0	23.0	3.0	4.0
531	3,3',5,5'-TETRAMETHYLBENZIDINE																												109		(NIOSH, 2003)	[as Cr(III)]	25	mg/m3						Corrosive	CrF3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	27.0	3.0	4.0
532	3,4-DIAMINOTOLUENE	(NIOSH, 2003)	Very low												(NTP, 1992)		2.7				(NTP, 1992)	(decomposes)	482		760		(NTP, 1992)		100		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3	(NTP, 1992)	Very soluble				CMA	Oxidizer|Poison|Corrosive	CrO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0
533	3,4-DIHYDROXYCINNAMIC ACID																				(NTP, 1992)		328.5												(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C19H40N2O2	Cellulose-Based Absorbents	10.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
534	3,5-DIMETHYLPHENOL	3,5-DIMETHYLPHENOL|3,5-DMP|1-HYDROXY-3,5-DIMETHYLBENZENE|5-HYDROXY-M-XYLENE|M-5-XYLENOL|SYM-M-XYLENOL|1,3,5-XYLENOL|3,5 XYLENOL	108-68-9	PHYSICAL DESCRIPTION: Colorless to off-white crystalline solid. Odor threshold 1 ppm. Taste threshold 0.001 mg/L. (NTP, 1992)	1.0	2.5	5.0	1501.0	144.0	492.0	195.0	197.0	230.0	24.0	77.0	31.0	30.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
535	3-IODO-2-PROPYNYL BUTYLCARBAMATE	3-IODO-2-PROPYNYL BUTYLCARBAMATE	55406-53-6	Off-white solid.	1.0	2.5	5.0	1505.0	144.0	496.0	195.0	197.0	231.0	24.0	78.0	31.0	30.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
536	4,4'-ISOPROPYLIDENEDIPHENOL	(BLOB)	80-05-7	White to light brown flakes or powder. Has a weak medicine odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1505.0	144.0	496.0	195.0	197.0	231.0	24.0	78.0	31.0	30.0	(BLOB)	Special Hazards of Combustion Products: Contain poisonous chloride fumes. Behavior in Fire: Burns and produces toxic and irritating gases. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, carbon dioxide, water spray or foam. Large Fires: Alcohol foam. (USCG, 1999)
537	4,4'-SULFONYLDIANILINE	(BLOB)	80-08-0	PHYSICAL DESCRIPTION: Odorless white or creamy white crystalline powder. Slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	1505.0	144.0	496.0	195.0	197.0	231.0	24.0	78.0	31.0	30.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
538	4-BUTYROLACTONE	ALPHA-BUTYROLACTONE|BLO|BLON|BUTANOIC ACID, 4-HYDROXY-, GAMMA-LACTONE|1,2-BUTANOLIDE|1,4-BUTANOLIDE|4-BUTANOLIDE|BUTYRIC ACID LACTONE|BUTYRIC ACID, 4-HYDROXY-,GAMMA-LACTONE|BUTYRL LACTONE|BUTYROLACTONE|4-BUTYROLACTONE|BUTYRY LACTONE|4-DEOXYTETRONIC ACID|DIHYDRO-2(3H)-FURANONE|4,5-DIHYDRO-2(3H)-FURANONE|GAMMA BL|GAMMA-6480|GAMMA-BL|GAMMA-BUTALACTONE|GAMMA-BUTYROLACTONE|GAMMA-BUTYRYLLACTONE|GAMMA HYDROXYBUTYRIC ACID CYCLIC ESTER|GAMMA-HYDROXYBUTYRIC ACID LACTONE|4-HYDROXYBUTANOIC ACID	96-48-0	PHYSICAL DESCRIPTION: Clear colorless oily liquid with a pleasant odor. (NTP, 1992)	2.5	5.0	2.5	1509.0	144.0	496.0	195.0	197.0	232.0	24.0	78.0	31.0	30.0	INHALATION: remove victim to fresh air; start artificial respiration and give oxygen if required; observe for signs of pulmonary edema; get medical attention. INGESTION: give large amount of water and induce vomiting. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating sulfur dioxide gas is formed in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
534	3,5-DIMETHYLPHENOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as CHRYSENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		489	
535	3-IODO-2-PROPYNYL BUTYLCARBAMATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hygroscopic. Water soluble (NTP, 1992).	A halogenated alcohol. Many alcohols are flammable. Polyols are generally combustible, but their generally low volatility means that they are poorly flammable. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																												
536	4,4'-ISOPROPYLIDENEDIPHENOL	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate (USCG, 1999)	Wear positive pressure breathing apparatus and special chemical protective clothing. (USCG, 1999)	Very soluble in water	2-CHLOROPHENOL is a weak acid. Neutralizes bases in exothermic reactions. Incompatible with oxidizing agents. Incompatible with acid chlorides and acid anhydrides. Forms ethers, esters and salts with metals and amines (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		147										(USCG, 1999)	(calculated)	1.7		%						(NTP, 1992)		48.2	
537	4,4'-SULFONYLDIANILINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in NAPHTHA, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers. Incompatible with strong oxidizers (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		107		(NIOSH, 2003)		1		%														
538	4-BUTYROLACTONE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; goggles or face shield; rubber gloves (USCG, 1999)	Highly flammable. Soluble in water.	ISOPROPYL MERCAPTAN is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. May liberate hydrogen sulfide when mixed with an acid.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		-30																		(USCG, 1999)		-202.8	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
534	3,5-DIMETHYLPHENOL														(NTP, 1992)		1.274		68		(NTP, 1992)		838		760		(NTP, 1992)		228.28						(NTP, 1992)	Insoluble. (0.0018mg/kg)					Class 9	C18H12		10.0	1.0	19.0	3.0	4.0
535	3-IODO-2-PROPYNYL BUTYLCARBAMATE														(NTP, 1992)		1.3219		68		(NTP, 1992)		295		18		(NTP, 1992)		110.54						(NTP, 1992)	Soluble						C3H7ClO2	Cellulose-Based Absorbents	10.0	1.0	27.0	3.0	4.0
536	4,4'-ISOPROPYLIDENEDIPHENOL	(NTP, 1992)	; 2.2 mm Hg at 68Â° F	1		53.8		mm Hg							(USCG, 1999)		1.25		77		(NTP, 1992)			347 to 349	760		(NTP, 1992)		128.56						(NTP, 1992)	at 59Â° F		10 to 50	mg/mL	CRH	Poison	C6H5ClO		16.0	1.0	41.0	3.0	4.0
537	4,4'-SULFONYLDIANILINE	(USCG, 1999)		6.72				mm Hg							(USCG, 1999)		0.86 to 0.88	68			(USCG, 1999)			200 to 500	760		(NIOSH, 2003)		110		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)	Insoluble				NCT	Flammable Liquid			12.0	1.0	31.0	3.0	4.0
538	4-BUTYROLACTONE														(USCG, 1999)		0.814		68		(USCG, 1999)		126.6		760		(USCG, 1999)		76.2											IPM	Flammable Liquid	C3H8S		14.0	1.0	39.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
539	4-DIMETHYLAMINOAZOBENZENE-4-SULFONIC ACID, SODIUM SALT	BENZENESULFONIC ACID, P-[[P-(DIMETHYLAMINO)PHENYL]AZO]-, SODIUM SALT|C.I. 13025|C.I. ACID ORANGE 52|DIAZOBEN|4-DIMETHYLAMINOAZOBENZENE-4'-SULFONIC ACID SODIUM SALT|4-DIMETHYLAMINOAZOBENZENE-4'-SULPHONIC ACID, SODIUM SALT|4-DIMETHYLAMINOAZOBENZENE-4-SULFONIC ACID, SODIUM SALT|ENIAMETHYL ORANGE|GOLD ORANGE|HELIANTHINE|HELIANTHINE B|KCA METHYL ORANGE|METHYL ORANGE|METHYL ORANGE B|ORANGE 3|ORANGE III|P-((P-(DIMETHYLAMINO)PHENYL)AZO)BENZENESULFONIC ACID, SODIUM SALT|SODIUM 4-(DIMETHYLAMINO)AZOBENZENE-4-SULFONATE|SODIUM 4-	547-58-0	PHYSICAL DESCRIPTION: Orange powder. (NTP, 1992)	1.0	2.5	5.0	1509.0	144.0	500.0	195.0	197.0	232.0	24.0	79.0	31.0	30.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
540	4-FLUORO-D,L-PHENYLALANINE	ALANINE, 3-(P-FLUOROPHENYL)-, DL-|ALNASID|D,L-FLUOROPHENYLALANINE|D,L-P-FLUOROPHENYLALANINE|D-L-3-(P-FLUOROPHENYL)-ALANINE|DL-4-FLUOROPHENYLALANINE|DL-P-FLUOROPHENYLALANINE|DL-PHENYLALANINE, 4-FLUORO-|4-FLUORO-D,L-PHENYLALANINE|4-FLUORO DL-PHENYLALANINE|(+-)-4-FLUOROPHENYLALANINE|4-FLUOROPHENYLALANINE|FPA|P-FLUORO-D,L-PHENYLALANINE|P-FLUORO DL-PHENYLALANINE|P-FLUOROPHENYLALANINE	51-65-0	PHYSICAL DESCRIPTION: White powder or white shiny flakes. (NTP, 1992)	1.0	2.5	5.0	1509.0	144.0	500.0	195.0	197.0	232.0	24.0	79.0	31.0	30.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents: Alcohol foam, dry chemical or carbon dioxide (USCG, 1999)
541	4-METHOXYBENZOYL CHLORIDE	ANISOYL CHLORIDE|4-ANISOYL CHLORIDE|4-METHOXYBENZOIC ACID CHLORIDE|METHOXYBENZOYL CHLORIDE|4-METHOXYBENZOYL CHLORIDE|P-ANISOYL CHLORIDE|P-METHOXYBENZOIC ACID CHLORIDE|P-METHOXYBENZOYL CHLORIDE	100-07-2	An amber-colored crystalline solid. Melting point 72Â°F. Corrosive to metals and skin. Vapors may cause serious burns to the eyes.	1.0	2.5	5.0	1513.0	144.0	500.0	195.0	197.0	233.0	24.0	79.0	31.0	30.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of fluorine containing compounds and nitrogen oxides, (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
542	4-NITROPHENOL	4-HYDROXY-1-NITROBENZENE|1-HYDROXY-4-NITROBENZENE|4-HYDROXYNITROBENZENE|MONONITROPHENOL|NCI-C55992|NIPHEN|NITROPHENOL (PARA)|4-NITROPHENOL|NITROPHENOLS|P-HYDROXYNITROBENZENE|P-NITRO-PHENOL|P-NITROPHENOL|PARA-NITROPHENOL|PHENOL, 4-NITRO|PHENOL, P-NITRO-|PNP	100-02-7	A white to light yellow crystalline solid. Contact may severely irritate skin and eyes. Poisonous by ingestion and moderately toxic by skin contact.	1.0	2.5	5.0	1513.0	144.0	500.0	195.0	197.0	233.0	24.0	79.0	31.0	30.0	(BLOB)	When heated to decomposition it emits acrid smoke and fumes. Avoid decomposing heat. (EPA, 1998)	(Non-Specific -- Alkaloid) Isolate hazard area and deny entry. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Alkaloid) Use dry chemical, carbon dioxide, water spray, or foam for small fires. Use water spray, fog, or foam for large fires. Move container from fire area if this can be done without risk. (EPA, 1998)
543	4-TERT-BUTYL PHENOL	BUTYLPHEN|4-(1,1-DIMETHYLETHYL) PHENOL|4-(1,1-DIMETHYLETHYL)PHENOL|1-HYDROXY-4-TERT-BUTYLBENZENE|P-TERT-BUTYLPHENOL|PARA-TERT-BUTYLPHENOL|PHENOL, 4-(1,1-DIMETHYLETHYL)-|PHENOL, P-(TERT-BUTYL)-|PHENOL, P-TERT-BUTYL-|4-TERT-BUTYL PHENOL|4-TERT-BUTYLPHENOL|UCAR BUTYLPHENOL 4-T	98-54-4	PHYSICAL DESCRIPTION: Crystals or practically white flakes. Has a disinfectant-like odor. May float or sink in water. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	1513.0	144.0	500.0	195.0	197.0	233.0	24.0	79.0	31.0	30.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
544	5-AZACYTIDINE	5-AC|4-AMINO-1-BETA-D-RIBOFURANOSYL-1,3,5-TRIAZIN-2(1H)-ONE|4-AMINO 1-BETA-D-RIBOFURANOSYL-D-TRIAZIN-2(1H)-ONE|4-AMINO-1-BETA-D-RIBOFURANOSYL-S-TRIAZIN-2(1H)-ONE|ANTIBIOTIC U 18496|AZACITIDINE|AZACYTIDINE|5'-AZACYTIDINE|5-AZACYTIDINE|5 AZC|5-AZCR|LADAKAMYCIN|MYLOSAR|NCI-C01569|NSC 102816|NSC 103-627|NSC-102816|S-TRIAZIN-2(1H)-ONE, 4-AMINO-1-BETA-D-RIBOFURANOSYL-|1,3,5-TRIAZIN-2(1H)-ONE, 4-AMINO-1-BETA-D-RIBOFURANOSYL-|U 18496|WR 183027	320-67-2	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	1513.0	144.0	500.0	195.0	197.0	233.0	24.0	79.0	31.0	30.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
539	4-DIMETHYLAMINOAZOBENZENE-4-SULFONIC ACID, SODIUM SALT	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air pack or organic canister; goggles; rubber gloves. (USCG, 1999)	Insoluble in water.	2-ETHYL HEXANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. This compound is incompatible with strong oxidizing agents and strong acids. (NTP, 1992)		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		178		(NTP, 1992)		0.88		%	(NTP, 1992)		9.7		%	(USCG, 1999)		581		(NTP, 1992)		-105	
540	4-FLUORO-D,L-PHENYLALANINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective clothing; eye protection; approved respirator for high vapor concentrations. (USCG, 1999)	Insoluble in water.	2-ETHYL-3-PROPYLACROLEIN is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. This compound will react with oxidants. (NTP, 1992)	Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	3		(NTP, 1992)		155										(USCG, 1999)		392					
541	4-METHOXYBENZOYL CHLORIDE	Avoid inhalation. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, it emits very toxic fumes of fluorine containing compounds and nitrogen oxides. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
542	4-NITROPHENOL	(Non-Specific -- Alkaloid) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air No rapid reaction with water	COCCULUS contains picrotoxin, a molecular compound of picrotoxinin and picrotin. May react with strong oxidizing agents and with strong reducing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(EPA, 1998)		397	
543	4-TERT-BUTYL PHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE is an ester derivative. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Polymerizable					0																							
544	5-AZACYTIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. This compound is a Schedule II DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	CODEINE PHOSPHATE is sensitive to exposure to light. (NTP, 1992). Materials that are acidic salts are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.					0																						(NTP, 1992)	(decomposes)		428 to 455

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
539	4-DIMETHYLAMINOAZOBENZENE-4-SULFONIC ACID, SODIUM SALT	(NTP, 1992)		0.05		68		mm Hg	(NTP, 1992)		4.49				(USCG, 1999)		0.834		68		(NTP, 1992)			363 to 365	760		(NTP, 1992)		130.23						(NTP, 1992)	at 64Â° F		less than 1	mg/mL	EHX	Flammable Liquid|Poison	C8H18O	Cellulose-Based Absorbents	11.0	1.0	27.0	3.0	4.0
540	4-FLUORO-D,L-PHENYLALANINE	(NTP, 1992)		1		68		mm Hg	(NTP, 1992)		4.35				(USCG, 1999)		0.857		59		(NTP, 1992)			347	760		(NTP, 1992)		126.22						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	EPA	Flammable Liquid|Poison	C8H14O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	13.0	3.0	4.0
541	4-METHOXYBENZOYL CHLORIDE																									(EPA, 1998)		361.23												Poison	C16H12ClF2N2O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	28.0	3.0	4.0
542	4-NITROPHENOL																									(EPA, 1998)		602.6												Poison	C15H18O7.C15H16O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	36.0	3.0	4.0
543	4-TERT-BUTYL PHENOL																									(NTP, 1992)		361.48						(NTP, 1992)	Insoluble						C24H27NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	19.0	3.0	4.0
544	5-AZACYTIDINE																									(NTP, 1992)		397.4						(NTP, 1992)	at 61Â° F		greater than or equal to 100	mg/mL			C18H21N3O3.H3O4P	Cellulose-Based Absorbents|Dirt/Earth	13.0	1.0	50.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
545	6-MERCAPTOPURINE MONOHYDRATE	6H-PURINE-6-THIONE, 1,9-DIHYDRO-, MONOHYDRATE (9CI)|6-MERCAPTOPRINE MONOHYDRATE|6-MERCAPTOPURINE MONOHYDRATE|NCI-C04886|PURINE-6-THIOL MONOHYDRATE|PURINE-6-THIOL, MONOHYDRATE|6-PURINETHIOL	6112-76-1	PHYSICAL DESCRIPTION: Odorless light yellow to yellow crystalline powder. Becomes anhydrous at 284Â°F. (NTP, 1992)	1.0	2.5	5.0	1517.0	144.0	500.0	195.0	197.0	234.0	24.0	79.0	31.0	30.0	INHALATION: move to fresh air. INGESTION: give large amounts of water; induce vomiting; get medical attention. EYES: flush with water for 15 min.; consult a doctor if injury was caused by solid. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride gas may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
546	8-HYDROXYQUINOLINE	ALBISAL|1-AZANAPHTHALENE-8-OL|BIOQUIN|FENNOSAN|FENNOSAN H 30|HYDROXYBENZOPYRIDINE|8-HYDROXYCHINOLIN|8-HYDROXYQUINOLINE|NCI-C55298|8-OQ|OXIN|OXINE|OXYBENZOPYRIDINE|OXYCHINOLIN|OXYQUINOLINE|8-OXYQUINOLINE|PHENOPYRIDINE|8-QUINOL|8-QUINOLINOL|QUINOPHENOL|TUMEX|USAF EK-794	148-24-3	PHYSICAL DESCRIPTION: White to off-white or faintly yellow crystalline powder. Phenolic odor. (NTP, 1992)	1.0	2.5	5.0	1517.0	144.0	500.0	195.0	197.0	234.0	24.0	79.0	31.0	30.0	Call a physician. EYES: Wash with water. SKIN: Wash with water. INGESTION: Induce vomiting. (USCG, 1999)		
547	8-HYDROXYQUINOLINE SULFATE	CHINOSOL|CRIPTONOL|CRYPTONOL|HAPPY|HYDROXYQUINOLINE SULFATE|8-HYDROXYQUINOLINE SULFATE|8-HYDROXYQUINOLINE SULFURIC ACID SALT|8-HYDROXYQUINOLINE SULPHATE|KHINOZOL|OCTOFEN|OXINE SULFATE|OXYQUINOL|OXYQUINOLINE SULFATE|8-QUINOLINOL SULFATE (SALT)|8-QUINOLINOL SULFATE|8-QUINOLINOL SULPHATE|8-QUINOLINOL, HYDROGEN SULFATE(2:1)|8-QUINOLINOL, SULFATE(2:1) (SALT)|QUINOSOL|QUINOSOL EXTRA|SOLVOCHIN-EXTRA|SUNOXOL|SUPEROL	134-31-6	PHYSICAL DESCRIPTION: Pale yellow to yellow crystalline powder with a slight saffron odor. Burning taste. (NTP, 1992)	1.0	2.5	5.0	1517.0	144.0	500.0	203.0	197.0	234.0	24.0	79.0	33.0	30.0	INHALATION: remove victim to fresh air. EYES: wash with copious amounts of water for at least 15 min. SKIN: wipe off and wash with soap and water. INGESTION: do NOT induce vomiting; guard against aspiration into lungs. ASPIRATION: enforce bed rest; give oxygen; call a doctor. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
548	8-METHYLQUINOLINE	8-METHYLQUINOLINE	611-32-5	PHYSICAL DESCRIPTION: Yellow liquid or oil. (NTP, 1992)	2.5	5.0	2.5	1517.0	144.0	500.0	203.0	197.0	234.0	24.0	79.0	33.0	30.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
549	ACETALDEHYDE	ACETALDEHYDE|ACETIC ALDEHYDE|ACETYLALDEHYDE|ETHANAL|ETHYL ALDEHYDE|NCI-C56326	75-07-0	A clear colorless liquid with a pungent choking odor. Flash point -36Â°F. Boiling point 69Â°F. Density 6.5 lb / gal. Vapors are heaver than air and irritate the mucous membranes and especially the eyes. Used to make other chemicals.	2.5	5.0	2.5	1521.0	144.0	500.0	207.0	197.0	235.0	24.0	79.0	34.0	30.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
550	ACETAMIDE	ACETAMIDE|ACETIC ACID AMIDE|ACETIMIDIC ACID|ETHANAMIDE|METHANECARBOXAMIDE|NCI-C02108	60-35-5	Colorless crystals with a mousy odor (NTP, 1999). Low toxicity.	1.0	2.5	5.0	1525.0	144.0	500.0	207.0	197.0	236.0	24.0	79.0	34.0	30.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
545	6-MERCAPTOPURINE MONOHYDRATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; safety goggles (USCG, 1999)	The anhydrous form is hygroscopic, forming the dihydrate. The dihydrate is deliquescent in moist air, efflorescent in dry air. Both are water soluble. May corrode metals in the presence of moisture; the reaction is not hazardous (USCG, 1999).	COPPER CHLORIDE can serve as a weak oxidizing agent. May catalyze organic reactions. Solutions are acidic (they contain moderate concentrations of hydrogen ions and have pH's of less than 7.0). They react as acids to neutralize bases. These neutralizations generate heat, but far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
546	8-HYDROXYQUINOLINE	Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)		Water soluble.	Salts, basic, such as COPPER LACTATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																									
547	8-HYDROXYQUINOLINE SULFATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; plastic gloves (as for gasoline) (USCG, 1999)	Flammable. Insoluble in water.	Salts, basic, such as COPPER NAPHTHENATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		100		(USCG, 1999)	(mineral spirits)	0.8		%	(USCG, 1999)	(mineral spirits)	5		%	(USCG, 1999)		540						
548	8-METHYLQUINOLINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	The dinitrate, a heart drug, can detonate when dry, but is non explosive with 30% of water [J. Haz.. Mater., 1992, 32(1), 87]. The mononitrate would be expected to be less reactive.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
549	ACETALDEHYDE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	KAOLIN is stable and chemically unreactive under ordinary conditions.						0																									
550	ACETAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-METHYL-4-NITROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		268 to 271

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
545	6-MERCAPTOPURINE MONOHYDRATE														(USCG, 1999)		2.54		68								(USCG, 1999)	(dihydrate)	170.48													CPC	Corrosive	CuCl2|Cu Cl2.2H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	31.0	3.0	4.0
546	8-HYDROXYQUINOLINE																									(USCG, 1999)		277.71													CLT		C6H10Cu O6	Cellulose-Based Absorbents	14.0	1.0	48.0	3.0	4.0
547	8-HYDROXYQUINOLINE SULFATE														(USCG, 1999)			0.93 to 1.05	77		(USCG, 1999)			310 to 395	760		(USCG, 1999)	Mixture												CNN	Flammable Liquid	C22H14C uO4		10.0	1.0	23.0	3.0	4.0
548	8-METHYLQUINOLINE																																								Flammable Solid	C6H9NO 6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	17.0	3.0	4.0
549	ACETALDEHYDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			1.8 to 2.6								(NIOSH, 2003)	varies							(NIOSH, 2003)	Insoluble						Al2O7Si2		15.0	1.0	49.0	3.0	4.0
550	ACETAMIDE														(NTP, 1992)		1.1586		284								(NTP, 1992)		152.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C7H8N2 O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	29.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
551	ACETANILIDE	ACETAMIDOBENZENE|ACETANIL|ACETANILIDE|ACETOANILIDE|ACETYLAMINOBENZENE|ACETYLANILINE|ANTIFEBRIN|BENZENAMINE, N-ACETYL-|N-ACETYLAMINOBENZENE|N-ACETYLANILINE|N-PHENYLACETAMIDE|PHENALGENE|PHENALGIN	103-84-4	PHYSICAL DESCRIPTION: White to gray solid. (NTP, 1992)	1.0	2.5	5.0	1525.0	144.0	500.0	207.0	197.0	236.0	24.0	79.0	34.0	30.0	INHALATION: remove victim to fresh air; give oxygen if breathing is difficult; call a physician. SKIN OR EYES: immediately flush with plenty of water for at least 15 min.; get medical care for eyes. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors are generated when heated (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
552	ACETOACETANILIDE	AAN|ACETANILIDE, 2-ACETYL-|ACETOACETAMIDOBENZENE|ACETOACETANILID|ACETOACETANILIDE|ACETOACETIC ACID ANILIDE|ACETOACETIC ANILIDE|((ACETOACETYL)AMINO)BENZENE|ACETOACETYLANILINE|ACETYLACETANILIDE|ALPHA-ACETYL-N-PHENYLACETAMIDE|ALPHA-ACETYLACETANILIDE|BETA KETOBUTYRANILIDE|BUTANAMIDE, 3-OXO-N-PHENYL-||N-(ACETOACETYL)ANILINE|N-(ACETYLACETYL)ANILINE|N-PHENYL-3-OXOBUTANAMIDE|N-PHENYLACETOACETAMIDE|3-OXO-N-PHENYLBUTANAMIDE|1-(PHENYLAMINO)-1,3-BUTANEDIONE|4-(PHENYLAMINO)-2,4-BUTANEDIONE|1-(PHENYLCARBAMOYL)-2-PROPANONE|USAF EK-1239	102-01-2	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	1525.0	144.0	500.0	207.0	197.0	236.0	24.0	79.0	34.0	30.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
553	ACETONE CYANOHYDRIN, STABILIZED	ACETONE CYANHYDRIN|ACETONE CYANOHYDRIN|ACETONE CYANOHYDRIN, STABILIZED|ALPHA-HYDROXY ISOBUTRONITRILE|ALPHA-HYDROXYISOBUTYRONITRILE|2-CYANO-2-HYDROXYPROPANE|2-CYANO-2-PROPANOL|CYANOHYDRIN-2-PROPANONE|2-HYDROXY-2-CYANOPROPANE|2-HYDROXY-2-METHYL-PROPIONITRILE|2-HYDROXY-2-METHYLPROPANENITRILE|2-HYDROXY-2-METHYLPROPANENITRILE|(ACETONE CYANOHYDRIN)|2-HYDROXY-2-METHYLPROPIONITRILE|2-HYDROXYISOBUTYRONITRILE|LACTONITRILE, 2-METHYL-|2-METHYL-2-HYDROXYPROPIONITRILE|2-METHYLACTONITRILE|2-	75-86-5	A colorless liquid. Flash point 165Â°F. Lethal by inhalation and highly toxic or lethal by skin absorption. Density 7.8 lb / gal (less dense than water). Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	1525.0	144.0	500.0	207.0	197.0	236.0	24.0	79.0	34.0	30.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
554	ACETONITRILE	ACETONITRILE|ACETONITRILE CLUSTER|CYANOMETHANE|ETHANENITRILE|ETHYL NITRILE|METHANE, CYANO-|METHANECARBONITRILE|METHYL CYANIDE|METHYL CYANIDE (MECN)|NCI-C60822|USAF EK-488	75-05-8	A colorless limpid liquid with an aromatic odor. Flash point 42Â°F. Density 0.783 g / cm3. Toxic by skin absorption. Less dense than water. Vapors are denser than air.	2.5	5.0	2.5	1525.0	144.0	504.0	207.0	197.0	236.0	24.0	80.0	34.0	30.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
555	ACETOPHENONE	ACETOPHENON|ACETOPHENONE|ACETYLBENZENE|HYPNON|HYPNONE|METHYL PHENYL KETONE|NSC 98542|PHENYL METHYL KETONE|1-PHENYL-1-ETHANONE|1-PHENYLETHANONE	98-86-2	A colorless liquid with a sweet pungent taste and odor resembling the odor of oranges. Freezes under cool conditions. Slightly soluble in water and denser than water. Hence sinks in water. Vapor heavier than air. A mild irritant to skin and eyes. Vapors can be narcotic in high concentrations. Used as a flavoring, solvent, and polymerization catalyst.	2.5	5.0	2.5	1525.0	144.0	508.0	207.0	197.0	236.0	24.0	81.0	34.0	30.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
556	ACETYL ACETONE PEROXIDE	ACETYL ACETONE PEROXIDE|ACETYLACETONE PEROXIDE|CHALOXYD AAP-NA 1|LUPEROX 224|LUPERSOL 224|PERCURE A|TRIGONOX 40|TRIGONOX 44B	37187-22-7		2.5	5.0	2.5	1529.0	144.0	512.0	207.0	197.0	237.0	24.0	82.0	34.0	30.0	(BLOB)	Special Hazards of Combustion Products: Highly toxic chloride fumes including hydrochloric acid. Behavior in Fire: It burns and produces highly toxic chloride fumes. (USCG, 1999)	Fire Extinguishing Agents: Water; foam; carbon dioxide; dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
551	ACETANILIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Air-supplied mask for high vapor concentrations; plastic gloves; goggles or face shield. (USCG, 1999)	Insoluble in water.	2-METHYL-5-ETHYLPYRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. A mixture of nitric acid and methyl ethyl pyridine was placed in an autoclave and heated and stirred for 40 minutes. The emergency vent opened due to a sudden pressure rise, then an explosion occurred after about 90 seconds [Chem. Eng. News 30:3348. 1952].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		155		(USCG, 1999)		1.1		%	(USCG, 1999)		6.6		%	(USCG, 1999)		939		(USCG, 1999)		-94.5	
552	ACETOACETANILIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	On prolonged exposure to air, CORN OIL thickens and becomes rancid. It is sensitive to light.			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		490											(NTP, 1992)		740		(NTP, 1992)		0 to 14	
553	ACETONE CYANOHYDRIN, STABILIZED	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]							0																		(NTP, 1992)		304 to 307
554	ACETONITRILE	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
555	ACETOPHENONE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
556	ACETYL ACETONE PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. Keep it away from oxidizing materials. (NTP, 1992)	(BLOB)	Slightly soluble in water.	1,2,3-TRICHLOROPROPANE is sensitive to prolonged exposure to light. Sensitive to heat. May react with active metals, strong caustics and oxidizing agents. Attacks some plastics, rubber and some coatings (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NTP, 1992)		180		(NTP, 1992)		3.2		%	(NTP, 1992)		12.6		%	(USCG, 1999)		579		(NTP, 1992)		5.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
551	ACETANILIDE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.922		68		(USCG, 1999)		352		760		(USCG, 1999)		121.18											MEP	Poison	C8H11N	Mineral-Based & Clay-Based Absorbents	15.0	1.0	32.0	3.0	4.0
552	ACETOACETANILIDE														(NTP, 1992)			0.916 to 0.921	77																(NTP, 1992)	at 64Â° F		less than 1	mg/mL				Cellulose-Based Absorbents|Dirt/ Earth	10.0	1.0	26.0	3.0	4.0
553	ACETONE CYANOHYDRIN, STABILIZED																										(NTP, 1992)		309.43													C19H19NOS	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	13.0	1.0	22.0	3.0	4.0
554	ACETONITRILE																																									Non-Flammable Gas	Kr		19.0	1.0	50.0	3.0	4.0
555	ACETOPHENONE																																									Non-Flammable Gas	Kr		15.0	1.0	42.0	3.0	4.0
556	ACETYL ACETONE PEROXIDE	(NTP, 1992)	; 4 mm Hg at 86Â° F	2		68		mm Hg	(NTP, 1992)		5.08				(USCG, 1999)		1.3889		68		(NTP, 1992)		313		760		(NTP, 1992)		147.43		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 75Â° F		1 to 5	mg/mL	TCN	Poison	C3H5Cl3		12.0	1.0	20.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
557	ACETYL BROMIDE	ACETYL BROMIDE	506-96-7	A colorless fuming liquid with a pungent odor. Vapors irritate eyes and mucous membranes. Corrosive to metals and tissue. Density 13.9 lb / gal.	2.5	5.0	2.5	1533.0	144.0	512.0	207.0	197.0	238.0	24.0	82.0	34.0	30.0	(BLOB)	Flash point data for this compound are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
558	ACETYL CHLORIDE	ACETIC ACID, CHLORIDE|ACETIC CHLORIDE|ACETYL CHLORIDE|ETHANOYL CHLORIDE	75-36-5	A colorless, fuming liquid with a pungent odor. Density 9.2 lb / gal. Flash point 40Â°F. Vapor, which is heavier than air, irritates the eyes and mucous membranes. Corrosive to metals and tissue .	2.5	5.0	2.5	1537.0	144.0	512.0	207.0	197.0	239.0	24.0	82.0	34.0	30.0	INHALATION: move to fresh air. INGESTION: give large amount of water. EYES: flush with water for at least 15 min. SKIN: flush with water; wash well with soap and water. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
559	ACETYL METHYL CARBINOL	ACETOIN(,+-,)-ACETOIN|ACETYL METHYL CARBINOL|2,3-BUTANOLONE|DIMETHYLKETOL|DL-ACETOIN|GAMMA-HYDROXY-BETA-OXOBUTANE|3-HYDROXY-2-BUTANONE|2-HYDROXY-3-BUTANONE|(+-)-3-HYDROXYBUTAN-2-ONE|1-HYDROXYETHYL METHYL KETONE|METHANOL, ACETYLMETHYL-|3-OXO-2-BUTANOL	513-86-0	A light-yellow colored liquid. Slightly denser than water. Hence sinks in water. Used to make other chemicals.	2.5	5.0	2.5	1537.0	144.0	512.0	207.0	197.0	239.0	24.0	82.0	34.0	30.0	(BLOB)		
560	ACTINOMYCIN D	ACT|ACTINOMYCIN A IV|ACTINOMYCIN AIV|ACTINOMYCIN C1|ACTINOMYCIN CL|ACTINOMYCIN D|(-)-ACTINOMYCIN D|ACTINOMYCIN I|ACTINOMYCIN I1|ACTINOMYCIN IV|ACTINOMYCIN X I|ACTINOMYCINDIOIC D ACID, DILACTONE|ACTINOMYEIN-THEO-VAL-PRO-SAR-MEVAL|AD|CHOUNGHWAMYCIN B|COSMEGEN|DACTINOMYCIN|DACTINOMYCIN D|DACTINOMYEIN D|DILACTONE ACTINOMYCIN D ACID|DILACTONE ACTINOMYCIN|DIOIC D ACID|3H-PHENOXAZINE, ACTINOMYCIN D DERIV.|3H-PHENOXAZINE-1,9-DICARBOXAMIDE, 2-AMINO-N,N'-BIS(HEXADECAHYDRO-6,13-DIISOPROPYL-2,5,9-TRIMETHYL-1,4,7,10,14-PENTAOXO-1,4,7,10,14-PENTAAZACYCLOHEXADECIN-8-YL)-4,6-DIMETHYL-3-OXO-	50-76-0	PHYSICAL DESCRIPTION: Bright red rhomboid prisms or red powder. (NTP, 1992)	1.0	2.5	5.0	1537.0	144.0	512.0	207.0	197.0	239.0	24.0	82.0	34.0	30.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
561	ADRIAMYCIN HYDROCHLORIDE	ADRIACIN|ADRIAMYCIN|ADRIAMYCIN HCL|ADRIAMYCIN HYDROCHLORIDE|ADRIAMYCIN, HYDROCHLORIDE|ADRIAMYCIN-HCL|ADRIBLASTIN|ADRIBLASTINA|ADRIBLASTINA RD|DOXORUBICIN|DOXORUBICIN HYDROCHLORIDE|F.I 106|14'-HYDROXYDAUNOMYCIN|14-HYDROXYDAUNOMYCIN|14-HYDROXYDAUNORUBICINE|5,12-NAPHTHACENEDIONE, 10-[(3-AMINO-2,3,6-TRIDEOXY-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-7,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-8-(HYDROXYACETYL)-1-METHOXY-, HYDROCHLORIDE, (8S-CIS)-|NCI-C01514|NSC-123127	25316-40-9	PHYSICAL DESCRIPTION: Orange-red thin needles. Aqueous solutions yellow-orange at acid pHs, orange-red at neutral pHs, and violet blue over pH 9. (NTP, 1992)	1.0	2.5	5.0	1541.0	144.0	512.0	207.0	197.0	240.0	24.0	82.0	34.0	30.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray, LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
557	ACETYL BROMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to air. Slightly water soluble (NTP, 1992).	L-5-HYDROXYTRYPTOPHAN reacts with bases. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	518	
558	ACETYL CHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; goggles; self-contained breathing apparatus where high concentrations of mist are present (USCG, 1999)	Soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
559	ACETYL METHYL CARBINOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																								(NTP, 1992)		433	
560	ACTINOMYCIN D	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-METHYLBENZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																								(NTP, 1992)		291 to 297	
561	ADRIAMYCIN HYDROCHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable.	1,2,3-TRICHLOROPROPENE incompatible with strong oxidizing and reducing agents. Incompatible with many amines, nitrides, azo/diazo compounds, with alkali metals, and with epoxides. Reacts with bases. Produces toxic fumes when heated to decomposition. Avoid contact with iron, plastics, and aluminum.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
557	ACETYL BROMIDE																										(NTP, 1992)		220.25						(NTP, 1992)	Slightly soluble					Poison	C11H12N2O3	Mineral-Based & Clay-Based Absorbents	10.0	1.0	23.0	3.0	4.0
558	ACETYL CHLORIDE														(USCG, 1999)		1.2		20								(USCG, 1999)		90											LTA	Corrosive	C3H6O3		10.0	1.0	37.0	3.0	4.0
559	ACETYL METHYL CARBINOL																										(NTP, 1992)		342.34						(NTP, 1992)	at 68Â° F		50 to 100	mg/mL			C12H22O11	Cellulose-Based Absorbents	10.0	1.0	22.0	3.0	4.0
560	ACTINOMYCIN D																										(NTP, 1992)		135.17						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C8H9NO		10.0	1.0	19.0	3.0	4.0
561	ADRIAMYCIN HYDROCHLORIDE																																								Poison	C3H3Cl3	Dirt/Earth	15.0	1.0	39.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
562	AGAR AGAR	AGAR|AGAR AGAR|AGAR AGAR FLAKE|AGAR-AGAR|AGAR-AGAR FLAKE|AGAR-AGAR GUM|AGARGEL|AGAROPECTIN, MIXT. WITH AGAROSE|AGAROSE, MIXT. WITH AGAROPECTIN|BACTO AGAR|BENGAL|BENGAL GELATIN|BENGAL ISINGLASS|CEYLON|CEYLON ISINGLASS|CHINESE ISINGLASS|DIFCO BACTO AGAR|DIGENEA SIMPLEX MUCILAGE|GAM MEDIUM|GELATIN|GELOSE|JAPAN AGAR|JAPAN ISINGLASS|KANTENMATSU|LAYOR CARANG|MACASSAR GUM|NCI-C50475|OXOID|OXOID L 11|PHYTAGAR|S 100|S 100 (POLYSACCHARIDE)	9002-18-0	PHYSICAL DESCRIPTION: Tan powder. (NTP, 1992)	1.0	2.5	5.0	1545.0	144.0	512.0	207.0	197.0	241.0	24.0	82.0	34.0	30.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
563	ALACHLOR	ALACHLOR|2-CHLORO-N-(2,6-DIETHYLPHENYL)-N-(METHOXYMETHYL)ACETAMIDE	15972-60-8	Crystalline solid. Melting point 104-106Â°F (40-41Â°C). Used as a herbicide.	1.0	2.5	5.0	1545.0	144.0	512.0	207.0	197.0	241.0	24.0	82.0	34.0	30.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
564	ALLOXAN MONOHYDRATE	ALLOXAN HYDRATE|ALLOXAN MONOHYDRATE|ALLOXANE MONOHYDRATE|BARBITURIC ACID, 5,5-DIHYDROXY-|2,4,5,6(1H,3H)-PYRIMIDINETETRONE HYDRATE|MESOXALYLCARBAMIDE MONOHYDRATE|MESOXALYLUREA MONOHYDRATE|5-OXOBARBITURIC ACID MONOHYDRATE|PYRIMIDINETETRONE HYDRATE|2,4,5,6-TETRAOXOHEXAHYDROPYRIMIDINE HYDRATE	3237-50-1	PHYSICAL DESCRIPTION: Triclinic piacoidal crystals. White granular solid. (NTP, 1992)	1.0	2.5	5.0	1545.0	144.0	512.0	207.0	197.0	241.0	24.0	82.0	34.0	30.0	(BLOB)	Flammable/combustible material; may be ignited by heat, sparks or flames. Vapor may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Readily converted by oxygen to hazardous peroxides and acids and is incompatible with caustics, ammonia, organic amines, mineral acids, and strong oxidizers. Readily resinifies to dimer when pure and slowly oxidizes to crotonic acid. Altered by light and air. Hazardous polymerization may occur. Polymerization may take place at high temperatures. (EPA, 1998)	Wear positive pressure breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Spray cooling water on containers that are exposed to flames until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for one-half mile radius if tank car or truck is involved in fire. Small fires: dry chemical, carbon dioxide, water spray and foam. Large fires: water spray, fog or foam. (EPA, 1998)
565	ALL-TRANS-RETINOIC ACID	ABEREL|AGN 100335|ALL TRANS-BETA-RETINOIC ACID|ALL-(E)-RETINOIC ACID|(ALL-E)-3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-2,4,6,8-|(ALL-E)-3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-2,4,6,8-NONATETRAENOIC ACID|ALL-E-RETINOIC ACID|ALL-TRANS-BETA-RETINOIC ACID|ALL-TRANS-RETINOIC ACID|ALL-TRANS-TRETINOIN|ALL-TRANS-VITAMIN A ACID|ALL-TRANS-VITAMIN A1 ACID|BETA-ALL-TRANS-RETINOIC ACID|BETA-RA|BETA-RETINOIC ACID|3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-XL-2,4,6,8-NONATETRAENOIC ACID|3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-2,4,6,8-NONATETRANOIC ACID|2,4,6,8-	302-79-4	PHYSICAL DESCRIPTION: Yellow to light-orange crystalline powder. (NTP, 1992)	1.0	2.5	5.0	1549.0	144.0	512.0	207.0	197.0	242.0	24.0	82.0	34.0	30.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
566	ALLYL BROMIDE	ALLYL BROMIDE|BROMALLYLENE|3-BROMO-1-PROPENE|1-BROMO-2-PROPENE|3-BROMOPROPENE|3-BROMOPROPYLENE|PROPENE, 3-BROMO-|2-PROPENYL BROMIDE	106-95-6	A clear colorless to light yellow liquid with an irritating unpleasant odor. Flash point 30Â°F. Irritates eyes, skin, and respiratory system. Toxic by skin absorption. Denser than water and slightly soluble in water.	2.5	5.0	2.5	1549.0	144.0	512.0	207.0	197.0	242.0	24.0	82.0	34.0	30.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
562	AGAR AGAR	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-METHYLNAPHTHALENE is incompatible with strong oxidizing agents. It is also incompatible with peroxides and oxygen. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		208														(NTP, 1992)		94.3	
563	ALACHLOR	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as CRESYL DIPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. May react violently with magnesium. (NTP, 1992)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		450												(NTP, 1992)		-36	
564	ALLOXAN MONOHYDRATE	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	CROTONALDEHYDE can react violently with strong oxidizing reagents, e.g., reaction with conc. nitric acid leads to instantaneous ignition [Andrussow, L., Chim. Ind. (Paris), 1961, 86, p. 542]. In contact with strong acids or bases it will undergo an exothermic condensation reaction. Reaction with 1,3-butadiene is particularly violent [Greenlee, K. W., Chem. Eng. News, 1948, 26, p. 1985]. Crotonaldehyde may rapidly polymerize with ethyl acetoacetate (Soriano, D.S. et al. 1988. Journal of Chemical Education 65:637.).	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1143 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		55		(EPA, 1998)		2.95		%	(EPA, 1998)		15.5		%	(USCG, 1999)		450		(EPA, 1998)		-105	
565	ALL-TRANS-RETINOIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		190																		
566	ALLYL BROMIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	LEAD AZIDE is unstable. May, when dry, decompose explosively if shocked, heated or subjected to friction. Forms violently explosive products with carbon disulfide. Can be sensitized to explosive decomposition by metal salts (copper or zinc) or by traces of strong acids [Sax, 9th ed., 1996, p. 298]. An explosion occurred by mixing lead azide with 0.5% of calcium stearate, [MCA Case History No. 949].	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chris_codes	dot_Labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
562	AGAR AGAR														(NTP, 1992)		1.0058		68		(NTP, 1992)			466 to 468	760		(NTP, 1992)		142.2						(NTP, 1992)		less than 1		mg/mL					15.0	1.0	42.0	3.0	4.0
563	ALACHLOR								(NTP, 1992)		11.7				(NTP, 1992)		1.2		68		(NTP, 1992)			455 to 491	760		(NTP, 1992)		340.33															10.0	1.0	19.0	3.0	4.0
564	ALLOXAN MONOHYDRATE	(EPA, 1998)		19		68		mm Hg	(EPA, 1998)		2.41				(EPA, 1998)		0.853		68		(EPA, 1998)		219		760		(EPA, 1998)		70.09						(NTP, 1992)		less than 0.1		mg/mL	CTA	Poison Inhalation Hazard[Flammable Liquid	C4H6O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dried Earth	10.0	1.0	16.0	3.0	4.0
565	ALL-TRANS-RETINOIC ACID																																							Corrosive	C4H6O2		12.0	1.0	44.0	3.0	4.0
566	ALLYL BROMIDE																																							Explosive 1.1A	Pb(N3)2		11.0	1.0	38.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
567	ALLYL CHLORIDE	ALLYL CHLORIDE|ALPHA-CHLOROPROPYLENE|CHLOROALLYLENE|1-CHLOROPROPENE-2|3-CHLORO-1-PROPENE|3-CHLORO-1-PROPYLENE|1-CHLORO-2-PROPENE|CHLOROALLYLENE|3-CHLOROPRENE|3-CHLOROPROPENE-1|3-CHLOROPROPENE|3-CHLOROPROPYLENE|NCI-C04615|PROPENE, 3-CHLORO-|2-PROPENYL CHLORIDE	107-05-1	A clear colorless liquid with an unpleasant pungent odor. Flash point -20Â°F. Boiling point 113Â°F. Less dense than water (7.8 lb / gal) and insoluble in water. Hence floats on water. Vapor irritates skin, eyes and mucous membranes. Vapors are heavier than air. Long exposure to low concentrations or short exposure to high concentrations may have adverse health effects from inhalation or skin absorption.	2.5	5.0	2.5	1549.0	144.0	512.0	207.0	197.0	242.0	24.0	82.0	34.0	30.0	Call a physician. INHALATION: Remove from source of exposure. Keep victim quite and warm. EYES: Flush with plenty of water. SKIN: Wash with soap and water. INGESTION: Induce vomiting and follow with gastric lavage. Administer saline cathartic and an enema. Give antispasmodic (calcium gluconate, atropine, papaverine) for relief of colic. If pain is severe morphine sulfate may be considered. (USCG, 1999)	Not flammable. POISONOUS METAL FUMES MAY BE PRODUCED IN FIRE. Toxic metal fumes. Can emit toxic metal fumes. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
568	ALPHA-PINENE	ALPHA-PINENE|AUSTRALENE|BICYCLO(3.1.1)HEPT-2-ENE,2,6,6-TRIMETHYL-2-PINENE|PINENE|PINENE (ALPHA)|2-PINENE|2,6,6-TRIMETHYLBICYCLO [3.1.1]HEPT-2-ENE, 9CI,|2,6,6-TRIMETHYLBICYCLO(3.1.1)-2-HEPT-2-ENE	80-56-8	A clear colorless liquid with a turpentine odor. Flash point 91Â°F. Less dense than water and insoluble in water. Vapors are heavier than air. Used as a solvent.	2.5	5.0	2.5	1553.0	144.0	512.0	207.0	197.0	243.0	24.0	82.0	34.0	30.0	Call a doctor. INHALATION: Remove from exposure. EYES: Flush with running water. SKIN: Wash with soap and water. INGESTION: Gastric lavage if vomiting is not extensive. Give egg white or milk as demulcent. (USCG, 1999)	Behavior in Fire: At fire temperatures emits highly toxic and irritating sulfur oxides. (USCG, 1999)	Fire Extinguishing Agents: Use appropriate media to suppress exposure fire. (USCG, 1999)
569	ALUMINUM FLUORIDE	ALUMINUM FLUORIDE	7784-18-1	Odorless white powder or granules. Denser than water. Solubility in water at 25Â°C equals 0.559 g / 100 mL.	1.0	2.5	5.0	1557.0	144.0	512.0	207.0	197.0	244.0	24.0	82.0	34.0	30.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
570	ALUMINUM TRIETHYL	ALUMINUM TRIETHYL|ATE|EA|TRIETHYLALUMINUM|TRIETHYLALUMINUM {ALUMINUM TRIETHYL}	97-93-8	A colorless liquid. Flammable gas is produced on contact with water. (USCG, 1999)	2.5	5.0	2.5	1561.0	148.0	512.0	207.0	201.0	245.0	25.0	82.0	34.0	31.0	INHALATION: remove victim to fresh air. EYES: flush with water for at least 15 min.; see physician if irritation persists. SKIN: wash thoroughly with soap and water. INGESTION: administer large doses of sodium bicarbonate. (This will convert the uranium salt to the bicarbonate, which is much less toxic.) Additional treatment is symptomatic; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen formed in fires. Behavior in Fire: Intensifies fires. When large quantities are involved, nitrate may fuse or melt; application of water may then cause extensive scattering of molten material. (USCG, 1999)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). Dike fire-control water for later disposal. (ERG, 2012)
571	AMITRAZ	AMITRAZ	33089-61-1	White monoclinic crystals. Melting point 187-189Â°F (86-87Â°C). Insoluble in water. Used as an acaricide, insecticide and treatment of demodectic mange in dogs.	1.0	2.5	5.0	1561.0	148.0	512.0	207.0	201.0	245.0	25.0	82.0	34.0	31.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
572	AMITROLE	3,A-T|AMEROL|AMINO TRIAZOLE WEEDKILLER 90|3 AMINO-1,2,4-TRIAZOLE|5-AMINO-1,2,4-TRIAZOLE|2-AMINO-1,3,4-TRIAZOLE|3-AMINO-1H-1,2,4-TRIAZOLE|5-AMINO-1H-1,2,4-TRIAZOLE|3-AMINO-S-TRIAZOLE|AMINOTRIAZOL-SPRITZPULVER|AMINOTRIAZOLE|AMINOTRIAZOLE (PLANT REGULATOR)|2-AMINOTRIAZOLE|3-AMINOTRIAZOLE|AMITOL|AMITRIL|AMITRIL T-L.|AMITROL|AMITROL 90|AMITROL-T|AMITROLE|AMIZOL|AMIZOL D|AMIZOL DP NAU|AMIZOL F|AT|AT LIQUID|AT-90|ATA|ATA (AMINE)|AZAPLANT|AZAPLANT KOMBI|AZOLAN|AZOLE|CAMPAPRIM A 1544|CYTROL|CYTROL AMITROLE-T|CYTROLE|DIUROL|DIUROL 5030|DOMATOL|DOMATOL	61-82-5	PHYSICAL DESCRIPTION: Odorless white crystals or white powder. Bitter taste. Melting point 147-159Â°C. Sublimes undecomposed at reduced pressure. Used as a post-emergence herbicide.	1.0	2.5	5.0	1565.0	148.0	512.0	207.0	201.0	246.0	25.0	82.0	34.0	31.0	INHALATION: move to fresh air. INGESTION: give large amounts of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention if injury was caused by solid. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating oxides of nitrogen may form in fire. Behavior in Fire: Can increase intensity of fire if in contact with combustible material. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
567	ALLYL CHLORIDE	Avoid contact with solid and dust. Keep people away. Wear goggles, self-contained breathing apparatus, rubber overclothing (including gloves). Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	Wear goggles, self-contained breathing apparatus, rubber overclothing (including gloves). (USCG, 1999)	Insoluble in cold water; soluble in hot water.	LEAD CHLORIDE is a weak reducing agent. Interaction of lead chloride and calcium is explosive on warming, [Mellor, 1941, Vol. 3, 369].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0					(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)	Not Applicable. Not flammable.								(USCG, 1999)		933.8	
568	ALPHA-PINENE		Protective clothing, rubber gloves, safety goggles, or face mask and an approved respirator. (USCG, 1999)	Insoluble in water.	The reaction between iodine monochloride and any of the following is vigorous: cadmium sulfide, lead sulfide, silver sulfide, or zinc sulfide [Mellor 2, Supp. 1:502. 1956].						0																					(USCG, 1999)		2037.2	
569	ALUMINUM FLUORIDE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	2-NITRONAPHTHALENE is non-flammable but combustible (flash point 160ÂºC). Dust forms explosive mixtures with air. Heating or burning releases toxic and corrosive gases. Incompatible with strong oxidizing agents. Can serve as an oxidizing agent and so react with reducing agents such as hydrides, sulfides and nitrides. Such reactions may be vigorous and may culminate in a detonation. May explode in the presence of strong bases such as sodium or potassium hydroxide even in the presence of water or organic solvents.	Strong Oxidizing Agent	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NIOSH, 2003)		174	
570	ALUMINUM TRIETHYL	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dike to collect large liquid spills. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Dust mask, gloves, goggles (USCG, 1999)	Dissolves in water to form a weak solution of nitric acid, the reaction is not hazardous.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of the nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979, p. 108-109]. Diethyl ether and uranyl nitrate have been involved in several explosion and fire incidents [Nucl. Sci. Abs., 1976, 33], 19790 [J. Amer. Chem. Soc., 1912, 34, 1686].	Strong Oxidizing Agent; Radioactive Material	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																					(USCG, 1999)		140.4	
571	AMITRAZ	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Ketones, such as 2-TRIDECANONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.			(NFPA, 2010)		1	1	0	1	(NTP, 1992)		225													(NTP, 1992)		86.1	
572	AMITROLE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Deliquescent. Water soluble.	Mixtures of CUPRIC NITRATE with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick, 1979 p. 108-109]. A finely divided mixture of potassium ferrocyanide and cupric nitrate exploded when dried at 220Â° C [Chem. Abst. 77:1343 (1972)]. Noncombustible, but it will accelerate the burning of combustible materials. If large quantities of the material are involved in a fire or the material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)		238.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
567	ALLYL CHLORIDE								(USCG, 1999)	Calculated	9.59				(USCG, 1999)		5.85		68		(USCG, 1999)		1742		760		(USCG, 1999)		278.12											LCL	Poison	Cl2Pb		11.0	1.0	19.0	3.0	4.0
568	ALPHA-PINENE														(USCG, 1999)		7.5		68		(USCG, 1999)		2337.8		760		(USCG, 1999)		239.27											LSU		PbS		12.0	1.0	25.0	3.0	4.0
569	ALUMINUM FLUORIDE																											(NIOSH, 2003)		178.2		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Insoluble					Flammable Solid	C10H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	48.0	3.0	4.0
570	ALUMINUM TRIETHYL														(USCG, 1999)		2.81		55.4								(USCG, 1999)		502.13		(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3					UAN	Radioactive|Oxidizer	N2O8U	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	17.0	3.0	4.0
571	AMITRAZ	(NTP, 1992)	; 20 mm Hg at 298.0Â° F	1		188.2		mm Hg							(NTP, 1992)		0.8217		86		(NTP, 1992)		505		760		(NTP, 1992)		198.35						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C13H26O		10.0	1.0	28.0	3.0	4.0
572	AMITROLE														(USCG, 1999)		2.32		68								(USCG, 1999)		241.6											CNI	Oxidizer	Cu(NO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
573	AMMONIUM BENZOATE	AMMONIUM BENZOATE|BENZOIC ACID, AMMONIUM SALT|VULNOCAB	1863-63-4	A white crystalline solid. Soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Used in medicine and as a food preservative.	1.0	2.5	5.0	1569.0	148.0	512.0	211.0	201.0	247.0	25.0	82.0	35.0	31.0	Call a physician. EYES: Flush with water. SKIN: Wash with water. INGESTION: Induce vomiting and administer gastric lavage. Give saline cathartic. (USCG, 1999)	Special Hazards of Combustion Products: Gives off ammonia when heated to 120Â°C. (USCG, 1999)	
574	AMMONIUM BISULFITE, SOLID	AMMONIUM ACID SULFITE|AMMONIUM BISULFITE|AMMONIUM BISULFITE (NH4HSO3)|AMMONIUM BISULFITE, SOLID|AMMONIUM BISULFITE, [SOLID]|AMMONIUM BISULPHITE, SOLID|AMMONIUM HYDROGEN SULFITE|AMMONIUM HYDROSULFITE|AMMONIUM MONOSULFITE|AMMONIUM SULFITE (NH4HSO3)|MONOAMMONIUM SULFITE	10192-30-0	Ammonium bisulfite is colorless crystals which are soluble in water. It is noncombustible. It is corrosive to aluminum. It is a strong irritant to skin and mucous membranes. It is toxic by skin absorption.	1.0	2.5	5.0	1573.0	148.0	512.0	211.0	201.0	248.0	25.0	82.0	35.0	31.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
575	AMMONIUM BISULFITE, SOLUTION	AMMONIUM ACID SULFITE|AMMONIUM BISULFITE|AMMONIUM BISULFITE (NH4HSO3)|AMMONIUM BISULFITE SOLUTION|AMMONIUM BISULFITE, SOLUTION|AMMONIUM BISULPHITE, SOLUTION|AMMONIUM HYDROGEN SULFITE|AMMONIUM MONOSULFITE|AMMONIUM SULFITE (NH4HSO3)|MONOAMMONIUM SULFITE	10192-30-0	Ammonium bisulfite is a solution of yellow crystals. It is a strong irritant to skin and mucous membranes. It is toxic by skin absorption. It may be corrosive to metals.	1.0	2.5	5.0	1577.0	148.0	512.0	211.0	201.0	249.0	25.0	82.0	35.0	31.0	(BLOB)	Flash point for this compound is >93 C (>200 F). It is combustible. (NTP, 1992)	Fires involving this material can be controlled by using a carbon dioxide, dry chemical, or Halon extinguisher. (NTP, 1992)
576	AMMONIUM BROMIDE	AMMONIUM BROMIDE|HYDROBROMIC ACID MONOAMMONIATE	12124-97-9	White odorless crystals or granules that become yellow upon exposure to air. Sinks and mixes in water. (USCG, 1999)	1.0	2.5	5.0	1581.0	148.0	512.0	211.0	201.0	250.0	25.0	82.0	35.0	31.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
577	AMMONIUM CARBONATE	AMMONIUM CARBONATE|AMMONIUM CARBONATE ((NH4)2CO3)|BIS(AMMONIUM) CARBONATE|DIAMMONIUM CARBONATE|HARTSHORN|SAL VOLATILE	506-87-6	A colorless crystalline solid or a white powder with a strong odor of ammonia. Noncombustible. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Used to make other ammonium compounds, in pharmaceuticals, in food processing.	1.0	2.5	5.0	1585.0	148.0	512.0	211.0	201.0	251.0	25.0	82.0	35.0	31.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
578	AMMONIUM CITRATE, DIBASIC	AMMCITRATE|AMMONIUM CITRATE|AMMONIUM CITRATE ((NH4)2O7C6H6)|AMMONIUM CITRATE, DIBASIC|AMMONIUM CITRATE, [DIBASIC]|AMMONIUM MONOHYDROGEN CITRATE|CITRIC ACID, DIAMMONIUM SALT|DIAMMONIUM CITRATE|DIAMMONIUM HYDROGEN CITRATE|DIBASIC AMMONIUM CITRATE|MICROSTOP	3012-65-5	Ammonium citrate is a white granular solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in pharmaceuticals, and in chemical analysis.	1.0	2.5	5.0	1585.0	148.0	512.0	211.0	201.0	251.0	25.0	82.0	35.0	31.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
573	AMMONIUM BENZOATE			Soluble in water.	CUPRIC SULFATE, AMMONIATED gives off ammonia when heated to 120Â°C.								0																								
		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)																																
574	AMMONIUM BISULFITE, SOLID			Insoluble in water.	2-TRIFLUOROMETHYLANILINE is a trifluoromethyl- and amine-substituted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
575	AMMONIUM BISULFITE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly soluble in water.	3-((2-ETHYLHEXYL)OXY)PROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																								
576	AMMONIUM BROMIDE	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YLBENZENE-DI-AZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
577	AMMONIUM CARBONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	TALC has low reactivity.						0																							(NTP, 1992)		1700 to 1800
578	AMMONIUM CITRATE, DIBASIC	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hygroscopic. Water soluble.	3-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									(NTP, 1992)		286 to 291

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
573	AMMONIUM BENZOATE														(USCG, 1999)	1.79 at 25Â°C	1.81		68		(USCG, 1999)	Hydrate loses H 2 O and 2NH 3 at 120 and remaining 2NH 3 at 160 Decomposes at 150:b0C.					(USCG, 1999)	227.73 (anhydrous); 245.8 (monohydrate)														CSN		Cu(NH3)4SO4.H2O	Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
574	AMMONIUM BISULFITE, SOLID																																									Poison	C7H6F3N		12.0	1.0	28.0	3.0	4.0
575	AMMONIUM BISULFITE, SOLUTION																										(NTP, 1992)		187.37						(NTP, 1992)	at 68.9Â° F		1 to 5	mg/mL		Poison	C11H25NO	Mineral-Based & Clay-Based Absorbents	12.0	1.0	28.0	3.0	4.0
576	AMMONIUM BROMIDE																																								Flammable Solid	C12H16N3O2.xZnCl2.Cl	Cellulose-Based Absorbents	11.0	1.0	47.0	3.0	4.0
577	AMMONIUM CARBONATE	(NTP, 1992)	Essentially	0		68		mm Hg							(NTP, 1992)		2.7 to 2.8										(NTP, 1992)		379.26		(NIOSH, 2003)		1000	mg/m3	(NTP, 1992)	at 70Â° F		less than 1	mg/mL			H2O3Si.3	4Mg		13.0	1.0	41.0	3.0	4.0
578	AMMONIUM CITRATE, DIBASIC																										(NTP, 1992)		164.04						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C6H6ClN.ClH	Mineral-Based & Clay-Based Absorbents	10.0	1.0	26.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
579	AMMONIUM FORMATE	AMMONIUM FORMATE|FORMIC ACID, AMMONIUM SALT	540-69-2	White solid with a weak odor of ammonia. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1585.0	148.0	512.0	211.0	201.0	251.0	25.0	82.0	35.0	31.0	(BLOB)	Flash point data for this chemical are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
580	AMMONIUM IODIDE	AMMONIUM IODIDE	12027-06-4	Odorless white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1585.0	148.0	512.0	211.0	201.0	251.0	25.0	82.0	35.0	31.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
581	AMMONIUM LAURYL SULFATE	AMMONIUM LAURYL SULFATE|DODECYL SULFATE, AMMONIUM SALT|LAURYL AMMONIUM SULFATE	2235-54-3	Light yellow liquid. May float or sink and mix with water. (USCG, 1999)	2.5	5.0	2.5	1589.0	148.0	512.0	211.0	201.0	252.0	25.0	82.0	35.0	31.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
582	AMMONIUM METAVANADATE	AMMONIUM METAVANADATE|AMMONIUM METAVANADATE (NH4VO3)|AMMONIUM MONOVANADATE|AMMONIUM TRIOXOVANADATE(1-)|AMMONIUM VANADATE|AMMONIUM VANADATE ((NH4)VO3)|AMMONIUM VANADATE (NH4VO3)|AMMONIUM VANADATE(V) ((NH4)VO3)|AMMONIUM VANADIUM OXIDE (NH4VO3)|AMMONIUM VANADIUM TRIOXIDE|VANADIC ACID (HVO3), AMMONIUM SALT	7803-55-6	A white crystalline powder. Slightly soluble in water and denser than water. Decomposes at 410Â°F. May release toxic fumes. Moderately toxic. An irritant. Used as a dryer for paints and inks, and for dyes. Loses ammonia upon heating.	1.0	2.5	5.0	1589.0	148.0	512.0	211.0	201.0	252.0	25.0	82.0	35.0	31.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides, cyanide, and iodide. Avoid phosphorus. (EPA, 1998)	(Non-Specific -- Cyanide or Cyanide Mixture, Dry) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. (Non-Specific -- Cyanide or Cyanide Mixture, Dry) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
583	AMMONIUM MOLYBDATE	AMMONIUM MOLYBDATE|MOLYBDIC ACID (85%)	12027-67-7	White to greenish-yellow solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1589.0	148.0	512.0	211.0	201.0	252.0	25.0	82.0	35.0	31.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
579	AMMONIUM FORMATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3,3',5,5'-TETRAMETHYLBENZIDINE is sensitive to prolonged exposure to light (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																									(NTP, 1992)			334 to 336
580	AMMONIUM IODIDE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Decomposes in contact with many metals and acids (USCG, 1999).		Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																															
581	AMMONIUM LAURYL SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, protect it from all oxidizing materials, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Oxidizes in air to form peroxides, which spontaneously ignite. Insoluble in water. Sensitive to heat and moisture.	LINOLENIC ACID is incompatible with bases, oxidizing agents and reducing agents. Also incompatible with peroxides, oxygen and water. (NTP, 1992)	Peroxidizable Compound			0						(NTP, 1992)			greater than 235																	(NTP, 1992)		11.7	
582	AMMONIUM METAVANADATE	(Non-Specific -- Cyanide or Cyanide Mixture, Dry) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	Phosphorus(molten) plus CYANOGEN IODIDE reacts with incandescence to produce phosphorus iodide, [NFPA 491M, 1991]. Benzene and cyanogen halides yield HCl as a byproduct (Hagedorn, F. H. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													(EPA, 1998)		295.7	
583	AMMONIUM MOLYBDATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Decomposes in contact with many metals and acids (USCG, 1999).		Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
579	AMMONIUM FORMATE																										(NTP, 1992)		240.38						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C16H20N2		12.0	1.0	31.0	3.0	4.0
580	AMMONIUM IODIDE																																								Organic Peroxide|Explosive	C11H22O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	34.0	3.0	4.0
581	AMMONIUM LAURYL SULFATE	(NTP, 1992)		0.05		257		mm Hg							(NTP, 1992)		0.9164		68		(NTP, 1992)		446		17		(NTP, 1992)		278.44						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C18H30O2	Dirt/Earth	18.0	1.0	35.0	3.0	4.0
582	AMMONIUM METAVANADATE	(EPA, 1998)		1		77.36		mm Hg							(EPA, 1998)		2.84										(EPA, 1998)		152.92												Poison|Corrosive	CIN		14.0	1.0	34.0	3.0	4.0
583	AMMONIUM MOLYBDATE																																							Organic Peroxide	C11H22O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	33.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
584	AMMONIUM OXALATE	AMMONIUM OXALATE|AMMONIUM OXALATE ((NH4)2C2O4) MONOHYDRATE|AMMONIUM OXALATE HYDRATE|AMMONIUM OXALATE MONOHYDRATE|DIAMMONIUM OXALATE|DIAMMONIUM OXALATE MONOHYDRATE|OXALIC ACID, DIAMMONIUM SALT|OXALIC ACID, DIAMMONIUM SALT, MONOHYDRATE	1113-38-8	Odorless solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1593.0	152.0	512.0	211.0	205.0	253.0	26.0	82.0	35.0	32.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
585	AMMONIUM SULFAMATE	AMMAT|AMMATE|AMMATE HERBICIDE|AMMATE X|AMMONIUM AMIDOSULFATE|AMMONIUM AMIDOSULFONATE|AMMONIUM AMIDOSULPHATE|AMMONIUM AMINOSULFONATE|AMMONIUM SULFAMATE|AMMONIUM SULPHAMATE|AMS|AMS (SALT)|FELIDERM K|FYRAN 206K|FYRAN J 3|IKURIN|MONOAMMONIUM SALT OF SULFAMIC ACID|MONOAMMONIUM SULFAMATE|SULFAMATE|SULFAMIC ACID, MONOAMMONIUM SALT	7773-06-0	Ammonium sulfamate is a white crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to flameproof fabrics and papers, in weed or brush killing products, and for other uses.	1.0	2.5	5.0	1597.0	152.0	516.0	211.0	205.0	254.0	26.0	83.0	35.0	32.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
586	AMMONIUM THIOCYANATE	AMMONIUM ISOTHIOCYANATE|AMMONIUM RHODANATE|AMMONIUM RHODANIDE|AMMONIUM SULFOCYANATE|AMMONIUM SULFOCYANIDE|AMMONIUM THIOCYANATE|RHODANID|THIOCYANIC ACID, AMMONIUM SALT	1762-95-4	Ammonium thiocyanate is a colorless crystalline solid. It is soluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in chemical analysis, in photography, as a fertilizer, and for many other uses.	1.0	2.5	5.0	1601.0	152.0	516.0	211.0	205.0	255.0	26.0	83.0	35.0	32.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with copious amounts of water for at least 15 minutes. SKIN: Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixures in air. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
587	AMMONIUM THIOCYANATE LIQUOR	AMMONIUM THIOCYANATE LIQUOR	1762-95-4	An aqueous solution of a colorless crystalline solid. Contains no cyanide and therefore has low acute toxicity. Prolonged exposure may produce skin eruptions and sometimes mild or severe disturbances of the nervous system. Primary hazard is threat posed to the environment. As a liquid, easily penetrates the soil to contaminate groundwater or nearby waterways. Used to make other chemicals, fertilizer, and for many other things.	2.5	5.0	2.5	1601.0	152.0	516.0	211.0	205.0	255.0	26.0	83.0	35.0	32.0	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Call 911 or emergency medical service. Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. (ERG, 2012)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Many have cardboard outer packaging; content (physically large or small) can be of many different physical forms. Radioactivity does not change flammability or other properties of materials. (ERG, 2012)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). (ERG, 2012)
588	AMMONIUM THIOSULFATE	AMMO HYPO|AMMONIUM HYPOSULFITE|AMMONIUM THIOSULFATE|AMMONIUM THIOSULFATE ((NH4)2S2O3)|DIAMMONIUM THIOSULFATE|THIO-SUL|THIOSULFURIC ACID, DIAMMONIUM SALT	7783-18-8	Ammonium thiosulfate is a white crystalline solid. It is very soluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in photography, in chemical analysis, and for many other uses.	1.0	2.5	5.0	1605.0	152.0	520.0	211.0	205.0	256.0	26.0	84.0	35.0	32.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
584	AMMONIUM OXALATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Finely powdered material is a significant dust explosion hazard. Insoluble in water.	3,3'-DIMETHOXYBENZIDINE is a weak base. Reacts exothermically with acids. Sensitive to heat, air and prolonged exposure to light.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		403													(NTP, 1992)				279 to 280
585	AMMONIUM SULFAMATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids or alkalis.	CYCLOATE is a thiocarbamate ester. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
586	AMMONIUM THIOCYANATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as CYCLOHEPTANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	0	3		(USCG, 1999)		43		(USCG, 1999)		1.1		%	(USCG, 1999)		6.7		%					(USCG, 1999)		10.4	
587	AMMONIUM THIOCYANATE LIQUOR	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection. (ERG, 2012)	Insoluble in water.	Has only weak oxidizing powers. Redox reactions can however still occur. Not water-reactive. Soluble in sulfuric acid.	Radioactive Material	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)					0																								
588	AMMONIUM THIOSULFATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOHEPTATRIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
584	AMMONIUM OXALATE								(NTP, 1992)		8.5																(NTP, 1992)		244.29		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL		Poison	C14H16N2O2		16.0	1.0	49.0	3.0	4.0
585	AMMONIUM SULFAMATE																																							Class 9	C11H21NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	19.0	3.0	4.0
586	AMMONIUM THIOCYANATE	(USCG, 1999)		44				mm Hg							(USCG, 1999)		0.811				(USCG, 1999)		245.3		760		(USCG, 1999)		98.19										CYE	Flammable Liquid	C7H14		11.0	1.0	42.0	3.0	4.0
587	AMMONIUM THIOCYANATE LIQUOR																																							Radioactive	O2Th		11.0	1.0	42.0	3.0	4.0
588	AMMONIUM THIOSULFATE																																							Flammable Liquid|Poison	C7H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	33.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
589	AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)	AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)	7783-18-8	An odorless colorless liquid. (USCG, 1999)	2.5	5.0	2.5	1609.0	152.0	520.0	211.0	205.0	257.0	26.0	84.0	35.0	32.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
590	AMPICILLIN TRIHYDRATE	ACILLIN|ALPHA-AMINOBENZYLPENICILLIN TRIHYDRATE|AMCAP|AMCILL|AMINOBENZYLPENICILLIN TRIHYDRATE|AMPERIL|AMPICHEL|AMPICILLIN TRIHYDRATE|AMPIKEL|AMPINOVA|AMPLIN|CYMBI|D-(-)-6-(2-AMINO-2-PHENYLACETAMIDO)-3,3-DIMETHYL-7-OXO-4-THIA-1-AZABICYCLO-(3.2.0)HEPTANE-2-CARBOXYLIC ACID TRIHYDRATE|[D-(-)-ALPHA-AMINOBENZYL]PENICILLIN TRIHYDRATE|DIVERCILLIN|LIFEAMPIL|MOREPEN|NCI-C56086|PENA|PENBRITIN|PENSYN|PENTREXYL|POLYCILLIN|PRINCILLIN|PRINCIPEN|(6R)-6-(ALPHA-D-PHENYLGLYCYLAMINO)PENICILLANIC ACID TRIHYDRATE|RO-AMPEN|4-THIA-1-AZABICYCLO[3.2.0]HEPTAN	7177-48-2	PHYSICAL DESCRIPTION: Odorless white microcrystalline powder with a bitter taste. A 0.25% solution in water has a pH of 3.5 to 5.5. (NTP, 1992)	1.0	2.5	5.0	1613.0	152.0	524.0	211.0	205.0	258.0	26.0	85.0	35.0	32.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
591	ANETHOLE	ANETHOL|ANETHOLE|ANISE CAMPHOR|ANISOLE, P-PROPENYL-|ISOESTRAGOLE|4-METHOXY-1-PROPENYLBENZENE|1-METHOXY-4-(1-PROPENYL)BENZENE|1-METHOXY-4-PROPENYLBENZENE|4-METHOXYPROPENYLBENZENE|NAULI "GUM"|NAULI GUM|OIL OF ANISEED|P-1-PROPENYLANISOLE|P-ANETHOLE|P-METHOXY-BETA-METHYLSTYRENE|1-(P METHOXYPHENYL)PROPENE|P-PROPENYLANISOLE|P-PROPENYLPHENYL METHYL ETHER|1-PROPENE, 1-(4-METHOXYPHENYL)-|4-PROPENYLANISOLE	104-46-1	PHYSICAL DESCRIPTION: White crystals or a liquid. Odor of anise oil and a sweet taste. (NTP, 1992)	1.0	2.5	5.0	1617.0	152.0	524.0	211.0	205.0	259.0	26.0	85.0	35.0	32.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
592	ANISE OIL	ANISE OIL|ANISEED OIL|HYDROESSENTIAL ANISSETTE|OIL OF ANISE|OILS, ANISE|OILS, PIMPINELLA ANISUM|OLEUM ANISI|STAR ANISE OIL	8007-70-3	PHYSICAL DESCRIPTION: Colorless or pale yellow oil with an iridescent sheen. Odor of crushed fruit and a sweet aromatic taste. (NTP, 1992)	2.5	5.0	2.5	1621.0	152.0	524.0	211.0	205.0	260.0	26.0	85.0	35.0	32.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray, LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
593	ANTHRACENE	ANTHRACENE|ANTHRACENE OIL|ANTHRACIN|GREEN OIL|P-NAPHTHALENE|PARANAPHTHALENE|PARANAPTHALENE|TETRA OLIVE N2G	120-12-7	White to yellow solid with a weak aromatic odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1625.0	156.0	524.0	211.0	209.0	261.0	27.0	85.0	35.0	33.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
589	AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The solid can absorb moisture from air and spontaneously heat and ignite. It reacts with water to form corrosive lithium hydroxide, and acetylene, a flammable gas. The heat of this reaction may be sufficient to ignite the acetylene.	A class of compounds very sensitive to shock, friction and heat. They explode readily producing no gas but intense heat. They are in a class with the fulminates and the azides as primary detonators. They must be kept cool and should be kept wet with ether (not water!) to be stored. They can react with metal powders (Cu, Ag) to form very sensitive detonators [Sax, 9th ed., 1996, p. 41].	Water-Reactive; Air-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
590	AMPICILLIN TRIHYDRATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	CYCLOHEXANETHIOL is incompatible with the following: Oxidizers, reducing agents, strong acids, alkali metals (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NIOSH, 2003)		110														(NIOSH, 2003)		-181	
591	ANETHOLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as TETRAETHYL DITHIOPYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This compound is incompatible with the following: Strong oxidizers, iron [Note: Corrosive to iron.] (NIOSH, 1997).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
592	ANISE OIL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	A halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
593	ANTHRACENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Insoluble in water.	3,3'-DIMETHYLBENZIDINE is sensitive to exposure to light. May be sensitive to prolonged exposure to air. A weak base that forms salts with hydrochloric acid or sulfuric acid. It can be acetylated. Incompatible with strong agents (NTP, 1992).						0																				(NTP, 1992)		264 to 268

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
589	AMMONIUM THIOSULFATE SOLUTION (60% OR LESS)																																								Dangerous When Wet	C2H8N2.xC2HLi	Mineral-Based & Clay-Based Absorbents	13.0	1.0	33.0	3.0	4.0
590	AMPICILLIN TRIHYDRATE	(NIOSH, 2003)		10				mm Hg							(NIOSH, 2003)		0.98				(NIOSH, 2003)		316		760		(NIOSH, 2003)		116.2						(NIOSH, 2003)	Insoluble					Flammable Liquid	C6H12S		12.0	1.0	35.0	3.0	4.0
591	ANETHOLE																																								Poison	C8H20O5P2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	27.0	3.0	4.0
592	ANISE OIL																																								Poison	C4H6Br2O		10.0	1.0	22.0	3.0	4.0
593	ANTHRACENE														(NTP, 1992)		1				(NTP, 1992)		392		760		(NTP, 1992)		212.29		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C14H16N2		13.0	1.0	28.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
594	ANTHRANILIC ACID	ALPHA-AMINOBENZOIC ACID|1-AMINO-2-CARBOXYBENZENE|2-AMINOBENZOIC ACID|ANTHRANILIC ACID|CARBOXYANILINE|2-CARBOXYANILINE|NCI-C01730|O-AMINOBENZOIC ACID|O-ANTHRANILIC ACID|O-CARBOXYANILINE|ORTHO-AMIDOBENZOIC ACID|ORTHO-AMINOBENZOIC ACID|VITAMIN L|VITAMIN L1	118-92-3	PHYSICAL DESCRIPTION: Odorless white to pale-yellow or tan crystalline powder with a sweetish taste. (NTP, 1992)	1.0	2.5	5.0	1629.0	156.0	524.0	211.0	209.0	262.0	27.0	85.0	35.0	33.0	(BLOB)	Flash point data regarding this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
595	ANTHRAQUINONE	ANTHRACENE-9,10-QUINONE|9,10-ANTHRACENEDIONE|ANTHRADIONE|ANTHRAQUINONE|9,10-ANTHRAQUINONE|CORBIT|9,10-DIHYDRO-9,10-DIOXOANTHRACENE|9,10-DIOXOANTHRACENE|HOELITE|MORKIT	84-65-1	PHYSICAL DESCRIPTION: Yellow crystals or powder. (NTP, 1992)	1.0	2.5	5.0	1629.0	156.0	524.0	211.0	209.0	262.0	27.0	85.0	35.0	33.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
596	ANTIMONY POWDER	ANTIMONY|ANTIMONY BLACK|ANTIMONY ELEMENT|ANTIMONY METAL|ANTIMONY POWDER|ANTIMONY, REGULUS|C.I. 77050|STIBIUM	7440-36-0	A silvery or gray solid in the form of dust. Denser than water and insoluble in water. Toxic by inhalation and by ingestion. May burn and emit toxic fumes if heated or exposed to flames. Used to make electric storage batteries and semiconductors.	1.0	2.5	5.0	1629.0	156.0	524.0	211.0	209.0	262.0	27.0	85.0	35.0	33.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
597	ANTIMONY TRICHLORIDE	ANTIMONOUS CHLORIDE|ANTIMONY (III) CHLORIDE|ANTIMONY BUTTER|ANTIMONY CHLORIDE (SB2CL6)|ANTIMONY CHLORIDE (SBCL3)|ANTIMONY TRICHLORIDE|ANTIMONY TRICHLORIDE, SOLID|ANTIMONY TRICHLORIDE, [SOLID]|ANTIMONY(III) CHLORIDE|ANTIMONY(III) TRICHLORIDE|BUTTER OF ANTIMONY|C.I. 77056|TRICHLOROANTIMONY|TRICHLOROSTIBINE	10025-91-9	Antimony trichloride is a colorless crystalline solid. It is shipped as a solid or liquid solution. It is decomposed slowly by water to hydrochloric acid and antimony oxychloride. Antimony oxychloride is soluble in hydrochloric acid but insoluble in water. It is corrosive to metals and tissue.	1.0	2.5	5.0	1633.0	156.0	524.0	211.0	209.0	263.0	27.0	85.0	35.0	33.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
598	ANTIMONY TRICHLORIDE, LIQUID	ANTIMONOUS CHLORIDE|ANTIMONY BUTTER|ANTIMONY CHLORIDE (SB2CL6)|ANTIMONY CHLORIDE (SBCL3)|ANTIMONY TRICHLORIDE|ANTIMONY TRICHLORIDE SOLUTION|ANTIMONY TRICHLORIDE, LIQUID|ANTIMONY TRICHLORIDE, SOLUTION|ANTIMONY(III) CHLORIDE|ANTIMONY(III) TRICHLORIDE|BUTTER OF ANTIMONY|C.I. 77056|TRICHLOROANTIMONY|TRICHLOROSTIBINE	10025-91-9	Antimony trichloride is a colorless crystalline solid. It is shipped as a solid or liquid solution. It is decomposed slowly by water to hydrochloric acid and antimony oxychloride. Antimony oxychloride is soluble in hydrochloric acid but insoluble in water. It is corrosive to metals and tissue.	2.5	5.0	2.5	1637.0	156.0	524.0	215.0	209.0	264.0	27.0	85.0	36.0	33.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
599	ATRAZINE	(BLOB)	1912-24-9	White crystalline solid. Melting point 173-175Â°C. Sinks in water. A selective herbicide used for season-long weed control in a variety of crops.	1.0	2.5	5.0	1641.0	156.0	528.0	215.0	209.0	265.0	27.0	86.0	36.0	33.0	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
594	ANTHRANILIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Reacts slowly with water (NTP, 1992).	CYCLOHEXANONE CYANOHYDRIN is an a-hydroxonitrile. Incompatible with acids; mixing nitriles with strong oxidizing acids can lead to violent reactions. Incompatible with oxidizing agents such as peroxides and epoxides. Mixing with bases can produce poisonous and flammable hydrogen cyanide. May be hydrolyzed exothermically in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). May react vigorously with reducing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		93 to 97
595	ANTHRAQUINONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CYCLOHEXANONE OXIME reacts violently with fuming sulfuric acid at temperatures > 302Â° F. (NTP, 1992). Several explosions or violent decompositions have occurred during distillation of aldoximes, which may be attributable to the formation of peroxides of various types. This is especially the case in the presence of acid, Chem. Eng. News, 1974, 52(35), 3. A nickel catalyzed aldoxime rearrangement to an amide, went out of control after changing the solvent employed, J. Loss Prev., 1993, 6(2), 69.	Peroxidizable Compound	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		192 to 196
596	ANTIMONY POWDER	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Moisture sensitive. Some 18-month old bottles of this compound exploded, probably owing to slow hydrolysis and buildup of pressure. Solutions in water are unstable above pH 4. (NTP, 1992).	Nitriles, such as 3,3'-IMINODIPROPIONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Polymerizable; Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		230																		(NTP, 1992)		21
597	ANTIMONY TRICHLORIDE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TIN is a reducing agent. Stable in massive form in air, but oxidizes (corrodes) in air as a powder, especially in the presence of water. Dissolve slowly in dilute strong acids in the cold. Dissolves in hot aqueous KOH and other strongly basic solutions. Incompatible with acids and base. Incompatible with chlorine and turpentine.						0																							(NIOSH, 2003)		449
598	ANTIMONY TRICHLORIDE, LIQUID		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TIN(II) OXIDE is a reducing agent. Unstable in air due to slow oxidation to tin(IV) oxide. At 300Â°C this oxidation proceeds incandescently. Incompatible with strong oxidizing agents. Reacts with acids and with strong bases.						0																							(NIOSH, 2003)	@ 600 mmHg. (Decomposes)	1976	
599	ATRAZINE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOOCTADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1,5-cyclooctadiene, CAS number 111-78-4.	2	3	0	3		(NFPA, 2010)		95																		

| id | name | vp_source | vp_note | vp_value | vp_range | vp_unit | vp_temp[Deg]F | vd_source | vd_note | vd_value | vd_range | vd_unit | vd_temp[Deg]F | sg_value_temp[Deg]F | sg_range | sg_value | sg_note | sg_source | sg_range_temp[Deg]F | vd_range_temp[Deg]F | vd_value_temp[Deg]F | vp_value_temp[Deg]F | vp_range_temp[Deg]F

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
600	AZATHIOPRINE	AZATHIOPRIN|AZATHIOPRINE|AZATIOPRIN|AZOTHIOPRINE|BW 57-322|CCUCOL|1H-PURINE, 6-((1-METHYL-4-NITRO-1H-IMIDAZOL-5-YL)THIO-|IMURAN|IMUREK|IMUREL|6-((1-METHYL-4-NITROIMIDAZOL-5-YL)THIO)PURINE|6-(1-METHYL-4-NITROIMIDAZOL-5-YL)THIOPURINE|6-(1-METHYL-4-NITROIMIDAZOL-5-YLTHIO)PURINE|6-(METHYL-P-NITRO-5-IMIDAZOLYL)-THIOPURINE|6-(1-METHYL-P-NITRO-5-IMIDAZOLYL)-THIOPURINE|METHYLNITROIMIDAZOLYLMERCAPTOPURINE|MURANINCI-C03474|NSC 39084|NSC-39084|PURINE, 6-[(1-METHYL-4-NITROIMIDAZOL-5-YL)THIO]-|RORASUL	446-86-6	PHYSICAL DESCRIPTION: Pale yellow crystals or yellowish powder. Decomposes at 243-244Â°C. Used for the treatment of rheumatoid arthritis. A known carcinogen.	1.0	2.5	5.0	1645.0	156.0	532.0	215.0	209.0	266.0	27.0	87.0	36.0	33.0	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
601	AZODICARBONAMIDE	(BLOB)	123-77-3	A yellow to orange powder. Insoluble in water and common solvents. Soluble in dimethyl sulfoxide. Nontoxic.	1.0	2.5	5.0	1645.0	156.0	532.0	215.0	209.0	266.0	27.0	87.0	36.0	33.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
602	AZODIISOBUTYRONITRILE	ACETO AZIB|AIBN|ALPHA,ALPHA'-AZOBIS[ISOBUTYRONITRILE]|ALPHA,ALPHA'-AZODIISOBUTYRIC ACID DINITRILE|ALPHA,ALPHA'-AZODIISOBUTYRONITRILE|AZDH|AZDN|2,2'-AZOBIS(2-CYANOPROPANE)|2,2'-AZOBIS(2-METHYLPROPIONITRILE)|AZOBISISOBUTYRONITRILE|2,2'-AZOBIS[2-METHYLPROPANENITRILE]|2,2'-AZOBIS[ISOBUTYRONITRILE]|AZODI-ISOBUTYRONITRILE|AZODIISOBUTYRONITRILE|2,2'-AZODIISOBUTYRONITRILE|CHKHE 57|CHKHZ 57|2,2'-DIMETHYL-2,2'-AZODIPROPIONITRILE|GENITRON AZDN|GENITRON AZDN-FF|KB-P 13|KE-P 13|N,N'-AZOBIS(ISOBUTYRONITRILE)|N,N'-BIS(2-CYANO-2-PROPYL)DIIMIDE|NCI-C60426|PERSADOX AZDN	78-67-1	Insoluble in water and denser than water. Moderately toxic by ingestion. Readily ignited by sparks or flames. Burns intensely and persistently. Toxic oxides of nitrogen produced during combustion. Used as a catalyst, in vinyl polymerizations and a blowing agent for plastics.	2.5	5.0	2.5	1649.0	156.0	536.0	215.0	209.0	267.0	27.0	88.0	36.0	33.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
603	BACLOFEN	4-AMINO-3-(4-CHLOROPHENYL)BUTYRIC ACID|4-AMINO-3-(P-CHLOROPHENYL)BUTYRIC ACID|BA 34647|BACLOFEN|(+-)-BACLOFEN|BACLON|BETA-(4-CHLOROPHENYL)-GAMMA-AMINOBUTYRIC ACID|BETA-(4-CHLOROPHENYL)GABA|BETA-(AMINOMETHYL)-4-CHLOROBENZENEPROPANOIC ACID|BETA-(AMINOMETHYL)-P-CHLOROHYDROCINNAMIC ACID|BETA-(P-CHLOROPHENYL)-GAMMA-AMINOBUTYRIC ACID|BETA-P-CHLOROPHENYL-GABA|C 34647BA|CIBA 34,647-BA|CIBA BA 34647|DL-4-AMINO-3-P-CHLOROPHENYLBUTANOIC ACID|DL-BACLOFEN|GAMMA-AMINO-BETA-(P-CHLOROPHENYL)BUTYRIC ACID|HYDROCINNAMIC	1134-47-0	PHYSICAL DESCRIPTION: Odorless or practically odorless white to off-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
604	BARIUM	BARIUM|BARIUM ELEMENT	7440-39-3	A silver to white metallic solid . Contact may cause burns to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
600	AZATHIOPRINE	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOOCTATETRAENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
601	AZODICARBONAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3,4-DICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		151 to 154
602	AZODIISOBUTYRONITRILE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,2-DICHLORO-1,1-DIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature. With acids, toxic gases may be released.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
603	BACLOFEN	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Soluble in water.	CYCLOPENTANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NFPA, 2010)		124																	
604	BARIUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Solutions of the chemical in water are stable for less than two hours. Insoluble in water.	3,4-DIHYDROCOUMARIN is a lactone (behaves as an ester). Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical may hydrolyze under alkaline or acidic conditions. (NTP, 1992)						0		(NTP, 1992)		266																(NTP, 1992)		77	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdh_source	fdh_note	fdh_value	fdh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chirls_codes	dot_Labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
600	AZATHIOPRINE																																																
601	AZODICARBONAMIDE								(NTP, 1992)		at 68Å° F	less than 1	mg/mL								(NTP, 1992)		488.3		767		(NTP, 1992)		163														Flammable Liquid	C8H8	Mineral-Based Absorbents/Dirt Earth	11.0	1.0	25.0	3.0	4.0
602	AZODIISOBUTYRONITRILE																																									Poison	C6H4Cl2O		13.0	1.0	37.0	3.0	4.0
603	BACLOFEN																																									Class 9	C2H2Cl2F2		14.0	1.0	27.0	3.0	4.0
604	BARIUM	(NTP, 1992)	119.5 mm Hg at 108Å° F; 27.4 mm Hg at 145Å° F	13.4		77		mm Hg									1.169		64		(NTP, 1992)		522		760		(NTP, 1992)		148.17									less than 1	mg/mL		Flammable Liquid	C5H10O	Cellulose-Based Absorbents	13.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
605	BARIUM ALLOYS, PYROPHORIC	BARIUM ALLOY, [PYROPHORIC]|BARIUM ALLOYS, PYROPHORIC|BARIUM ELEMENT	7440-39-3	Barium alloy, pyrophoric is mixture of barium and other metals or nonmetallic elements to improve the specific usefulness of barium. Barium alloys are a solid and can ignite spontaneously in contact with air. This material is toxic and products given off in fire could be very toxic.	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
606	BENZETHONIUM CHLORIDE	(BLOB)	121-54-0	PHYSICAL DESCRIPTION: Odorless white crystals or powder with a very bitter taste. A 1% solution in water is slightly alkaline to litmus. (NTP, 1992)	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
607	BENZOIN	ALPHA-HYDROXY-ALPHA-PHENYLACETOPHENONE|ALPHA-HYDROXYBENZYL PHENYL KETONE|BENZOIN|(.+-.)-BENZOIN|BENZOYLPHENYL CARBINOL|BITTER ALMOND OIL CAMPHOR|DESYL ALCOHOL|1,2-DIPHENYL-1-HYDROXY-2-ETHANONE|DL-BENZOIN|(.+-.)-2-HYDROXY-1,2-DIPHENYLETHANONE|2-HYDROXY-1,2-DIPHENYLETHANONE|(.+-.)-2-HYDROXY-2-PHENYLACETOPHENONE|2-HYDROXY-2-PHENYLACETOPHENONE|NCI-C50011|(RS)-BENZOIN|WY 42956	119-53-9	PHYSICAL DESCRIPTION: Off-white to yellow-white crystalline solid with an odor of camphor. Slightly acrid taste. When broken the fresh surfaces have a milky-white color. (NTP, 1992)	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
608	BENZOQUINONE	1,4-BENZOQUINE|BENZOQUINONE|1,4-BENZOQUINONE|CHINONE|1,4-CYCLOHEXADIENE DIOXIDE|2,5-CYCLOHEXADIENE-1,4-DIONE|CYCLOHEXADIENEDIONE|1,4-CYCLOHEXADIENEDIONE|1,4-DIOXYBENZENE|NCI-C55845|P-BENZOQUINONE|P-QUINONE|PBQ 2|QUINONE|STEARA PBQ|USAF P-220	106-51-4	A yellowish-colored crystalline solid with a pungent, irritating odor. Poisonous by ingestion or inhalation of vapors. May severely damage skin, eyes and mucous membranes. Used to make dyes and as a photographic chemical.	1.0	2.5	5.0	1653.0	156.0	540.0	215.0	209.0	268.0	27.0	89.0	36.0	33.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
609	BENZOYL CHLORIDE	ALPHA-CHLOROBENZALDEHYDE|BENZALDEHYDE, ALPHA-CHLORO-|BENZENECARBONYL CHLORIDE|BENZOIC ACID CHLORIDE|BENZOYL CHLORIDE|DIBENZOYL CHLORIDE {BENZOYL CHLORIDE}	98-88-4	A colorless fuming liquid with a pungent odor. Flash point 162Â°F. Lachrymator, irritating to skin and eyes. Corrosive to metals and tissue. Density 10.2 lb / gal. Used in medicine and in the manufacture of other chemicals.	2.5	5.0	2.5	1657.0	156.0	540.0	215.0	209.0	269.0	27.0	89.0	36.0	33.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
610	BENZYL ACETATE	ACETIC ACID, BENZYL ESTER|ACETIC ACID, PHENYLMETHYL ESTER|(ACETOXYMETHYL)BENZENE|ALPHA-ACETOXYTOLUENE|BENZYL ACETATE|BENZYL ETHANOATE|NCI-C06508|PHENYLMETHYL ACETATE	140-11-4	Colorless liquid with an odor of pears. (USCG, 1999)	2.5	5.0	2.5	1661.0	156.0	540.0	215.0	209.0	270.0	27.0	89.0	36.0	33.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
605	BARIUM ALLOYS, PYROPHORIC	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)								0																					(NTP, 1992)	(decomposes)		433 to 437
606	BENZETHONIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Hydrolysis occurs readily, especially with acid.	CYTARABINE HYDROCHLORIDE undergoes decomposition in acidic solutions. [[Details on specifics of reactivity not yet available.]]								0																					(NTP, 1992)			356 to 360
607	BENZOIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.								0																					(NTP, 1992)			527 to 540
608	BENZOQUINONE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Highly flammable. Water soluble. Slowly hydrolyzes in water.	D,L-1,2:3,4-DIEPOXYBUTANE is incompatible with acids, bases and oxidizing agents. Reacts with 4-(4'-nitrobenzyl)pyridine. Also reacts with alcohols, amines, phenols. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		114															(NTP, 1992)		39	
609	BENZOYL CHLORIDE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	May spontaneously ignite upon exposure to air. Soluble in water. Reacts violently with water to form caustic ammonia/ammonium hydroxide and heat. Reacts violently with water, evolving NH3 (Budavari 1996). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of ammonia gas will be created in 0.01 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Bases or alkalis are chemically similar to sodium hydroxide (NaOH) or sodium oxide (Na2O). They neutralize acids exothermically to form salts plus water. When soluble in water they give solutions having a pH greater than 7.0. Mixing these materials with water can generate troublesome amounts of heat as the base is dissolved or diluted. Bases react with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. Bases may initiate polymerization reactions in polymerizable organic compounds, especially epoxides). They may generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. Materials of this group often serve as catalysts.	Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2004 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
610	BENZYL ACETATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water. May spontaneously ignite upon exposure to air. Dialkyl derivatives of magnesium have been known to explode on contact with water and will glow and catch fire even in atmosphere of carbon dioxide [Merck 11th ed. 1989].	Hydrides, such as MAGNESIUM DIPHENYL, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
605	BARIUM ALLOYS, PYROPHORIC																										(NTP, 1992)		180.16						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C9H8O4	Dirt/Earth	10.0	1.0	19.0	3.0	4.0
606	BENZETHONIUM CHLORIDE																										(NTP, 1992)		279.71						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL			C9H13N3O5.ClH	Cellulose-Based Absorbents	13.0	1.0	22.0	3.0	4.0
607	BENZOIN																										(NTP, 1992)		204.23						(NTP, 1992)	at 75Â° F		1 to 5	mg/mL			C11H12O2	Mineral-Based & Clay-Based Absorbents	13.0	1.0	38.0	3.0	4.0
608	BENZOQUINONE	(NTP, 1992)		3.9		68		mm Hg							(NTP, 1992)		1.1157		68		(NTP, 1992)		291		760		(NTP, 1992)		86.09						(NTP, 1992)	at 67.1Â° F		greater than or equal to 100	mg/mL		Poison|Flammable Liquid	C4H6O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	11.0	1.0	24.0	3.0	4.0
609	BENZOYL CHLORIDE																																								Spontaneously Combustible	H4MgN2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	12.0	1.0	48.0	3.0	4.0
610	BENZYL ACETATE																																								Spontaneously Combustible	C12H10Mg		13.0	1.0	50.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
611	BENZYL BROMIDE	ALPHA-BROMO-TOLUENE|ALPHA-BROMOTOLUENE|BENZENE, (BROMOMETHYL)-|BENZYL BROMIDE|(BROMOMETHYL) BENZENE|(BROMOPHENYL) METHANE|BROMOPHENYL METHANE|BROMOTOLUENE , ALPHA|OMEGA-BROMOTOLUENE|P-(BROMOMETHYL)NITROBENZENE|PHENYLMETHYL BROMIDE|TOLUENE, ALPHA-BROMO-	100-39-0	A colorless liquid with an agreeable odor. Toxic by inhalation and by skin absorption. It is slightly soluble in water and denser than water (density 1.44 g / cm3 (Aldrich)). A lachrymator. Corrosive to metals and tissue.	2.5	5.0	2.5	1665.0	156.0	540.0	215.0	209.0	271.0	27.0	89.0	36.0	33.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
612	BENZYL CHLORIDE	A-CHLOROTOLUENE|ALPHA-CHLOROTOLUENE|BENZENE ,(CHLOROMETHYL)- |BENZYL CHLORIDE|(CHLOROMETHYL)BENZENE|CHLOROMETHYLBENZENE|CHLOROPHENYLMETHANE|NCI-C06360|NCI-CO6360|OMEGA-CHLOROTOLUENE|PHENYLMETHYL CHLORIDE|TOLUENE, ALPHA-CHLORO-|TOLYL CHLORIDE	100-44-7	A colorless liquid with an irritating odor. Toxic by inhalation and skin absorption. Flash point 153Â°F. Slightly soluble in water. Corrosive to metals and tissue. A lachrymator. Density 9.2 lb /gal.	2.5	5.0	2.5	1665.0	156.0	544.0	215.0	209.0	271.0	27.0	90.0	36.0	33.0	Get medical attention. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. INGESTION: Induce vomiting immediately by giving two glasses of water or milk and sticking finger down throat. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of nitrogen oxides are produced when heated to decomposition. Behavior in Fire: Contact with oxidizable substances may cause extremely violent combustion. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
613	BENZYL CHLOROFORMATE	BENZYL CARBONOCHLORIDATE|BENZYL CHLOROCARBONATE|BENZYL CHLOROFORMATE|BENZYL CARBONYL CHLORIDE|(BENZYLOXY)CARBONYL CHLORIDE|CARBOBENZOXY CHLORIDE|CARBOBENZYLOXY CHLORIDE|CHLOROFORMIC ACID BENZYL ESTER|CHLOROFORMIC ACID, BENZYL ESTER|FORMIC ACID, CHLORO-, BENZYL ESTER|PHENYLMETHYL CHLOROFORMATE	501-53-1	A colorless liquid with an acrid odor. Vapors irritate eyes and mucous membranes. Corrosive to metals and tissue. Long-term inhalation of low concentrations or short-term inhalation of high concentrations can result in adverse health effects.	2.5	5.0	2.5	1669.0	156.0	544.0	215.0	209.0	272.0	27.0	90.0	36.0	33.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)		
614	BENZYLAMINE	ALPHA-AMINOTOLUENE|BENZYLAMINE|PHENYLMETHYL AMINE	100-46-9	Colorless to light yellow liquid with a strong odor of ammonia. Floats and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1673.0	156.0	544.0	215.0	209.0	273.0	27.0	90.0	36.0	33.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
615	BENZYLDIMETHYLAMINE	A-(DIMETHYLAMINO)TOLUENE|ARALDITE ACCELERATOR 062|BDMA|BENZYL DIMETHYLAMINE|BENZYL-N,N-DIMETHYLAMINE|BENZYLAMINE, N,N-DIMETHYL-|BENZYLDIMETHYLAMINE|CATALYST 9915|DESMORAPID DB|DIMETHYLBENZYLAMINE|KAOLIZER 20|N,N-(DIMETHYL) A-TOLUENEAMINE|N,N-DIMETHYL BENZENE METHANAMINE|N,N-DIMETHYL BENZYLAMINE|N,N-DIMETHYL-N-BENZYLAMINE|N,N-DIMETHYLBENZENEMETHANAMINE|N,N-DIMETHYLBENZYLAMINE|N-(PHENYLMETHYL)DIMETHYLAMINE|N-BENZYL-N,N-DIMETHYLAMINE|N-BENZYLDIMETHYLAMINE|SUMICURE BD	103-83-3	A colorless to light yellow liquid with an aromatic odor. Slightly less dense than water and slightly soluble in water. Corrosive to skin, eyes and mucous membranes. Slightly toxic by ingestion, skin absorption and inhalation. Used in the manufacture of adhesives and other chemicals.	2.5	5.0	2.5	1673.0	156.0	544.0	215.0	209.0	273.0	27.0	90.0	36.0	33.0	EYES: flush with water to remove dust. SKIN: treat as any puncture. (USCG, 1999)	Behavior in Fire: Forms dense white smoke. Flame is very bright. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water, foam, halogenated agents, carbon dioxide. Fire Extinguishing Agents: Inert dry powders (e.g., graphite, limestone, salt) (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
611	BENZYL BROMIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Pyrophoric, ignites spontaneously in air and forms magnesium oxide and water [Merck 11th ed. 1989]. Reacts with water to form caustic solution of magnesium hydroxide and hydrogen gas (H2) and heat sufficient to ignite the evolved hydrogen [Merck 11th ed. 1989].	Hydrides, such as MAGNESIUM HYDRIDE, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
612	BENZYL CHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Wear protective gloves and clean body-covering clothing. If dust is encountered, use approved respirator. (USCG, 1999)	Deliquescent. Water soluble.	Mixtures of MAGNESIUM NITRATE with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Noncombustible but will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Magnesium nitrate has been reported to undergo spontaneous decomposition in dimethylformamide [Bretherick 5th ed., 1995]. It tends to behave as a strong oxidizer.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		192		
613	BENZYL CHLOROFORMATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	Phosphorus pentachloride and magnesium oxide react with brilliant incandescence [Mellor 8:1016. 1946-1947]. The oxide is incompatible with interhalogens such as bromine pentafluoride, etc.						0																						(NIOSH, 2003)		5072		
614	BENZYLAMINE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposed by water or moisture in air evolving toxic phosphine and diphosphine, that often ignites [Douda 1966]. May ignite upon contact with air. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	MAGNESIUM PHOSPHIDE is a strong reducing agent. Nitric acid oxidizes MAGNESIUM PHOSPHIDE with incandescence [Mellor 8:842. 1946-47]. It ignites on heating with chlorine, bromine, or iodine vapors, [Mellor, 1940, Vol. 8, 842]. It reacts vigorously with most oxidants.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2011 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
615	BENZYLDIMETHYLAMINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Eye protection (USCG, 1999)	Pyrophoric in dust form [Bretherick 1979, p. 104]. Magnesium ribbon and fine magnesium shavings can be ignited at air temperatures of about 950Â°F and very finely divided powder has been ignited at air temperatures below 900Â°F. [Magnesium Standard 1967 p. 4]. The more finely divided material reacts with water to liberate hydrogen, a flammable gas, though this reaction is not as vigorous as that of sodium or lithium	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	1	2																				(USCG, 1999)		883		(USCG, 1999)		1202	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
611	BENZYL BROMIDE																																								Dangerous When Wet	H2Mg		12.0	1.0	35.0	3.0	4.0
612	BENZYL CHLORIDE														(USCG, 1999)		1.46				(USCG, 1999)	Decomposes at 626Â° F					(USCG, 1999)		256.41										MGN	Oxidizer	MgN2O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	45.0	3.0	4.0
613	BENZYL CHLOROFORMATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		3.58				(NIOSH, 2003)		6512		760		(NIOSH, 2003)		40.3		(NIOSH, 2003)		750	mg/m3	(NIOSH, 2003)	at 86Â° F	0.009		%			MgO		11.0	1.0	30.0	3.0	4.0
614	BENZYLAMINE																																								Dangerous When Wet|Poison	Mg.P		10.0	1.0	36.0	3.0	4.0
615	BENZYLDIMETHYLAMINE														(USCG, 1999)		1.74		68		(USCG, 1999)		2012		760		(USCG, 1999)		24.3										MGX	Flammable Solid	Mg		10.0	1.0	38.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
616	BENZYLDIMETHYLOCTADECYLAMMONIUM CHLORIDE	(BLOB)	122-19-0	White solid or thick liquid with a mild odor. (USCG, 1999)	1.0	2.5	5.0	1673.0	156.0	544.0	215.0	209.0	273.0	27.0	90.0	36.0	33.0	(BLOB)	May explode in fires. Decomposes slowly at room temperature and more rapidly at elevated temperatures. (EPA, 1998)	Fire fighting should be done from an explosive-resistant location. Use water from unmanned monitors and hose-holders to keep fire-exposed containers cool. When stopping leak, use water spray to protect firefighters. Runoff from fire control or dilution water may cause pollution. Water spray may be used because the material can be cooled below its flash point. (EPA, 1998)
617	BENZYLTRIMETHYLAMMONIUM CHLORIDE	AMMONIUM, BENZYLTRIMETHYL-, CHLORIDE|BENZYLTRIMETHYLAMMONIUM CHLORIDE|BTM|BTMAC|BTMAC 100|HIPOCHEM MIGRATOR J|N,N,N-TRIMETHYLBENZENEMETHANAMINIUM CHLORIDE|TMBAC|TRIMETHYLBENZYLAMMONIUM CHLORIDE|VARIQUAT B 200	56-93-9	Light yellow liquid with a mild almond odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	1673.0	156.0	544.0	215.0	209.0	273.0	27.0	90.0	36.0	33.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
618	BETA-CARYOPHYLLENE	BETA-CARYOPHYLLEN|BETA-CARYOPHYLLENE|(-)-BETA-CARYOPHYLLENE|BETA-CARYOPHYLLENE, (-)|BICYCLO(7.2.0)UNDEC-4-ENE, 8-METHYLENE-4,11,11-TRIMETHYL-, (E)-(1R,9S)-(-)-|BICYCLO[7.2.0]UNDEC-4-ENE, 4,11,11-TRIMETHYL-8-METHYLENE-, (E)-(1R,9S)-(-)-|BICYCLO[7.2.0]UNDEC-4-ENE, 4,11,11-TRIMETHYL-8-METHYLENE-, [1R-(1R*,4E,9S*)]-|BICYCLO[7.2.0]UNDEC-4-ENE, 4,11,11-TRIMETHYL-8-METHYLENE-, [1R-(1R*,4E,9S*)]-|CARYOPHYLLENE(-)-CARYOPHYLLENE|1-CARYOPHYLLENE(-)-E-CARYOPHYLLENE|L-CARYOPHYLLENE|8-METHYLENE-4,11,11-(TRIMETHYL)BICYCLO(7.2.0)UNDEC-4-ENE|TRANS-CARYOPHYLLENE|(-)-TRANS CARYOPHYLLENE	87-44-5	PHYSICAL DESCRIPTION: Pale yellow oily liquid with an odor midway between odor of cloves and turpentine. (NTP, 1992)	2.5	5.0	2.5	1677.0	156.0	544.0	215.0	209.0	274.0	27.0	90.0	36.0	33.0	(BLOB)	Special Hazards of Combustion Products: Irritating smoke containing maleic anhydride may form in fire. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
619	BETA-IONONE	BETA-CYCLOCITRYLIDENEACETONE|BETA-CYCLOCITRYLIDENEACETONE|BETA-IONONE|IRISONE|4-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-3-BUTEN-2-ONE|4-(2,6,6-TRIMETHYL-1-CYCLOHEXENYL)-3-BUTEN-2-ONE	14901-07-6	PHYSICAL DESCRIPTION: Colorless to light yellow liquid with an odor of cedar wood. In very dilute alcoholic solution the odor resembles odor of violets. Used in perfumery.	2.5	5.0	2.5	1681.0	156.0	544.0	215.0	209.0	275.0	27.0	90.0	36.0	33.0	(BLOB)	Behavior in Fire: When heated above 300Â°F in the presence of various materials may generate heat and carbon dioxide. Will explode if confined. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
620	BETA-METHYLUMBELLIFERONE	BETA-METHYLUMBELLIFERONE|BILCOLIC|BILICANTE|CANTABILIN|CANTABILINE|CHOLESTIL|COUMARIN 4|COUMARIN 456|COUMARIN, 7-HYDROXY-4-METHYL-|EUROGAE|EUROGALE|7-HYDROXY-4-METHYL-2,H-1-BENZO-PYRAN-2-ONE|7-HYDROXY-4-METHYL-2-OXO-3-CHROMENE|7-HYDROXY-4-METHYL-2H-1-BENZOPYRAN-2-ONE|7-HYDROXY-4-METHYLCOUMARIN|HYMECROMONE|IMECHROMONE|IMECROMONE|LM 94|MEDILLA|MENDIAXON|4-METHYL-7-HYDROXYCOUMARIN|4-METHYLUMBELLIFERONE|4-MU|OMEGA 127|PILOT 447|UMBELLIFERONE, 4-METHYL-	90-33-5	PHYSICAL DESCRIPTION: Colorless crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	1681.0	156.0	544.0	215.0	209.0	275.0	27.0	90.0	36.0	33.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
616	BENZYLDIMETHYLOCTADECYLAMMONIUM CHLORIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Insoluble in water.	TETRAETHYL LEAD decomposes under UV light. Reacts with fats; reacts violently with oxidizing agents, causing fire and explosion hazards. Attacks rubber [Handling Chemicals Safely 1980. p. 890].	Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(EPA, 1998)		200		(EPA, 1998)		1.8		%					(USCG, 1999)		230		(EPA, 1998)		-202	
617	BENZYLTRIMETHYLAMMONIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Slightly water soluble.	A thioorganophosphate, ester. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 212															(NTP, 1992)			less than 68
618	BETA-CARYOPHYLLENE	(BLOB)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water.	MALEIC ACID is a colorless to white crystalline solid. Moderately toxic. When heated to decomposition it emits irritating fumes and acrid smoke [Lewis, 3rd ed., 1993, p. 790].		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NTP, 1992)			266 to 268
619	BETA-IONONE	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Soluble in water. Reacts slowly with water to form maleic acid and heat.	(BLOB)	Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(NTP, 1992)		218		(USCG, 1999)		1.4		%	(USCG, 1999)		7.1		%	(USCG, 1999)		878		(NTP, 1992)		127	
620	BETA-METHYLUMBELLIFERONE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Moderately soluble in water.	Phenols, such as 3-DIMETHYLAMINO-4-METHYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat.						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
616	BENZYLDIMETHYLOCTADECYLAMMONIUM CHLORIDE	(EPA, 1998)		0.2		68		mm Hg	(EPA, 1998)		8.6				(EPA, 1998)		1.653		68		(EPA, 1998)	Decomposes between 230 - 392Â° F.	392		760		(EPA, 1998)		323.45		(NIOSH, 2003)	(as Pb)	40	mg/m3	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	TEL	Poison	Pb(C2H5)4		11.0	1.0	20.0	3.0	4.0
617	BENZYLTRIMETHYLAMMONIUM CHLORIDE	(NTP, 1992)	; 0.00032 mm Hg at 122Â° F	9.80E-06		68		mm Hg							(NTP, 1992)		1.235		70		(NTP, 1992)		237		0.0975		(NTP, 1992)		314.32						(NTP, 1992)	at 72Â° F		5 to 10	mg/mL		Poison	C10H19O7PS		12.0	1.0	28.0	3.0	4.0
618	BETA-CARYOPHYLLENE	(NTP, 1992)	Negligible			68			(NTP, 1992)		4				(USCG, 1999)		1.59		68		(NTP, 1992)	(decomposes)	275		760		(NTP, 1992)		116.07						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	MLI	Corrosive	C4H4O4		11.0	1.0	16.0	3.0	4.0
619	BETA-IONONE	(NIOSH, 2003)		0.2				mm Hg							(USCG, 1999)		1.43		59		(NTP, 1992)		387 to 390		760		(NTP, 1992)		98.06		(NIOSH, 2003)		10	mg/m3	(NTP, 1992)	Soluble; decomposes in hot solvent				MLA	Corrosive	C4H2O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	21.0	3.0	4.0
620	BETA-METHYLUMBELLIFERONE																											(NTP, 1992)		151.21												C9H13NO	Mineral-Based & Clay-Based Absorbents	11.0	1.0	28.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
621	BETA-PICOLINE	B-PICOLINE|BETA-PICOLINE|M-PICOLINE|3-METHYLPYRIDINE|PICOLINE [FLAMMABLE LIQUID LABEL]|3-PICOLINE|PYRIDINE, 3-METHYL	108-99-6	PHYSICAL DESCRIPTION: Colorless liquid with a sweetish odor . (NTP, 1992)	2.5	5.0	2.5	1685.0	156.0	544.0	215.0	209.0	276.0	27.0	90.0	36.0	33.0	(BLOB)	Special Hazards of Combustion Products: Toxic nitrogen oxides are produced. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, foam, carbon dioxide (USCG, 1999)
622	BIS(2-ETHYLHEXYL) SEBACATE	BIS(2-ETHYLHEXYL) DECANEDIOATE|BIS(2-ETHYLHEXYL) SEBACATE|BIS(ETHYLHEXYL) SEBACATE|BISOFLEX|BISOFLEX DOS|DECANEDIOIC ACID DI(2-ETHYLHEXYL) ESTER|DECANEDIOIC ACID, BIS(2-ETHYLHEXYL) ESTER|DEHS|DI(2-ETHYLHEXYL) SEBACATE|DI-2-ETHYLHEXYL SEBACATE|DIOCTYL SEBACATE|DOS|EDENOL 888|EDENOR DEHS|ERGOPLAST SDO|ERGOPLAST SNO|2-ETHYLHEXYL SEBACATE|1-HEXANOL, 2-ETHYL-, SEBACATE|MONOPLEX DOS|OCTOIL S|OCTYL SEBACATE|PLASTHALL DOS|PLEXOL|PLEXOL 201|PLEXOL 201J|PX 438|REOLUBE DOS|REOMOL DDS|SANSOCIZER DOS|SEBACIC ACID DI(2-ETHYLHEXYL) ESTER	122-62-3	PHYSICAL DESCRIPTION: Clear pale yellow liquid with a mild odor. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	1689.0	160.0	544.0	215.0	209.0	277.0	28.0	90.0	36.0	33.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
623	BIS(TRIBUTYLTIN) OXIDE	ACETO TBTO|BIOMET 66|BIOMET SRM|BIOMET TBTO|BIS(TRIBUTYLOXIDE) OF TIN|BIS[TRIBUTYLSTANNIC OXIDE]|BIS(TRIBUTYLSTANNYL) ETHER|BIS(TRIBUTYLSTANNYL) OXIDE|BIS(TRIBUTYLTIN) OXIDE|BTO|BUTINOX|C-SN-9|DI-TRIBUTYL TIN OXIDE|HALL|ENT 24,979|HEXABUTYLDISTANNOXANE|HEXABUTYLDITIN|HEXABUTYLDITIN OXIDE|INTERCIDE 340A|L.S. 3394|LASTANOX F|LASTANOX Q|LASTANOX Q1|LASTANOX SUPER|LASTANOX T|LASTANOX T 20MT 1E|MYKOLASTANOX F|6-OXA-5,7-DISTANNAUNDECANE, 5,5,7,7-TETRABUTYL-|OXYBIS(TRIBUTYLSTANNANE)|OXYBIS(TRIBUTYLTIN)|OXYBIS[TRIBUTYLTIN]|STA	56-35-9	PHYSICAL DESCRIPTION: Clear pale yellow liquid. Toxic by skin absorption or inhalation of vapors. Used as a bactericide, fungicide and chemical intermediate.	2.5	5.0	2.5	1689.0	160.0	544.0	215.0	209.0	277.0	28.0	90.0	36.0	33.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
624	BISMUTH SUBSALICYLATE	BASIC BISMUTH SALICYLATE|BISMUTH OXYSALICYLATE|BISMUTH SALICYLATE, BASIC|BISMUTH SUBSALICYLATE|BISMUTH, (2-HYDROXYBENZOATO-O1,O2)OXO-|BISMUTH, OXO(SALICYLATO)-|(2-HYDROXYBENZOATO-O(1),O(2))OXO-BISMUTH (9CI)|OXO(SALICYLATO)BISMUTH|SALICYLIC ACID, BISMUTH BASIC SALT|STABISOL|TRIS(2-HYDROXYBENZOATO)TRIOXOTRIBISMUTH	14882-18-9	PHYSICAL DESCRIPTION: White crystalline powder or fluffy white solid. (NTP, 1992)	1.0	2.5	5.0	1693.0	160.0	544.0	215.0	209.0	278.0	28.0	90.0	36.0	33.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)		
625	BROMINE	BROMINE|BROMINE ELEMENT|BROMINE MOLECULE (BR2)|DIATOMIC BROMINE|DIBROMINE|MOLECULAR BROMINE	7726-95-6	Bromine is a dark reddish-brown fuming liquid with a pungent odor. Denser than water and soluble in water. Hence sinks in water. Toxic by inhalation. Accelerates the burning of combustible material. It is very corrosive to tissue and to metals.	2.5	5.0	2.5	1693.0	164.0	544.0	215.0	213.0	278.0	29.0	90.0	36.0	34.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
621	BETA-PICOLINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials and strong acids. (NTP, 1992)	Goggles or face shield; dust mask. (USCG, 1999)	Insoluble in water.	MALEIC HYDRAZIDE can be decomposed by oxidizing agents. It can also be decomposed by strong acids. It forms water-soluble alkali-metal and amine salts. It is slightly acidic and may be titrated as a monobasic acid. Mild oxidation produces a compound which reacts instantly with dienes at -107Â° F to form crystalline derivatives. This chemical is slightly corrosive to iron and zinc. It is incompatible with pesticides that are highly alkaline in reaction. In the presence of heavy metal and iron, zinc, calcium and magnesium ions, sparingly-soluble salts are formed. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)		greater than 572
622	BIS(2-ETHYLHEXYL) SEBACATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Rapid reaction with O2 in air No rapid reaction with water	MANGANESE CYCLOPENTADIENYL TRICARBONYL is combustible. Heating causes evolution of carbon monoxide and other toxic or irritating gases. Heating in a confined space causes a rise in pressure with the risk of bursting. Incompatible with oxygen.	Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)	(Sublimes)	167	
623	BIS(TRIBUTYLTIN) OXIDE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. This material will spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite surrounding combustible materials. Insoluble in water.	Inorganic reducing agents, such as MAGNESIUM RESINATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
624	BISMUTH SUBSALICYLATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Metal, Combustible Solid; powder ignites SPONTANEOUSLY in air. Highly flammable in Air (powdered form) No rapid reaction with water	TANTALUM dust reacts rapidly with oxidizing agents (oxygen, fluorine, chlorine). Highly flammable in air, igniting spontaneously when dry. (Lewis, 3rd Ed, 1993). Dissolves in molten bases (such as sodium hydroxide). Insoluble in aqueous bases. Insoluble in acids except hydrofluoric acid and fuming sulfuric acid. Tantalum in bulk form (bar, sheet, etc.) is much less reactive than it is in powdered form. TANTALUM OXIDE dust is generally unreactive at room conditions. Insoluble in water and acids with the exception of hydrofluoric acid. Reacts when strongly heated with sodium carbonate.	Strong Reducing Agent; Pyrophoric						0																								(NIOSH, 2003)		5425	
625	BROMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air and light and tends to darken during storage. Insoluble in water.	M-CHLOROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		255																				(NTP, 1992)		13.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
621	BETA-PICOLINE														(USCG, 1999)		1.6		77		(NTP, 1992)	Decomposes					(NTP, 1992)		112.09						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL	MLH	Class 9	C4H4N2O2	Dirt/Earth	10.0	1.0	19.0	3.0	4.0
622	BIS(2-ETHYLHEXYL) SEBACATE																				(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		204.1						(NIOSH, 2003)	Slight					Poison	C5H5Mn(CO)3		15.0	1.0	36.0	3.0	4.0
623	BIS(TRIBUTYLTIN) OXIDE																														(NIOSH, 2003)	(as Mn)	500	mg/m3							Flammable Solid			12.0	1.0	20.0	3.0	4.0
624	BISMUTH SUBSALICYLATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(metal), 14.40 (powder)	16.65				(NIOSH, 2003)		9797		760		(NIOSH, 2003)		180.9		(NIOSH, 2003)	(as Ta)	2500	mg/m3	(NIOSH, 2003)	Insoluble					Ta (metal)			10.0	1.0	22.0	3.0	4.0
625	BROMINE	(NTP, 1992)	; 1 mm Hg at 146.3Â° F; 760 mm Hg at 443.3Â° F		less than 0.1	86		mm Hg	(NTP, 1992)		4.41				(NTP, 1992)		1.216		68		(NTP, 1992)		446.9		760		(NTP, 1992)		127.57						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C6H6ClN		14.0	1.0	49.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
626	BROMINE, SOLUTION	BROMINE|BROMINE ELEMENT|BROMINE MOLECULE (BR2)|BROMINE SOLUTION|BROMINE, SOLUTION|DIATOMIC BROMINE|DIBROMINE	7726-95-6	A reddish-brown aqueous solution. The solubility of bromine in water equals 0.33 mg/ mL.	2.5	5.0	2.5	1693.0	164.0	544.0	215.0	213.0	278.0	29.0	90.0	36.0	34.0	(BLOB)	Behavior in Fire: Containers may explode in fires. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
627	BROMOBENZENE	BROMOBENZENE|BROMOBENZOL|MONOBROMOBENZENE|NCI-C55492|PHENYL BROMIDE|PHENYLBROMIDE	108-86-1	Mobile clear colorless liquid with a pungent odor. Flash point 124Â°F. Denser than water and insoluble in water. Hence sinks in water. Vapors are heavier than air. A skin irritant.	2.5	5.0	2.5	1693.0	164.0	544.0	215.0	213.0	278.0	29.0	90.0	36.0	34.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
628	BROMOFORM	BROMOFORM|FORMYL TRIBROMIDE|METHANE, TRIBROMO-|METHENYL TRIBROMIDE|METHYL TRIBROMIDE|METHYLENE TRIBROMIDE|NCI-C55130|TRIBROMOMETHANE	75-25-2	A colorless liquid with a chloroform-like odor. Denser than water (density: 2.9 g / cm3) and slightly soluble in water. Hence sinks in water. Nonflammable. Toxic by ingestion, inhalation and skin absorption. A lachrymator. Used as a solvent and to make pharmaceuticals. Often stabilized with 1 to 3% ethanol.	2.5	5.0	2.5	1693.0	164.0	548.0	215.0	217.0	278.0	29.0	91.0	36.0	35.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
629	BUTYL ACRYLATE	ACRYLIC ACID BUTYL ESTER|ACRYLIC ACID N-BUTYL ESTER|ACRYLIC ACID, BUTYL ESTER|ACRYLIC ACID, N-BUTYL ESTER|BUTYL 2-PROPENOATE|BUTYL 2-PROPENOATE|BUTYL ACRYLATE|BUTYL ACRYLATE, INHIBITED|BUTYL ACRYLATES, INHIBITED|BUTYL ESTER OF ACRYLIC ACID|N-BUTYL 2-PROPENOATE|N-BUTYL ACRYLATE|2-PROPENOIC ACID BUTYL ESTER|2-PROPENOIC ACID, BUTYL ESTER	141-32-2	A clear colorless liquid with a sharp characteristic odor. Very slightly soluble in water and somewhat less dense than water. Hence forms surface slick on water. Flash point 105Â°F. Density 7.5 lb / gal. Used for making paints, coatings, caulks, sealants, adhesives.	2.5	5.0	2.5	1697.0	168.0	548.0	215.0	217.0	279.0	30.0	91.0	36.0	35.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
630	BUTYL CHLORIDE	BUTYL CHLORIDE|CHLOROBUTANE|1-CHLOROBUTANE|CHLOROBUTANES|N-BUTYL CHLORIDE|N-CHLOROBUTANE|N-PROPYLCARBINYL CHLORIDE|NCI-C06155	109-69-3	A water white liquid with a sharp odor. Flash point 20Â°F. Boiling point 77-78Â°C (173Â°F). Density 7.5 lb / gal. Slightly soluble in water. Vapors are heavier than air. Used in the manufacture of a variety of organic chemicals.	2.5	5.0	2.5	1697.0	168.0	548.0	215.0	217.0	279.0	30.0	91.0	36.0	35.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
626	BROMINE, SOLUTION	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Vinyl (not rubber) protective gloves; safety glasses or goggles. (USCG, 1999)	Highly flammable. Slightly soluble in water.	When the solvent, 1,2-DIMETHOXYETHANE, was poured into a funnel previously used to introduce the lithium aluminum hydride, a fire ignited the funnel [MCA Case History 1182(1966)].	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		32		(NTP, 1992)		1.6		%	(NTP, 1992)		10.4		%	(USCG, 1999)		395		(NTP, 1992)		-72	
627	BROMOBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to prolonged exposure to air and light. Insoluble in water.	M-CRESIDINE neutralizes acids in weakly exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Reacts with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		greater than 230														(NTP, 1992)			55 to 57
628	BROMOFORM	STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	MEBENDAZOLE is a carbamate ester-amine. Amines behave as chemical bases. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.					0															(NTP, 1992)			551.3	
629	BUTYL ACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	MELAMINE is incompatible with strong oxidizing agents and strong acids (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0															(NTP, 1992)		greater than 500	(NTP, 1992)	(decomposes)	653	
630	BUTYL CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	MEPROBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.					0																		(NTP, 1992)			219 to 223

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
626	BROMINE, SOLUTION	(NTP, 1992)	; 60 mm Hg at 67.5Â° F	40		51.3		mm Hg	(NTP, 1992)		3.1				(USCG, 1999)		0.868		68		(NTP, 1992)		185		760		(NTP, 1992)		90.12						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	EGD	Flammable Liquid	C4H10O2		14.0	1.0	49.0	3.0	4.0
627	BROMOBENZENE														(NTP, 1992)		1.065				(NTP, 1992)			478 to 480	760		(NTP, 1992)		137.18						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Poison	CH3C6H3(NH2)OCH3		12.0	1.0	37.0	3.0	4.0
628	BROMOFORM																										(NTP, 1992)		295.32						(NTP, 1992)	Practically insoluble						C16H13N3O3		11.0	1.0	23.0	3.0	4.0
629	BUTYL ACRYLATE	(NTP, 1992)		50		599		mm Hg	(NTP, 1992)		4.34				(NTP, 1992)		1.573		61		(NTP, 1992)	Sublimes					(NTP, 1992)		126.12						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C3H6N6	Mineral-Based & Clay-Based Absorbents	16.0	1.0	38.0	3.0	4.0
630	BUTYL CHLORIDE																										(NTP, 1992)		218.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C9H18N2O4		11.0	1.0	33.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
631	BUTYLENE	BUTENE|1-BUTENE|BUTENES {1-BUTENE/2-BUTENE-CIS/TRANS}|BUTYLENE|N-BUTENE|N-BUTYLENE	25167-67-3	An easily liquefied colorless gas boiling from 20.7 to 38Â°F. Insoluble in water. Contact with the unconfined liquid can cause frostbite by evaporative cooling. Any leak can be either liquid or vapor. Can asphyxiate by the displacement of air. Under prolonged exposure to intense heat containers may rupture violently and rocket.	5.0	1.0	1.0	1701.0	168.0	548.0	215.0	217.0	280.0	30.0	91.0	36.0	35.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemi cal, carbon dioxide or Halon extinguisher. (NTP, 1992)
632	BUTYRIC ACID	BUTANIC ACID|BUTANOIC ACID|BUTYRIC ACID|BUTYRIC ACID (NORMAL)|ETHYLACETIC ACID|N-BUTANOIC ACID|N-BUTYRIC ACID|PROPANECARBOXYLIC ACID|1-PROPANECARBOXYLIC ACID|PROPYLFORMIC ACID	107-92-6	A colorless liquid with a penetrating and unpleasant odor. Flash point 170Â°F. Corrosive to metals and tissue. Density 8.0 lb /gal.	2.5	5.0	2.5	1705.0	168.0	548.0	215.0	217.0	281.0	30.0	91.0	36.0	35.0	Get medical attention. INHALATION: Remove from exposure. EYES: Flush with water. SKIN: Flush with water. INGESTION: Give egg whites, milk, or activated charcoal, then induce vomiting. Consult physician. (USCG, 1999)	Special Hazards of Combustion Products: None (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
633	C.I. ACID ORANGE 10	(BLOB)	1936-15-8	PHYSICAL DESCRIPTION: Orange microcrystals or powder. (NTP, 1992)	1.0	2.5	5.0	1705.0	168.0	548.0	223.0	217.0	281.0	30.0	91.0	38.0	35.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases may be generated Behavior in Fire: Melts and burns (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, or carbon dioxide (USCG, 1999)
634	C.I. ACID RED 97	ACID ANTHRACENE RED G|ACID ANTHRACENE RED GA-CF|ACID RED 97|AIREDALE SCARLET GM|ALIZARINE CHROME RED G|ALTOCHROME SCARLET G|AMACID MILLING SCARLET G|ANTHRA RED G|AZO MILLING RED G|BEL ACID MILLING RED G|BENZYL RED GS|BENZYL RED MG|(1,1'-BIPHENYL)-2,2'-DISULFONIC ACID, 4,4'-BIS[(2-HYDROXY-1-NAPHTHALENYL)AZO)-DISODIUM SALT|4,4'-BIS[(2-HYDROXY-1-NAPHTHALENYL)AZO)-(1,1'-BIPHENYL)-2,2'-DISULFONIC ACID, DISODIUM SALT|C.I. 22890|C.I. ACID RED 97|C.I. ACID RED 97, DISODIUM SALT|CALCOCID MILLING RED G|COOMASSIE MILLING SCARLET G|COOMASSIE MILLING SCARLET GP|CORIACID SCARLET R|CORIACIDE SCARLET	10169-02-5	PHYSICAL DESCRIPTION: Red to dark red powder. Copper and iron dull color; iron to a greater extent. (NTP, 1992)	1.0	2.5	5.0	1705.0	168.0	548.0	223.0	217.0	281.0	30.0	91.0	38.0	35.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
635	C.I. FOOD RED 15	C.I. FOOD RED 15|RHODAMINE B	81-88-9	Green crystals or reddish-violet powder. Used as a dye, especially for paper, as a metal chelating reagent, and in drugs and cosmetics.	1.0	2.5	5.0	1705.0	168.0	548.0	223.0	217.0	281.0	30.0	91.0	38.0	35.0	CONTACT WITH EYES: flush with water for 15 min. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
631	BUTYLENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	Nitriles, such as VALERONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids. This compound is incompatible with strong acids, strong bases, strong oxidizing agents and strong reducing agents. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		105																(NTP, 1992)		-141	
632	BUTYRIC ACID	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus, rubber gloves, protective clothing, rubber apron, and safety goggles. (USCG, 1999)	Decomposed by water to yellow mercuric subsulfate and sulfuric acid, which is corrosive.	The absorption of gaseous hydrogen chloride on MERCURIC SULFATE becomes violent at 125Â° C [Mellor 2, Supp. 1:462. 1956].	Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
633	C.I. ACID ORANGE 10	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	DDT may react with iron, aluminum, aluminum and iron salts, and alkalis. It is incompatible with ferric chloride and aluminum chloride. It can also react with strong oxidizing materials. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		324 to 340																(NTP, 1992)		227 to 228	
634	C.I. ACID RED 97	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A nitrated acetamide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																								
635	C.I. FOOD RED 15	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		180														(USCG, 1999)		550		(USCG, 1999)		44	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
631	BUTYLENE	(NTP, 1992)	; 10 mm Hg at 86Â° F; 20 mm Hg at 109.9Â° F	5		64.6		mm Hg							(NTP, 1992)		0.8008		68		(NTP, 1992)			282 to 286	760		(NTP, 1992)		83.13						(NTP, 1992)	at 72.5Â° F		1 to 5	mg/mL		Flammable Liquid|Poison	C5H9N		14.0	1.0	16.0	3.0	4.0
632	BUTYRIC ACID														(USCG, 1999)		6.47		68								(USCG, 1999)		296.68		(NIOSH, 2003)	(as Hg)	10	mg/m3						MRS	Poison	HgSO4		10.0	1.0	31.0	3.0	4.0
633	C.I. ACID ORANGE 10	(NTP, 1992)		1.50E-07		68		mm Hg							(USCG, 1999)		1.56		59		(NTP, 1992)		500		760		(NTP, 1992)		354.49		(NIOSH, 2003)	; A potential human carcinogen.	500	mg/m3	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	DDT	Poison	C14H9Cl5		13.0	1.0	50.0	3.0	4.0
634	C.I. ACID RED 97																										(NTP, 1992)		224.24						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C10H12N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	41.0	3.0	4.0
635	C.I. FOOD RED 15														(USCG, 1999)		0.84		68		(USCG, 1999)		446		760		(USCG, 1999)		158.29										DAN	Flammable Liquid	C10H22O	Cellulose-Based Absorbents	10.0	1.0	47.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
636	C.I. SOLVENT YELLOW 14	(BLOB)	842-07-9	PHYSICAL DESCRIPTION: Dark reddish-yellow leaflets or orange powder. Slight odor. (NTP, 1992)	1.0	2.5	5.0	1705.0	168.0	548.0	223.0	217.0	281.0	30.0	91.0	38.0	35.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
637	CADMIUM	C.I. 77180|CADMIUM DUST (AS CD)|CADMIUM METAL: CADMIUM	7440-43-9	PHYSICAL DESCRIPTION: Silver-white blue tinged lustrous metallic solid. (NTP, 1992)	1.0	2.5	5.0	1709.0	172.0	548.0	223.0	221.0	282.0	31.0	91.0	38.0	36.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
638	CADMIUM ACETATE	CADMIUM ACETATE|CADMIUM ACETATE DIHYDRATE	543-90-8	Odorless colorless solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1709.0	176.0	548.0	223.0	225.0	282.0	32.0	91.0	38.0	37.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
639	CADMIUM CHLORIDE	CADDY|CADMIUM CHLORIDE|CADMIUM DICHLORIDE|DICHLOROCADMIUM|VI-CAD	10108-64-2	Cadmium chloride is a white crystalline solid. It is soluble in water. It is noncombustible. The primary hazard of this material is that it poses a threat to the environment. Immediate steps should be taken to limit its spread to the environment. Cadmium chloride is used in photography, in fabric printing, in chemical analysis, and in many other uses.	1.0	2.5	5.0	1709.0	176.0	548.0	223.0	225.0	282.0	32.0	91.0	38.0	37.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of oxides of phosphorus and sulfur. This compound is a liquid organophosphorus insecticide. This material may burn but does not ignite readily. Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Hydrolyzed by alkali. (EPA, 1998)	This compound is a liquid organophosphorus insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
640	CADMIUM NITRATE	CADMIUM NITRATE|CADMIUM NITRATE TETRAHYDRATE	10325-94-7	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1709.0	176.0	548.0	223.0	225.0	282.0	32.0	91.0	38.0	37.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
641	CADMIUM OXIDE	CADMIUM FUME|CADMIUM MONOXIDE|CADMIUM OXIDE|CADMIUM OXIDE FUME|CADMIUM(II) OXIDE|CDO: CADMIUM MONOXIDE, CADMIUM OXIDE FUME|NCI-C02551|NCI-CO2551	1306-19-0	Brown crystals or brown amorphous powder. Used as an electroplating chemical and in the manufacture of cadmium electrodes. Is a component of silver alloys, phosphors, semiconductors, glass and ceramic glazes. Formerly used by veterinarians to kill worms and parasites. (EPA, 1998)	1.0	2.5	5.0	1713.0	176.0	552.0	223.0	225.0	283.0	32.0	92.0	38.0	37.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
636	C.I. SOLVENT YELLOW 14	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4,4'-DIOCTYLDIPHENYLAMINE may react with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0		(NTP, 1992)		415																	(NTP, 1992)			205 to 207
637	CADMIUM	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Insoluble in water.	4,4'-METHYLENEBIS(2-CHLOROANILINE) is a weak base. Undergoes an exothermic and self-sustaining decomposition reaction when exposed to heat above 392Â°F. In a closed container, the pressure buildup can be rapid enough to cause an explosion.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)			210 to 225
638	CADMIUM ACETATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials and acids. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	4,4'-METHYLENEBIS(N,N-DIMETHYL)BENZENAMINE is incompatible with acids, acid chlorides, acid anhydrides and oxidizing agents. It is also incompatible with active metals, potassium, oxides, chlorates, halogenated compounds, iron chloride, nitro compounds, peroxides, strong ammonia solutions, sulfides and vinyl polymers (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		412																	(NTP, 1992)			194 to 196
639	CADMIUM CHLORIDE	This compound is a liquid organophosphorus insecticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as DEMETON-S-METHYL, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
640	CADMIUM NITRATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to oxidation and light. Insoluble in water.	4,4'-SULFONYLDIANILINE can neutralize acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Incompatible with strong oxidizing agents. Also incompatible with epoxy resins under uncontrolled conditions (NTP, 1992).					0		(NTP, 1992)		greater than 320																	(NTP, 1992)			347 to 349
641	CADMIUM OXIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Water soluble.	(BLOB)		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethyl alcohol, CAS number 64-17-5.	2	3	0	3																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
636	C.I. SOLVENT YELLOW 14								(NTP, 1992)		1.01																(NTP, 1992)		393.72						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C28H43N	Mineral-Based & Clay-Based Absorbents	12.0	1.0	37.0	3.0	4.0
637	CADMIUM	(NTP, 1992)	; 0.0013 mm Hg at 140Â° F	5.00E-05		248		mm Hg							(NTP, 1992)		1.44										(NTP, 1992)		267.17						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Class 9	C13H12Cl2N2		18.0	1.0	35.0	3.0	4.0
638	CADMIUM ACETATE	(NTP, 1992)			less than 0.000075	68		mm Hg							(NTP, 1992)		1.14		68		(NTP, 1992)		734		760		(NTP, 1992)		254.38						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C17H22N2	Mineral-Based & Clay-Based Absorbents	10.0	1.0	30.0	3.0	4.0
639	CADMIUM CHLORIDE	(EPA, 1998)		0.00036		68		mm Hg							(EPA, 1998)		1.207		68		(EPA, 1998)		192		0.15		(EPA, 1998)		230.3											Poison	C6H15O3PS2		13.0	1.0	33.0	3.0	4.0
640	CADMIUM NITRATE								(NTP, 1992)		8.3				(NTP, 1992)		1.33		77								(NTP, 1992)		248.3						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H12N2O2S		14.0	1.0	39.0	3.0	4.0
641	CADMIUM OXIDE																																								Flammable Liquid	C2H6O	Cellulose-Based Absorbents	13.0	1.0	37.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
642	CADMIUM SULFATE	CADMIUM SULFATE	10124-36-4	Odorless white solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	1713.0	176.0	552.0	223.0	225.0	283.0	32.0	92.0	38.0	37.0	(BLOB)	Flash point data for this compound are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
643	CALCIUM	ATOMIC CALCIUM|BLOOD-COAGULATION FACTOR IV|CALCIUM|CALCIUM ATOM|CALCIUM ELEMENT|CALCIUM METAL, CRYSTALLINE|CALCIUM, METAL|CALCIUM, METAL, [CRYSTALLINE]|PRAVAL	7440-70-2	A silvery, soft metal that turns grayish white on exposure to air. Used in metallurgy.	1.0	2.5	5.0	1717.0	180.0	552.0	223.0	229.0	284.0	33.0	92.0	38.0	38.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
644	CALCIUM ALLOYS, PYROPHORIC	CALCIUM ALLOYS, PYROPHORIC|CALCIUM, METAL AND ALLOYS, PYROPHORIC|CALCIUM, METAL, [PYROPHORIC]|CALCIUM, PYROPHORIC	7440-70-2	A white to gray solid. Denser than water. Contact may cause burns to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	1721.0	180.0	552.0	223.0	229.0	285.0	33.0	92.0	38.0	38.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
645	CALCIUM DODECYLBENZENESULFONATE	1371A|ALKASURF CA|CALCIUM ALKYLAROMATIC SULFONATE|CALCIUM ALKYLBENZENESULFONATE|CALCIUM DODECYLBENZENESULFONATE|CALCIUM DODECYLBENZENESULPHONATE|CALCIUM N-DODECYLBENZENESULFONATE|CASUL 70HF|DODECYLBENZENESULFONIC ACID CALCIUM SALT|DODECYLBENZENESULFONIC ACID, CALCIUM SALT|GERONOL FE 4E|NINATE 401|RHODACAL 60BHT|SINNOZON NCX 70|SOPROFOR S 70|SOPROPHOR 60B|SOPROPHOR 70|WETTOL EM 1	26264-06-2	A white to light yellow granular solid. The primary hazard is to the environment. Immediate steps should be taken to limit its spread to the environment. Used as a detergent.	1.0	2.5	5.0	1725.0	180.0	556.0	223.0	229.0	286.0	33.0	93.0	38.0	38.0	(BLOB)	Combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
646	CAMPHOR	ALPHANON|2-BORNANONE|2-CAMPHANONE|2-CAMPHONONE|CAMPHOR|CAMPHOR (SYNTHETIC)|(.+-.)-CAMPHOR|CAMPHOR, SYNTHETIC|DL-CAMPHOR|GUM CAMPHOR|LAUREL CAMPHOR|ROOT BARK OIL|SPIRIT OF CAMPHOR|SYNTHETIC CAMPHOR|1,7,7-TRIMETHYLBICYCLO(2.2.1)-2-HEPTANONE|1,7,7-TRIMETHYLNORCAMPHOR	76-22-2	A colorless or white colored crystalline powder with a strong mothball-like odor. About the same density as water. Emits flammable vapors above 150Â°F. Used to make moth proofings, pharmaceuticals, and flavorings.	1.0	2.5	5.0	1725.0	180.0	556.0	223.0	229.0	286.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
642	CADMIUM SULFATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	4,4'-THIODIANILINE is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. May generate heat with these materials and hydrogen gas or hydrogen sulfide gas. May liberate hydrogen sulfide if heated to decomposition or mixed with an acid. Also incompatible with peroxides, phenols (acidic), epoxides, anhydrides, and acid halides.					0																							(NTP, 1992)			226 to 228
643	CALCIUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere Keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Extremely hygroscopic. Water soluble.	1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE is a reducing agent. Incompatible with oxidizing agents and bases. (NTP, 1992)	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)	(decomposes)		333 to 336
644	CALCIUM ALLOYS, PYROPHORIC	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water. Insoluble in water. Slowly hydrolyzes to yield hydrochloric acid.	4-(BENZYL(ETHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
645	CALCIUM DODECYLBENZENESULFONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	4-BROMOPHENYL PHENYL ETHER oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164].	Peroxidizable Compound	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 234															(NTP, 1992)		63	
646	CAMPHOR	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. Peroxides are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
642	CADMIUM SULFATE																										(NTP, 1992)		216.32						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C12H12N2S		13.0	1.0	33.0	3.0	4.0
643	CALCIUM																										(NTP, 1992)		133.02						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison	C2H8N2.2ClH		16.0	1.0	33.0	3.0	4.0
644	CALCIUM ALLOYS, PYROPHORIC																																								Flammable Solid			16.0	1.0	33.0	3.0	4.0
645	CALCIUM DODECYLBENZENESULFONATE														(NTP, 1992)		1.4208	68			(NTP, 1992)		581		760		(NTP, 1992)		249.11												Class 9	C12H9BrO		13.0	1.0	24.0	3.0	4.0
646	CAMPHOR																																								Organic Peroxide	C14H6Cl4O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	40.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
647	CAPROIC ACID	BUTYLACETIC ACID|CAPROIC ACID|CAPRONIC ACID|HEXACID 698|HEXANOIC ACID|1-HEXANOIC ACID|HEXOIC ACID|HEXYLIC ACID|N-CAPROIC ACID|N-HEXANOIC ACID|N-HEXOIC ACID|N-HEXYLIC ACID|1-PENTANECARBOXYLIC ACID|PENTIFORMIC ACID|PENTYLFORMIC ACID	142-62-1	A white crystalline solid or colorless to light yellow solution with an unpleasant odor. Insoluble to slightly soluble in water and less dense than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make perfumes.	1.0	2.5	5.0	1725.0	180.0	556.0	223.0	229.0	286.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
648	CAPRYLYL CHLORIDE	CAPRYLIC ACID CHLORIDE|CAPRYLOYL CHLORIDE|CAPRYLYL CHLORIDE|DECANOYL CHLORIDE|N-OCTANOYL CHLORIDE|OCTANOIC ACID CHLORIDE|1-OCTANOIC ACID CHLORIDE|OCTANOIC ACID, CHLORIDE|OCTANOIC CHLORIDE|OCTANOYL CHLORIDE	111-64-8	Clear colorless to straw-colored liquid with a pungent odor. (NTP, 1992)	2.5	5.0	2.5	1729.0	180.0	556.0	223.0	229.0	287.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
649	CAPTAN	(BLOB)	133-06-2	Captan is a white solid dissolved in a liquid carrier. It is a water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard of this material is that it poses a threat to the environment. In case of release immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil to contaminate groundwater. It is used as a fungicide.	2.5	5.0	2.5	1733.0	180.0	556.0	223.0	229.0	288.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÃ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
650	CARBARYL	AGREX S|ALPHA-NAPHTHALENYL METHYLCARBAMATE|ALPHA-NAPHTHYL METHYLCARBAMATE|ALPHA-NAPHTHYL N-METHYL-CARBAMATE|ARILAT|ARILATE|ARYLAM|ATOXAN|CAPROLIN|CARBAMIC ACID, METHYL-, 1-NAPHTHYL ESTER|CARBARIL|CARBARYL|CARBATOX|CARBATOX 60|CARBATOX 75|CARBAVUR|CARBOMATE|CARVIN|COMPOUND 7744|DENAPON|DICARBAM|DICARBAM 50|DYNA-CARBYL|ENT 23969|EXPERIMENTAL INSECTICIDE 7744|GERMAIN'S|HEXAVIN|KARBATOX|KARBATOX 75|KARBATOX ZAWIESINOWY|KARBOSEP|LAVIN|LAIVIN 85|MENAPHTAM|MONSUR|MUGAN|MURVIN|NAC|NAC (INSECTICIDE)|1-NAPHTHALENOL	63-25-2	A white crystalline solid. Insoluble in water. Combustible, although difficult to ignite. Toxic by inhalation (dust, etc.). Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	1733.0	180.0	556.0	223.0	229.0	288.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
651	CARBOFURAN	BAY 70143|7-BENZOFURANOL, 2,3-DIHYDRO- 2,2-DIMETHYL-, METHYLCARBAMATE|7-BENZOFURANOL, 2,3-DIHYDRO-2,2-DIMETHYL-, METHYLCARBAMATE|CARBAMIC ACID, METHYL-, 2,3-DIHYDRO-2,2-DIMETHYL-7-BENZOFURANYL ESTER|CARBAMIC ACID, METHYL-,2,2-DIMETHYL-2,3-DIHYDRO-BENZOFURAN-7-YL ESTER|CARBAMIC ACID, METHYL-,2,3-DIHYDRO-2,2-DIMETHYL-7-BENZOFURANYL ESTER|CARBOFURAN|CHINUFUR|CURATERR|CURATERR 5|D 1221|DIAFURAN|DIAFURAN 5G|2,3-DIHYDRO-2,2-DIMETHYLBENZOFURANYL-7-N-METHYLCARBAMATE|2,3-DIHYDRO-2,2-DIMETHYL-7-BENZOFURANOL-N-METHYLCARBAMATE|2,3-DIHYDRO-2,2-DIMETHYL-7-	1563-66-2	Carbofuran is an odorless white crystalline solid. Contact with skin may burn skin and eyes. When exposed to heat or flames it may emit toxic oxides of nitrogen. It is toxic by inhalation, skin contact, and/ or ingestion. It is used as a pesticide.	1.0	2.5	5.0	1733.0	180.0	556.0	223.0	229.0	288.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
647	CAPROIC ACID	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DI-(2-ETHYLHEXYL) PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C, owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156]. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
648	CAPRYLYL CHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	MERCURIC BENZOATE is soluble in solutions of sodium chloride and ammonium benzoate [Hawley]. Reacts as a weak base.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
649	CAPTAN	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
650	CARBARYL	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
651	CARBOFURAN	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C. owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
647	CAPROIC ACID																																									Organic Peroxide	C18H34O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	35.0	3.0	4.0
648	CAPRYLYL CHLORIDE																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	Hg(C6H5COO)2		13.0	1.0	22.0	3.0	4.0
649	CAPTAN																																									Oxidizer	C8H20N.ClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	20.0	3.0	4.0
650	CARBARYL																																									Organic Peroxide|Explosive	C16H14O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	25.0	3.0	4.0
651	CARBOFURAN																																									Organic Peroxide	C22H38O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
652	CARBON BISULFIDE	CARBON BISULFIDE|CARBON BISULPHIDE|CARBON DISULFIDE|CARBON DISULFIDE (CARBON BISULFIDE)|CARBON DISULPHIDE|CARBON SULFIDE|CARBON SULFIDE (CS2)|CARBON SULPHIDE|DITHIOCARBONIC ANHYDRIDE|NCI-C04591|SULPHOCARBONIC ANHYDRIDE|SULPHURET OF CARBON|WEEVILTOX	75-15-0	A clear colorless to light yellow volatile liquid with a strong disagreeable odor. Boiling point 46Â° C. Flash point -22Â°F. Flammable over a wide vapor/air concentration range(1%-50%). Vapors are readily ignited; the heat of a common light bulb may suffice. Insoluble in water and more dense (10.5 lb / gal) than water. Hence sinks in water. Vapors are heavier than air. Used in the manufacture of rayon and cellophane, in the manufacture of flotation agents and as a solvent.	2.5	5.0	2.5	1733.0	180.0	556.0	223.0	229.0	288.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
653	CARBON TETRACHLORIDE	BENZINOFORM|CARBON CHLORIDE|CARBON CHLORIDE (CCL4)|CARBON TET|CARBON TETRACHLORIDE|CARBONA|CC M01ENT 27164|ENT 4,705|FASCIOLIN|FLUKOIDS|FREONÃ® 10|HALON 1040|HALONÃ® 104|METHANE TETRACHLORIDE|NECATORINA|NECATORINE|PERCHLOROMETHANE|R 10|R 10 (REFRIGERANT)|TETRACHLOORMETAAN|TETRACHLOROCARBON|TETRACHLOROMETHANE|TETRAFINOL|TETRAFORM|TETRASOL|UNIVERM|VERMOESTRICID	56-23-5	A clear colorless liquid with a characteristic odor. Denser than water (13.2 lb / gal) and insoluble in water. Noncombustible. May cause illness by inhalation, skin absorption and/or ingestion. Used as a solvent, in the manufacture of other chemicals, as an agricultural fumigant, and for many other uses.	2.5	5.0	2.5	1737.0	180.0	556.0	223.0	229.0	289.0	33.0	93.0	38.0	38.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
654	CARBONYL SULFIDE	CARBON MONOXIDE MONOSULFIDE|CARBON OXIDE SULFIDE|CARBON OXIDE SULFIDE (COS)|CARBON OXYSULFIDE|CARBON OXYSULFIDE (COS)|CARBONYL SULFIDE|CARBONYL SULFIDE (COS)|CARBONYL SULPHIDE|OXYCARBON SULFIDE (COS)|THIOCARBONYL OXIDE	463-58-1	Carbonyl sulfide is a colorless, poisonous, flammable gas with a distinct sulfide odor. The gas is toxic and narcotic in low concentrations and presents a moderate fire hazard. Under prolonged exposure to fire or intense heat the container may rupture violently or rocket. It is used in the synthesis of organic thio compounds.	5.0	1.0	1.0	1741.0	180.0	556.0	223.0	229.0	290.0	33.0	93.0	38.0	38.0	INHALATION: remove victim to fresh air. EYES: irrigate with running water for 15 min.; call physician. SKIN: flush with water. INGESTION: induce vomiting and call physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic chlorine or nitrogen trichloride may be formed in fires. Behavior in Fire: Containers may explode when heated. (USCG, 1999)	Fire Extinguishing Agents: Water in large amounts (USCG, 1999)
655	CARISOPRODOL	APESAN|ARUSAL|ATONALYT|BRIANIL|CALENFA|CAPRODAT|CARBAMIC ACID, ESTER WITH 2-(HYDROXYMETHYL)-2-METHYLPENTYL|ISOPROPLYLCARBAMATE|CARBAMIC ACID, ESTER WITH 2-METHYL-2-PROPYL-1,3-PROPANEDIOL ISOPROPYLCARBAMATE|CARBAMIC ACID, ISOPROPYL-, 2-(HYDROXYMETHYL)-2-METHYLPENTYL ESTER CARBAMATE (ESTER)|CARBAMIC ACID, ISOPROPYL-, 2-(HYDROXYMETHYL)-2-METHYLPENTYL ESTER, CARBAMATE|CARISOL|CARISOMA|CARISOPRODATE|CARISOPRODATUM|CARISOPRODOL|CARLSOMA|CARLSOPROL|CARSODAL|CARSODOL|CB 8019|DIOLENE|DOMARAX|FLEXAL|FLEXARTAL|ISOBAMATE|ISOMEPROBAMATE|ISOPROPYL	78-44-4	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	1745.0	184.0	556.0	223.0	233.0	291.0	34.0	93.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
656	CARMINIC ACID	7-ALPHA-D-GLUCOPYRANOSYL-9,10-DIHYDRO-3,5,6,8-TETRAHYDROXY-1-METHYL-9,10-DIOXO-2-ANTHRACENECARBOXYLIC ACID|2-ANTHROIC ACID, 7-D-GLUCOPYRANOSYL-9,10-DIHYDRO-3,5,6,8-TETRAHYDROXY-1-METHYL-9,10-DIOXO-|7-BETA-D-GLUCOPYRANOSYL 9,10-DIHYDRO-3,5,6,8-TETRAHYDROXY-1-METHYL-9,10-DIOXO-2-ANTHRACENECARBOXYLIC ACID|C.I. 75470|C.I. NATURAL RED 4|CARMINIC ACID|E 120|E 120 (DYE)|7-GLUCOPYRANOSYL-3,4,5,8-TETRAHYDROXY-1-METHYLANTHRAQUINONE-2-CARBOXY ACID|NATURAL RED 4	1260-17-9	PHYSICAL DESCRIPTION: Dark purplish-brown mass or bright red or dark red powder. Darkens at 248Â°F. Deep red color in water. Yellow to violet in acidic aqueous solutions. (NTP, 1992)	1.0	2.5	5.0	1749.0	184.0	556.0	223.0	233.0	292.0	34.0	93.0	38.0	39.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
652	CARBON BISULFIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	MERCURY FULMINATE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997). Contact with sulfuric acid causes explosion. [Urbanski, 1967, vol. 3, 135, 149]. Aqueous ammonia and Hg react to form an explosive solid, likely a fulminate. (Thodos, G. Amer. Inst. Chen. Engrs. J., 1964, 10, 274.).	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									
653	CARBON TETRACHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Forms a basic aqueous solution.	MERCURY NUCLEATE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
654	CARBONYL SULFIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask or chlorine canister mask; goggles; rubber gloves (USCG, 1999)	Slightly hygroscopic [Hawley]. Slightly soluble in water. May react with water releasing gaseous chlorine. If mixed with a small amount of water, the concentrated solution (with pH at about 2.0) may explode due to the evolution of unstable nitrogen trichloride. (explanation in Bretherick 5th ed.)	TRICHLORO-S-TRIAZINETRIONE, [DRY, CONTAINING > 39% AVAILABLE CHLORINE] is an oxidizer. It reacts with combustible materials or ammonium salts, resulting in fire. It is thermally unstable, and reacts with small amounts of water to release toxic chlorine gas and explosive nitrogen trichloride. Reaction of this compound with ammonia or amines also produces nitrogen trichloride. This compound reacts explosively with calcium hypochlorite and water. [NFPA 49, 14th ed. 2010]	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2	2	Oxidizer																							
655	CARISOPRODOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	(BLOB)	Dust may form an explosive mixture in air. Insoluble in water.	4-DIMETHYLAMINOAZOBENZENE can detonate, particularly if sensitized by the presence of metal salts or strong acids. May form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. May react explosively with strong oxidizing agents, metal salts, peroxides, and sulfides. May react explosively with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	232	
656	CARMINIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	4-DIMETHYLAMINOAZOBENZENE-4-SULFONIC ACID, SODIUM SALT is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
652	CARBON BISULFIDE																													(NIOSH, 2003)	(as Hg)	10	mg/m3								Explosive 1.1A	Hg(ONC)2		18.0	1.0	34.0	3.0	4.0
653	CARBON TETRACHLORIDE																													(NIOSH, 2003)	(as Hg)	10	mg/m3								Poison	C4H4Hg		16.0	1.0	39.0	3.0	4.0
654	CARBONYL SULFIDE														(USCG, 1999)	(est)		greater than 1	68								(USCG, 1999)		232.5											TCT	Oxidizer	C3Cl3N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	18.0	1.0	34.0	3.0	4.0
655	CARISOPRODOL	(NIOSH, 2003)	(est.)	3.00E-07				mm Hg	(NTP, 1992)		7.78										(NIOSH, 2003)	Sublimes					(NTP, 1992)		225.3		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C14H15N3	Mineral-Based & Clay-Based Absorbents	13.0	1.0	32.0	3.0	4.0
656	CARMINIC ACID																																		(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C14H15N3O3S.Na		10.0	1.0	13.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
657	CATECHOL	1, 2-BENZENEDIOL|1,2-BENZENEDIOL|C.I. 76500|C.I. OXIDATION BASE 26|CATECHIN|CATECHIN (PHENOL)|CATECHOL|CATECHOL (PHENOL)|CW-C 2|1, 2-DIHYDROXYBENZENE|1,2-DIHYDROXYBENZENE|DURAFUR DEVELOPER C|FOURAMINE PCH|FOURRINE 68|2-HYDROXYPHENOL|O-BENZENEDIOL|O-DIHYDROXYBENZENE|O-DIOXYBENZENE|O-DIPHENOL|O-HYDROQUINONE|O-HYDROXYPHENOL|O-PHENYLENEDIOL|OXYPHENIC ACID|PELAGOL GREY C|PHTHALHYDROQUINONE|PHTHALIC ALCOHOL|PYROCATCHUIC ACID|PYROCATECHIN|PYROCATECHINE|PYROCATECHINIC ACID|PYROCATECHOL	120-80-9	Solid; white; odorless. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	1749.0	184.0	556.0	223.0	233.0	292.0	34.0	93.0	38.0	39.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
658	CHLORAL HYDRATE	AQUACHLORAL|BI 3411|CHLORAL HYDRATE|CHLORAL, MONOHYDRATE|CHLORALDURAT|DORMAL|ESCRE|1,1-ETHANEDIOL, 2,2,2-TRICHLORO-|FELSULES|HS|HYDRAL|HYDRATE DE CHLORAL|KESSODRATE|LORINAL|NOCTEC|NORTEC|NYCOTON|NYCTON|PHALDRONE|RECTULES|SK-CHLORAL HYDRATE|SOMNISED|SOMNOS|SONTEC|TOSYL|TRAWOTOX|2,2,2-TRICHLORO-1,1-ETHANEDIOL|1,1,1-TRICHLORO-2,2-DIHYDROXYETHANE|1,1,1-TRICHLORO-2,2-ETHANEDIOL|TRICHLOROACETALDEHYDE HYDRATE|TRICHLOROACETALDEHYDE MONOHYDRATE	302-17-0	PHYSICAL DESCRIPTION: Transparent colorless crystals or white crystalline solid. Aromatic penetrating slightly acrid odor and a slightly bitter caustic taste. Alcoholic solution (1 in 20) does not at once redden moistened blue litmus paper. (NTP, 1992)	1.0	2.5	5.0	1753.0	184.0	560.0	223.0	233.0	293.0	34.0	94.0	38.0	39.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
659	CHLORANIL	ACTOR CL|ALPHA-CHLORANIL|1,4-BENZOQUINONE, 2,3,5,6-TETRACHLORO-|CHLORANIL|COVERSAN|2,5-CYCLOHEXADIENE-1,4-DIONE, 2,3,5,6-TETRACHLORO-|DOW SEED DISINFECTANT NO. 5|ENT 3,797|ENT 3797|G-2580|G-444E|GEIGY-444E|P-BENZOQUINONE, 2,3,5,6-TETRACHLORO-|P-CHLORANIL|PSORISAN|QUINONE TETRACHLORIDE|RERANIL|SPERGON|SPERGON I|SPERGON TECHNICAL|TETRACHLORO-1,4-BENZOQUINONE|2,3,5,6-TETRACHLORO-1,4-BENZOQUINONE|2,3,5,6-TETRACHLORO-2,5-CYCLOHEXADIENE-1,4-DIONE|TETRACHLORO-P-BENZOQUINONE|2,3,5,6-TETRACHLORO-P-BENZOQUINONE|TETRACHLORO-P-	118-75-2	PHYSICAL DESCRIPTION: Yellow powder with a slight odor. (NTP, 1992)	1.0	2.5	5.0	1753.0	184.0	560.0	223.0	233.0	293.0	34.0	94.0	38.0	39.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
660	CHLORINE DIOXIDE, HYDRATE, FROZEN	CHLORINE DIOXIDE|CHLORINE DIOXIDE HYDRATE, [FROZEN]|CHLORINE DIOXIDE, HYDRATE|CHLORINE DIOXIDE, HYDRATE, FROZEN|CHLORINE OXIDE|CHLORINE OXIDE (CLO2)|CHLORINE PEROXIDE	10049-04-4	Chlorine dioxide hydrate, frozen is an orange colored solid, appearing as a block of ice, with a faint odor of chlorine. It may only be shipped in the frozen state and then only by private or contract motor carrier. The melting point of the hydrate is around 30Â°F. If it should thaw and further warm up, chlorine dioxide gas is given off. The gas is toxic by inhalation. The gas and liquid are violently decomposed by organic materials. The gas will decompose explosively at temperatures below the boiling point of water. It is used to bleach wood pulp, fats and oils; in processing flour, and for water purification. Chlorine dioxide is a yellow to reddish gas or a red-brown liquid below 52 deg. F. with an unpleasant odor similar to chlorine.	1.0	2.5	5.0	1753.0	184.0	560.0	223.0	233.0	293.0	34.0	94.0	38.0	39.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
661	CHLOROBUTYRONITRILE	CHLOROBUTYRONITRILE|4-CHLOROBUTYRONITRILE	628-20-6	A liquid. Practically insoluble in water (2 parts/100 parts water). Sinks in water. Vapors are heavier than air. Irritates the eyes but not to the skin. Releases hydrogen chloride, hydrogen cyanide, and hydrogen bromide gases when heated or involved in a fire.	2.5	5.0	2.5	1753.0	184.0	560.0	223.0	233.0	293.0	34.0	94.0	38.0	39.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
657	CATECHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-FLUORO-D,L-PHENYLALANINE may be sensitive to exposure to light. A fluorinated amino acid. This is a neutral to slightly acidic material. It may react as an organic amine or acid, although, its reactivity is moderated considerably by the presence of the other group.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)	(Decomposes)		487 to 491
658	CHLORAL HYDRATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		125		(USCG, 1999)		1.8		%	(USCG, 1999)		6.9		%	(USCG, 1999)		1118		(USCG, 1999)		-45
659	CHLORANIL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	A nitrated benzamide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																								
660	CHLORINE DIOXIDE, HYDRATE, FROZEN	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ZIRCONIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER is an oxidizing agent. May react vigorously with reducing materials. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock. Treat as an explosive.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
661	CHLOROBUTYRONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)					0		(NTP, 1992)		232																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
657	CATECHOL																									(NTP, 1992)		183.18							(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C9H10FNO2	Mineral-Based & Clay-Based Absorbents	13.0	1.0	29.0	3.0	4.0
658	CHLORAL HYDRATE	(USCG, 1999)		3.62				mm Hg							(USCG, 1999)		0.938		68		(USCG, 1999)		328		760		(USCG, 1999)		116.16		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1800	ppm	(NIOSH, 2003)	Miscible				DAA	Flammable Liquid	C6H12O2	Cellulose-Based Absorbents	11.0	1.0	20.0	3.0	4.0
659	CHLORANIL																									(NTP, 1992)		262.26							(NTP, 1992)	at 59Â° F		less than 0.1	mg/mL			C14H12N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	25.0	3.0	4.0
660	CHLORINE DIOXIDE, HYDRATE, FROZEN																															(NIOSH, 2003)	(as Zr)	50	mg/m3							Flammable Solid	C24H16N12O20Zr	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	29.0	3.0	4.0
661	CHLOROBUTYRONITRILE														(NTP, 1992)		0.922		32		(NTP, 1992)		428		760		(NTP, 1992)		144.21						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C8H16O2		11.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
662	CHLOROCRESOL	APTAL[ATTAFACT]BAKTOL[BAKTOLAN]CANDASEPTIC]1-CHLORO-2-METHYL-4-HYDROXYBENZENE]4-CHLORO-3-CRESOL]6-CHLORO-3-HYDROXYTOLUENE]4-CHLORO-3-METHYLPHENOL]2-CHLORO-5-HYDROXYTOLUENE]4-CHLORO-5-METHYLPHENOL]4-CHLORO-M-CRESOL]6-CHLORO-M-CRESOL]CHLOROCRESOL]CHLOROCRESOLS]CHLOROCRESOLS, LIQUID]CHLOROCRESOLS, SOLID]M-CRESOL, 4-CHLORO-]3-METHYL-4-CHLOROPHENOL]NEOPREDISAN]OTTAFACT]P-CHLORO-M-CRESOL]PARA-CHLORO-META-CRESOL]PARMATOL]PAROL]PCMC]PERITONAN]PHENOL, 4-CHLORO-3-METHYL (9CI)]PREVENTO 1 CMK]PREVENTOL CMK]RASCHIT]RASCHIT	59-50-7	A pinkish to white crystalline solid with a phenolic odor. Melting point 64-66Â°C. Shipped as a solid or in a liquid carrier. Soluble in aqueous base. Toxic by ingestion, inhalation or skin absorption. Used as an external germicide. Used as a preservative in paints and inks.	1.0	2.5	5.0	1757.0	184.0	560.0	223.0	233.0	294.0	34.0	94.0	38.0	39.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
663	CHLORODIFLUOROMETHANE	ALGEON 22]ALGOFRENE 22]ALGOFRENE 6]ARCTON 22]ARCTON 4]CFC 22]CHLORODIFLUOROMETHANE]DAIFLON 22]DIFLUOROCHLOROMETHANE]DIFLUOROMONOCHLOROMETHANE]DYMEL 22]ELECTRO-CF 22]ESKIMON-22]F 22]F 22 (HALOCARBON)]FC 22]FKW 22]FLUGENE 22]FLUOROCARBON-22]FORANE 22]FREON 22]FREON-22]FREONÂ® 22]FRIGEN 22]FRON 22]GENETRON 22]GENETRONÂ® 22]HALTRON 22]HCFC 22]HCFC-22]HFA 22]ISCEON 22]ISOTRON 22]KHLADON 22]MONOCHLORODIFLUOROMETHANE]PROPELLANT 22]R 22]REFRIGERANT 22]REFRIGERANT GAS R-22]REFRIGERANT R 22]UCON 22]UCONN-22	75-45-6	Chlorodifluoromethane is a colorless gas with an ethereal odor. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Toxic gases can be produced in fires involving this material. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	1761.0	184.0	560.0	223.0	233.0	295.0	34.0	94.0	38.0	39.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
664	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE]CHLORODIFLUOROMETHANE-CHLOROPENTAFLUOROETHANE MIXTURE]CHLOROPENTAFLUOROETHANE AND CHLORODIFLUOROMETHANE MIXTURE]REFRIGERANT GAS R-502	75-45-6	Chlorodifluoromethane and chloropentafluoroethane is a mixture of the two colorless, nonflammable gases. The mixture may be mildly toxic by inhalation. It can asphyxiate by the displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket. It is used as a refrigerant gas.	5.0	1.0	1.0	1761.0	184.0	560.0	223.0	233.0	295.0	34.0	94.0	38.0	39.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
665	CHLOROPLATINIC ACID, SOLID	CHLOROPLATINIC ACID]CHLOROPLATINIC ACID, SOLID]CHLOROPLATINIC ACID, [SOLID]CHLOROPLATINIC(IV) ACID]CHLOROPLATINIC(IV) ACID (H2PTCL6)]DIHYDROGEN HEXACHLOROPLATINATE]DIHYDROGEN HEXACHLOROPLATINATE(2-)]HEXACHLOROPLATINIC ACID]HEXACHLOROPLATINIC ACID (H2PTCL6)]HEXACHLOROPLATINIC(IV) ACID]HYDROGEN HEXACHLOROPLATINATE(IV)]HYDROGEN PLATINUM CHLORIDE (H2PTCL6)]PLATINATE(2-), HEXACHLORO-, DIHYDROGEN]PLATINIC ACID (H2PTCL6)]PLATINIC CHLORIDE]PLATINUM CHLORIDE (H2PTCL6)]SPEIER'S	16941-12-1	Chloroplatinic acid, is a reddish-brown solid. It is soluble in water and will yield a mildly acidic solution. It may cause illness from inhalation of the dust and it is irritating to skin and eyes. When heated to high temperatures it may decompose to toxic chloride fumes. It may burn, but may be difficult to ignite. It is used for manufacturing indelible ink and in electroplating processes.	1.0	2.5	5.0	1765.0	184.0	560.0	223.0	233.0	296.0	34.0	94.0	38.0	39.0	(BLOB)	Information concerning the flash point of this chemical is not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
666	CHLOROSULFONIC ACID	CHLOROSULFONIC ACID]CHLOROSULFURIC ACID]CHLOROSULFURIC ACID (CHLOROSULFONIC ACID)]CHLOROSULPHONIC ACID]CHLORSULFONIC ACID]MONOCHLOROSULFONIC ACID]MONOCHLOROSULFURIC ACID]SULFURIC ACID CHLOROHYDRIN]SULFURIC CHLORHYDRIN]SULFURIC CHLOROHYDRIN	7790-94-5	A colorless to yellow colored fuming liquid with a pungent odor. Density 14.7 lb / gal. Causes severe burns. Very toxic by inhalation. Corrosive to metals.	2.5	5.0	2.5	1765.0	184.0	560.0	223.0	233.0	296.0	34.0	94.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
662	CHLOROCRESOL	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Pyrophoric in dust form [Bretherick 1979, p. 104]. Insoluble in water. Titanium is water-reactive at 700C, releasing hydrogen, which may cause an explosion [Subref: Mellor, 1941, vol. 7, 19].	TITANIUM reacts violently with cupric oxide and lead oxide when heated. When titanium is heated with potassium chlorate, potassium nitrate, or potassium permanganate, an explosion occurs [Mellor 7:20. 1946-47]. The residue from the reaction of titanium with red fuming nitric acid exploded violently when the flask was touched [Allison 1969]. Liquid oxygen gives a detonable mixture when combined with powdered titanium, [Kirchenbaum 1956].	Strong Reducing Agent; Known Catalytic Activity; Pyrophoric	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
663	CHLORODIFLUOROMETHANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Not oxidized by air and not appreciably affected by moisture at ordinary temperatures. Some hydrogen gas may be created however this would proceed slowly under ambient conditions. Insoluble in water.	VANADIUM (FUME OR DUST) is a reducing agent. Finely divided form favors rapid or explosive reactions with oxidizing agents such as air or oxygen. Reacts exothermically with compounds having active hydrogen atoms (such as acids and water) to form flammable hydrogen gas and caustic products. The reactions are much less vigorous than the similar reactions of alkali metals. Can catalyze polymerization reactions in several classes of organic compounds; these polymerizations sometimes proceed rapidly or even explosively. Vanadium is used as a catalyst in the production of synthetic rubber and sulfuric acid.	Strong Reducing Agent; Known Catalytic Activity	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
664	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	Organophosphates, such as TRICRESYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		437											(NTP, 1992)		725		(NTP, 1992)		-22 to -13
665	CHLOROPLATINIC ACID, SOLID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		369 to 374
666	CHLOROSULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to hydrolysis, oxidation and light. Insoluble in water.	METHOTREXATE decomposes in very acidic or alkaline conditions. This chemical is incompatible with strong oxidizing agents and strong acids. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		365 to 399

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
662	CHLOROCRESOL																																									Flammable Solid	Ti		11.0	1.0	25.0	3.0	4.0
663	CHLORODIFLUOROMETHANE																																									Poison	V		14.0	1.0	30.0	3.0	4.0
664	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE	(NTP, 1992)		1.70E-06		77		mm Hg	(NTP, 1992)		12.7				(USCG, 1999)		1.16		68		(NTP, 1992)	(Slight decomposition)	770		760		(NTP, 1992)		368.37		(NIOSH, 2003)		40	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	TCP	Poison	C21H21O4P		14.0	1.0	30.0	3.0	4.0
665	CHLOROPLATINIC ACID, SOLID																											(NTP, 1992)		181.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C8H7NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	38.0	3.0	4.0
666	CHLOROSULFONIC ACID																											(NTP, 1992)		454.46						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C20H22N8O5	Mineral-Based & Clay-Based Absorbents	15.0	1.0	38.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
667	CHLOROSULFONIC ACID AND SULFUR TRIOXIDE MIXTURE	CHLOROSULFONIC ACID AND SULFUR TRIOXIDE MIXTURE|CHLOROSULFONIC ACID-SULFUR TRIOXIDE MIXTURE|CHLOROSULPHONIC ACID AND SULPHUR TRIOXIDE MIXTURE|SULFUR TRIOXIDE AND CHLOROSULFONIC ACID MIXTURE|SULPHUR TRIOXIDE AND CHLOROSULPHONIC ACID MIXTURE	7790-94-5	A colorless to yellow fuming liquid with a pungent irritating odor. Corrosive to metals and tissue. It causes eye and skin burns. Ingestion causes severe burns of mouth, esophagus and stomach. Vapor is very toxic by inhalation. A fire risk in contact with organic materials such as wood, cotton, fiberboard.	2.5	5.0	2.5	1765.0	184.0	560.0	223.0	233.0	296.0	34.0	94.0	38.0	39.0			
668	CHLOROTHALONIL	1,3-BENZENEDICARBONITRILE, 2,4,5,6-TETRACHLORO-|BRAVO|BRAVO 500|BRAVO 6F|BRAVO ULTREX|BRAVO-W-75|BRAVONIL|CHLOROALONIL|CHLOROTHALONIL|CLORTOSIP|CLORTOSIP 500SC|CLORTOSIP L|DAC 2787|DACONIL|DACONIL 2787|DACONIL 2787WP|DACONIL F|DACONIL M|DACOSOIL|1,3-DICYANOTETRACHLOROBENZENE|EXOTHERM|FORTUR F|ISOPHTHALONITRILE, 2,4,5,6-TETRACHLORO-|ISOPHTHALONITRILE, TETRACHLORO-|KABIGUARD 164SA|KAVACH|M-TCPN|M-TETRACHLOROPHTHALONITRILE|NCI-C00102|NEXGEN|NOPCOCIDE|NOPCOCIDE 54DB|NOPCOCIDE N 54D|NOPCOCIDE N 96|SWEEPTERM|1,3-4,5,6-TETRACHLOROBENZENEDICARBONITRILE	1897-45-6	PHYSICAL DESCRIPTION: Colorless crystals or granules or light gray powder. Melting point 250-251Â°C. No odor when pure; technical grade has a slightly pungent odor. A fungicide formulated as water-dispersible granules, wettable powder, or dust.	1.0	2.5	5.0	1765.0	184.0	560.0	223.0	233.0	296.0	34.0	94.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
669	CHLORPHENIRAMINE MALEATE	ALLERCLOR|ALLERGIN|ALLERGISAN|ALUNEX|ANTAGONATE|C-METON|CARBINOXAMIDE MALEATE|CHLOR-TRIMETON|CHLOR-TRIMETON MALEATE|CHLOR-TRIPOLON|CHLORMENE|CHLOROPIRIL|CHLOROPROPHENPYRIDAMINE MALEATE|CHLORPHENAMINE MALEATE|CHLORPHENIRAMINE MALEATE|(+-)-CHLORPHENIRAMINE MALEATE|CHLORPROPHENPYRIDAMINE MALEATE|CLOROPIRIL|DL-2(-P-CHLORO-ALPHA-2-(DIMETHYLAMINO)ETHYLBENZYL)PYRIDINE BIMALEATE|DL-CHLORPHENIRAMINE MALEATE|GAMMA-(4-CHLOROPHENYL)-N,N-DIMETHYL-2-PYRIDINEPROPANAMINE(Z)-2-BUTENEDIOATE	113-92-8	PHYSICAL DESCRIPTION: Odorless white crystalline solid or white powder with a bitter taste. pH (2% aqueous solution) 5. pH (1% aqueous solution) 4-5. (NTP, 1992)	1.0	2.5	5.0	1769.0	184.0	564.0	223.0	233.0	297.0	34.0	95.0	38.0	39.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
670	CHROMIC CHLORIDE	C.I. 77295|CHROMIC CHLORIDE|CHROMIC CHLORIDE (CRCL3)|CHROMIC TRICHLORIDE|CHROMIUM CHLORIDE|CHROMIUM CHLORIDE, ANHYDROUS|CHROMIUM TRICHLORIDE|CHROMIUM TRICHLORIDE (CRCL3)|CHROMIUM(3+) CHLORIDE|CHROMIUM(III) CHLORIDE|CI 77295|PURATRONIC CHROMIUM CHLORIDE|TRICHLOROCHROMIUM	10025-73-7	Blue or green colored crystals dissolved in water. Denser than water. Corrosive to metals.	1.0	2.5	5.0	1769.0	184.0	564.0	223.0	233.0	297.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
671	CHROMIUM	ALPASTE RRA 030|ALPASTE RRA 050|CHROME|CHROMIUM|CHROMIUM ELEMENT|CHROMIUM FULLERIDE (CRC20)|CHROMIUM METAL	7440-47-3	PHYSICAL DESCRIPTION: Very hard gray solid with a metallic luster. (NTP, 1992)	1.0	2.5	5.0	1773.0	184.0	564.0	223.0	233.0	298.0	34.0	95.0	38.0	39.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and fumes of unburned material may form in fires. Behavior in Fire: Decomposes violently at 279Â°C and will burn even in absence of air. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
672	CIMETIDINE	BIOMET|CIMETIDINE|2-CYANO-1-METHYL-3-(2-(((5-METHYL|MIDAZOL-4-YL)|METHYL)|THIO)ETHYL)GUANIDINE|1-CYANO-2-METHYL-3-(2-(((5-METHYL-4-|MIDAZOLYL)|METHYL)|THIO)ETHYL)GUANIDINE|EURECEPTOR|FPF 1002|GASTROMET|GUANIDINE|HISTODIL|N-CYANO-N'-METHYL-N''-(2(((5-METHYL-1H-IMIDAZOL-4-YL)|METHYL)|THIO)ETHYL)|SKF 92334|TAGAMET|TAMETIN|TRATUE|ULCEDINE|ULCIMET|ULCOMET	51481-61-9	PHYSICAL DESCRIPTION: White crystals with a slight sulfur-mercaptan odor. (NTP, 1992)	1.0	2.5	5.0	1773.0	184.0	564.0	223.0	233.0	298.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
667	CHLOROSULFONIC ACID AND SULFUR TRIOXIDE MIXTURE			Insoluble in water.	(BLOB)								0																								
		(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hydrolysis occurs in aqueous solutions with a maximum stability around pH 5. (NTP, 1992). Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																								
668	CHLOROTHALONIL																																(NTP, 1992)			257 to 259
669	CHLORPHENIRAMINE MALEATE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as BROMOMETHYLPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Burning generates toxic fumes of bromine.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
670	CHROMIC CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	A nitrated amide and organic acid. Acts as a weak acid in aqueous solution. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																						(NTP, 1992)			268 to 271
671	CHROMIUM	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Butyl rubber gloves; side-shield safety glasses; dust mask or self- contained breathing apparatus. (USCG, 1999)	Soluble in hot water and more dense than water.	4-NITROPHENOL is a slightly yellow, crystalline material, moderately toxic. Mixtures with diethyl phosphite may explode when heated. Decomposes exothermally, emits toxic fumes of oxides of nitrogen [Lewis, 3rd ed., 1993, p. 941]. Decomposes violently at 279Â°C and will burn even in absence of air (USCG, 1999). Solid mixtures of the nitrophenol and potassium hydroxide (1:1.5 mol) readily deflagrate [Bretherick, 5th Ed., 1995].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3	(NTP, 1992)		377																(NTP, 1992)	(Sublimes)		235 to 239
672	CIMETIDINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound can be hydrolyzed. (NTP, 1992). Insoluble in water.	(BLOB)					0																				(NTP, 1992)			356 to 360

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
667	CHLOROSULFONIC ACID AND SULFUR TRIOXIDE MIXTURE																																									C9H9ClO3		15.0	1.0	38.0	3.0	4.0
668	CHLOROTHALONIL																										(NTP, 1992)		284.74						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C16H13ClN2O	Mineral-Based & Clay-Based Absorbents	12.0	1.0	44.0	3.0	4.0
669	CHLORPHENIRAMINE MALEATE																																								Flammable Liquid	C4H9Br		10.0	1.0	31.0	3.0	4.0
670	CHROMIC CHLORIDE																										(NTP, 1992)		224.17						(NTP, 1992)	at 72Â° F		1 to 5	mg/mL			C9H8N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	29.0	3.0	4.0
671	CHROMIUM	(NTP, 1992)	; 18.7 mm Hg at 367Â° F; 2.2 mm Hg at 295Â° F	1		68		mm Hg	(NTP, 1992)		1.244		149		(USCG, 1999)		1.48		68		(NTP, 1992)	(Decomposes)	534		760		(NTP, 1992)		139.11						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL	NPH	Poison	C6H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	35.0	3.0	4.0
672	CIMETIDINE																										(NTP, 1992)		192.13						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C8H4N2O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
673	CINNAMALDEHYDE	ABION CA|BENZYLIDENEACETALDEHYDE|BETA-PHENYLACROLEIN|CASSIA ALDEHYDE|CINNAMAL|CINNAMALDEHYDE|CINNAMIC ALDEHYDE|CINNAMYL ALDEHYDE|NCI-C56111|3-PHENYL-2-PROPENAL|3-PHENYL-2-PROPENALDEHYDE|PHENYLACROLEIN|3-PHENYLACROLEIN|3-PHENYLACRYALDEHYDE|3-PHENYLACRYLALDEHYDE|3-PHENYLPROPENAL|2-PROPENAL, 3-PHENYL-|ZIMTALDEHYDE	104-55-2	PHYSICAL DESCRIPTION: Yellow oily liquid with a cinnamon odor and sweet taste. (NTP, 1992)	2.5	5.0	2.5	1777.0	184.0	564.0	223.0	233.0	299.0	34.0	95.0	38.0	39.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
674	CIS-RETINOIC ACID	ACCUTANE|AGN 190013|13-CIS-BETA-RETINOIC ACID|CIS-RETINOIC ACID|13-CIS-RETINOIC ACID|13-CIS-VITAMIN A ACID|3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-2,4,6,8-NONATETRAENOIC ACID|ISORETINOIN|ISOTRETINOIN|NEOVITAMIN A ACID|13-RA|RETINOIC ACID, 9Z FORM|RO 4-3780|RO-4-3780|ROACCUTAN|ROACCUTANE|(13Z)-RETINOIC ACID	4759-48-2	PHYSICAL DESCRIPTION: Yellow-orange to orange crystalline powder; orange-brown chunky solid. (NTP, 1992)	1.0	2.5	5.0	1781.0	184.0	564.0	223.0	233.0	300.0	34.0	95.0	38.0	39.0	(BLOB)	Literature sources indicate that this compound is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
675	CITRAL	CITRAL|3,7-DIMETHYL-2,6-OCTADIENAL|GERANIAL|GERANIALDEHYDE|LEMSYNGB|NCI-C56348|NERAL	5392-40-5	A clear yellow colored liquid with a lemon-like odor. Less dense than water and insoluble in water. Toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	1785.0	184.0	564.0	223.0	233.0	301.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
676	COBALT NAPHTHENATES, POWDER	COBALT NAP-ALL|COBALT NAPHTHENATE, [POWDER]|COBALT NAPHTHENATES|COBALT NAPHTHENATES, POWDER|MANOBOND LP 838|NAFTOLITE|NAP-ALL|NAPHTHENIC ACID, COBALT SALT|NAPHTHEXCO|RC-N 10|8SN-CO	61789-51-3	Cobalt naphthenate is a brown powder or a bluish-red solid. It is easily ignited and once ignited can burn profusely. It is used to make paints and varnish.	1.0	2.5	5.0	1785.0	184.0	564.0	223.0	233.0	301.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
677	CODEINE	CODEINE|(-)-CODEINE|CODEINUM|CODICEPT|CODUCEPT|7,8-DIDEHYDRO-4,5-ALPHA-EPOXY-3-METHOXY-17-METHYLMORPHINAN-6-ALPHA-OL|7,8-DIDEHYDRO-4,5-EPOXY-3-METHOXY-17-METHYL-(5 ALPHA, 6 ALPHA)-MORPHINAN 6-OL|7,8-DIDEHYDRO-4,5-EPOXY-3-METHOXY-17-METHYLMORPHINAN-6-OL|L CODEINE|METHYLMORPHINE|METILMORFINA|MORPHINAN-6-ALPHA-OL, 7,8-DIDEHYDRO-4,5-ALPHA-EPOXY-3-METHOXY-17-METHYL-|MORPHINAN-6-OL, 7,8-DIDEHYDRO-4,5-EPOXY-3-METHOXY-17-METHYL-(5 ALPHA, 6|MORPHINAN-6ALPHA-OL, 7,8-DIDEHYDRO 4,5ALPHA-EPOXY-3-METHOXY-17-METHYL-|MORPHINE 3-METHYL ETHER|MORPHINE MONOMETHYL ETHER|MORPHINE-3-	76-57-3	PHYSICAL DESCRIPTION: Colorless to white crystalline solid or white powder. Sublimes at 284Â°F. Odorless. Bitter taste. pH (saturated aqueous solution) 9.8. (NTP, 1992)	1.0	2.5	5.0	1785.0	184.0	564.0	223.0	233.0	301.0	34.0	95.0	38.0	39.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
678	CODEINE PHOSPHATE	CODEINE PHOSPHATE|CODEINE PHOSPHATE (1:1)|(-)-CODEINE PHOSPHATE|7,8-DIDEHYDRO-4,5-ALPHA-EPOXY-3-METHOXY-17-METHYL-MORPHINAN-6-ALPHA-OL PHOSPHATE (1:1)|MORPHINAN-6-ALPHA-OL, 7,8-DIDEHYDRO-4,5-ALPHA-EPOXY-3-METHOXY-17-METHYL-, PHOSPHATE (1:1)|MORPHINAN-6ALPHA-OL, 7,8-DIDEHYDRO-4,5ALPHA-EPOXY-3-METHOXY-17-METHYL-, PHOSPHATE (1:1) (SALT)|TRICODEIN	52-28-8	PHYSICAL DESCRIPTION: Colorless small crystals or white powder. Odorless. Bitter taste. Solutions are acid to litmus. pH (4% solution) 4.2-5. (NTP, 1992)	1.0	2.5	5.0	1789.0	184.0	564.0	223.0	233.0	302.0	34.0	95.0	38.0	39.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
673	CINNAMALDEHYDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	Isocyanates and thioisocyanates, such as METHOXYMETHYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2605 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
674	CIS-RETINOIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Highly flammable. Is hydrolyzed by water. (NTP, 1992)	Unstable except in solution.	Highly Flammable; Strong Oxidizing Agent						0																			(NTP, 1992)			23 to 32
675	CITRAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water.	(BLOB)	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		174																			
676	COBALT NAPHTHENATES, POWDER	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																			(NTP, 1992)			138 to 140
677	CODEINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Water soluble.	T-BUTYL GLYCIDYL ETHER, an ether, can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		110																			
678	CODEINE PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Slightly soluble in water.	DIBROMOACETONITRILE is incompatible with strong acids, strong bases, strong oxidizing agents and strong reducing agents. (NTP, 1992). Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
673	CINNAMALDEHYDE																																								Poison Inhalation Hazard|Flammable Liquid	C3H5NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	37.0	3.0	4.0
674	CIS-RETINOIC ACID																										(NTP, 1992)		230.22		(NIOSH, 2003)	Based on 10% of the lower explosive limit; A potential human carcinogen.	15	mg/m3								C8H18Cr2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	49.0	3.0	4.0
675	CITRAL	(NIOSH, 2003)		0.2		77		mm Hg							(NTP, 1992)		1.1044		81		(NTP, 1992)			117 to 120	1.8		(NTP, 1992)		111.1						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Combustible Liquid	C5H5NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	35.0	3.0	4.0
676	COBALT NAPHTHENATES, POWDER																				(NTP, 1992)		592		745		(NTP, 1992)		200.26						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C12H8OS		10.0	1.0	22.0	3.0	4.0
677	CODEINE														(NTP, 1992)		0.917		68		(NTP, 1992)		306		760		(NTP, 1992)		130.19						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL		Flammable Liquid	C7H14O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	14.0	3.0	4.0
678	CODEINE PHOSPHATE	(NTP, 1992)	; 15 mm Hg at 158Â° F; 48 mm Hg at 203Â° F	2		122		mm Hg							(NTP, 1992)		2.296				(NTP, 1992)			153 to 156	24		(NTP, 1992)		198.86						(NTP, 1992)	at 70.7Â° F		5 to 10	mg/mL		Poison	C2HBr2N		18.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
679	COLCHICINE	ACETAMIDE, N-(5,6,7,9-TETRAHYDRO-1,2,3,10-TETRAMETHOXY-9-OXOBENZO[A]HEPTALEN-7-YL)|ACETAMIDE, N-(5,6,7,9-TETRAHYDRO-1,2,3,10-TETRAMETHOXY-9-OXOBENZO[A]HEPTALEN-7-YL)-, (S)-|7-ACETAMIDO-6,7-DIHYDRO-1,2,3,10-TETRAMETHOXYBENZO(A)HEPTALEN-9(5H)-ONE|7-ALPHA-H-COLCHICINE|BENZO[A]HEPTALEN-9(5H)-ONE, 7-ACETAMIDO-6,7-DIHYDRO-1,2,3,10-TETRAMETHOXY-|BENZO(A)HEPTALENE, ACETAMIDE DERIV.|COLCHICEINE METHYL ETHER|COLCHICENOS|COLCHICINE|(-)-COLCHICINE|COLCHINEOS|COLCHISOL|COLCIN|COLSALOID|CONDYLON|N-(5,6,7,9-TETRAHYDRO-1,2,3,10-TETRAMETHOXY-9-OXOBENZO(A)HEPTALEN-7-	64-86-8	Odorless or nearly odorless pale yellow needles or powder that darkens on exposure to light. Used to treat gouty arthritis, pseudogout, sarcoidal arthritis and calcific tendinitis. (EPA, 1998)	1.0	2.5	5.0	1789.0	184.0	564.0	223.0	233.0	302.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
680	COLLODION	(BLOB)	9004-70-0	Pale yellow syrupy liquid with an ether-like odor. Floats on water. Produces an irritating vapor. Immiscible with water. Boiling point is around 94Â°F. (USCG, 1999)	2.5	5.0	2.5	1789.0	184.0	564.0	223.0	233.0	302.0	34.0	95.0	38.0	39.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
681	COPPER CYANIDE	COPPER CYANIDE|COPPER CYANIDE (OUS)|COPPER MONOCYANIDE|COPPER(I) CYANIDE|CUPRICIN|CUPROUS CYANIDE	544-92-3	A green powder. Insoluble in water. Toxic by skin absorption, through open wounds, by ingestion, and by inhalation of hydrogen cyanide that arises from slight decomposition. Produces toxic oxides of nitrogen in fires.	1.0	2.5	5.0	1789.0	184.0	564.0	223.0	233.0	302.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
682	COPPER FLUOROBORATE	COPPER BOROFLUORIDE SOLUTION|COPPER FLUOROBORATE|COPPER TETRAFLUOROBORATE|COPPER(II) FLUOBORATE SOLUTION|CUPRIC FLUOBORATE SOLUTION	38465-60-0	Dark-blue odorless aqueous solution. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1793.0	184.0	564.0	223.0	233.0	303.0	34.0	95.0	38.0	39.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
683	COPPER IODIDE	COPPER IODIDE|CUPROUS IODIDE|MARSHITE	7681-65-4	Odorless tan or off-white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1793.0	184.0	564.0	223.0	233.0	303.0	34.0	95.0	38.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
684	COPPER NAPHTHENATE	CELLAVIT|COPPER NAPHTHENATE|CUNAP|CUNAPSOL 5|CUPRINOL|CUPRINOL GREEN|GORI 22|K 204|K 204 (ACCELERATOR)|NAPHTHENIC ACID COPPER SALT|NAPHTHEX CU|PAINT DRIER|REDYCOAT|SANPRESER WOG|SHAKELAST	1338-02-9	A green colored liquid with a petroleum-like odor. Flash point between 100 - 141Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1793.0	188.0	564.0	231.0	233.0	303.0	35.0	95.0	40.0	39.0	(BLOB)	When heated to decomposition, it emits toxic fumes of bromides. Hazardous polymerization may not occur. (EPA, 1998)	Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots, and bands around legs, arms, and waist should be provided. No skin surface should be exposed. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Non-flammable in air; burns in oxygen. Use water spray, foam, carbon dioxide, or dry chemical. (EPA, 1998)

| id | name | non_flre_resp | proc_clothing | air_water_reactions | chemical_profile | special_hazards | isolation | nfpa_spec ial | fp_source | fp_note | fp_value | fp_range | fp_source | hel_note | hel_value | hel_range | hel_unit | nfpa_reac t | nfpa_flam | nfpa_heal th | nfpa_note | nfpa_sour ce | (NFPA, 2010) | | |

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
679	COLCHICINE																										(NTP, 1992)		192.18						(NTP, 1992)	Slightly soluble						C10H8O4		10.0	1.0	42.0	3.0	4.0
680	COLLODION	(NTP, 1992)			less than 0.1	100		mm Hg	(NTP, 1992)			greater than 5			(NTP, 1992)		0.993				(NTP, 1992)		500		760		(NTP, 1992)		168.25						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C13H12		18.0	1.0	39.0	3.0	4.0
681	COPPER CYANIDE																										(NTP, 1992)		244.21						(NTP, 1992)	at 70Â° F		5 to 10	mg/mL			C8H12N4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
682	COPPER FLUOROBORATE																																								Poison	C6H8N2.2ClH		10.0	1.0	20.0	3.0	4.0
683	COPPER IODIDE																										(NTP, 1992)		307.13						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL			C9H11BrN2O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	11.0	1.0	42.0	3.0	4.0
684	COPPER NAPHTHENATE	(EPA, 1998)		1420		68		mm Hg	(EPA, 1998)		3.27				(EPA, 1998)		1.73		32		(EPA, 1998)		38.4		760		(EPA, 1998)		94.95		(NIOSH, 2003)	; A potential human carcinogen.	250	ppm	(NIOSH, 2003)		2		%	MTB	Poison Gas	CH3Br		12.0	1.0	21.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
685	COTTONSEED OIL	COTTONSEED OIL,|DEODORIZED WINTERIZED COTTONSEED OIL|FATS AND GLYCERIDIC OILS, COTTONSEED|FMC 710|NCI-C50168|OILS, COTTONSEED|OILS, GLYCERIDIC, COTTONSEED|OILS, GOSSYPIUM HIRSUTUM SEED	8001-29-4	Odorless colorless to pale-yellow liquid. Less dense than water and insoluble in water. Hence floats on water. Freezing point 32Â°F. Contains principally the glycerides of palmitic, oleic and linoleic acids.	2.5	5.0	2.5	1793.0	188.0	564.0	231.0	233.0	303.0	35.0	95.0	40.0	39.0	INHALATION: Call for medical aid. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with copious amounts of water for at least 15 minutes. SKIN: Wash with soap and copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
686	COUMARIN	5,6-BENZO-2-PYRONE|BENZO-ALPHA-PYRONE|1,2-BENZOPYRONE|CIS-O-COUMARINIC ACID LACTONE|COUMARIN|COUMARINAC LACTONE|COUMARINIC ANHYDRIDE|CUMARIN|2H-1-BENZOPYRAN-2-ONE|NCI-C07103|O-COUMARIC ACID LACTONE|O-HYDROXYCINNAMIC ACID DELTA-LACTONE|O-HYDROXYCINNAMIC ACID LACTONE|O-HYDROXYCINNAMIC LACTONE|2-OXO-1,2-BENZOPYRAN|2-OXO-2H-1-BENZOPYRAN|2-PROPENOIC ACID, 3-(2-HYDROXYPHENYL)-, DELTA LACTONE|RATTEX|TONKA BEAN CAMPHOR	91-64-5	PHYSICAL DESCRIPTION: Colorless crystals, flakes or colorless to white powder with a pleasant fragrant vanilla odor and a bitter aromatic burning taste. (NTP, 1992)	1.0	2.5	5.0	1797.0	188.0	568.0	231.0	233.0	304.0	35.0	96.0	40.0	39.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
687	CUMENE	CUMENE|CUMOL|ISOPROPYL BENZENE|ISOPROPYLBENZENE|(1-METHYLETHYL)BENZENE|2-PHENYL PROPANE|2-PHENYLPROPANE	98-82-8	A clear colorless liquid with an aromatic odor. Flash point 115Â°F. Less dense than water and insoluble in water. Vapors heavier than air. May be moderately toxic by inhalation, ingestion and skin absorption.	2.5	5.0	2.5	1801.0	188.0	568.0	231.0	233.0	305.0	35.0	96.0	40.0	39.0	(BLOB)	This chemical is very dangerous when exposed to heat sources, sparks, flame, or oxidizers. It will react with water or steam to produce toxic and corrosive fumes. Vapors may travel to a source of ignition and flash back. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Toxic fumes of phosgene are produced when the material is heated to decomposition. Heat or steam should be avoided. (EPA, 1998)	Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Wear positive pressure breathing apparatus and special protective clothing. For small fires, use dry chemical, carbon dioxide, water spray, and foam. For large fires, use water spray, fog, or foam. Move container from fire area if it can be done without risk. Cool containers exposed to flames with water. (EPA, 1998)
688	CUPFERRON	AMMONIUM N-NITROSOPHENYLHYDROXYLAMINE|BENZENEAMINE, N-HYDROXY-N-NITROSO, AMMONIUM SALT|CUPFERRON|HYDROXYLAMINE, N-NITROSO-N-PHENYL-, AMMONIUM SALT|KUPFERRON|N-HYDROXY-N-NITROSOBENZENAMINE AMMONIUM SALT|N-NITROSO-N-PHENYLHYDROXYAMINE AMMONIUM SALT|N-NITROSO-N-PHENYLHYDROXYLAMINE AMMONIUM SALT|N-NITROSOPHENYLHYDROXYLAMINE AMMONIUM SALT|NCI-C03258|Q 1300	135-20-6	PHYSICAL DESCRIPTION: Light yellow or cream-colored crystals or a brown crystalline solid. As a reagent in the separation of copper and iron.	1.0	2.5	5.0	1801.0	188.0	568.0	231.0	233.0	305.0	35.0	96.0	40.0	39.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlle using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
689	CYANOACETIC ACID	CYANACETIC ACID|CYANOACETIC ACID|MALONIC MONONITRILE	372-09-8	Yellow-brown liquid with an unpleasant odor. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1801.0	188.0	572.0	231.0	233.0	305.0	35.0	97.0	40.0	39.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
690	CYANURIC ACID	5-AZABARBITURIC ACID|CYANURIC ACID|ISOCYANURIC ACID|NORMAL CYANURIC ACID|PSEUDOCYANURIC ACID|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|S-TRIAZINE-2,4,6-TRIOL|STYM-TRIAZINE-2,4,6-TRIOL|SYM-TRIAZINETRIOL|1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRICYANIC ACID|2,4,6-TRIHYDROXY-1,3,5-TRIAZINE|2,4,6-TRIHYDROXY-S-TRIAZINE|TRIHYDROXYCYANIDINE|2,4,6-TRIOXOHEXAHYDRO-1,3,5-TRIAZINE	108-80-5	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	1801.0	188.0	572.0	231.0	233.0	305.0	35.0	97.0	40.0	39.0	(BLOB)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: MAY EXPLODE AND THROW FRAGMENTS 500 meters (1/3 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 500 meters (1/3 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
685	COTTONSEED OIL	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Slightly soluble in water.	An unsaturated aliphatic/alcohol. The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		56																			
686	COUMARIN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Completely soluble in water.	DIBUTYLAMINE PYROPHOSPHATE, [FLAMMABLE LIQUID] may generate highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may release toxic phosphorus oxides. Combustion releases toxic oxides of nitrogen. Incompatible with strong acids and strong bases.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
687	CUMENE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Gives off hydrochloric acid fumes in contact with moist air. Slightly soluble in water and decomposed by water to hydrochloric acid with evolution of heat.	METHYL CHLOROFORMATE is incompatible with water, strong oxidizing agents, alcohols, bases (including amines). Decomposes slowly in water to yield methanol, HCl, and CO2; reaction can be hazardous if water is hot. Attacks many metals especially in humid atmosphere [Handling Chemicals Safely 1980. p. 476]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1238 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		54								(USCG, 1999)		6.7		%					(USCG, 1999)		less than -114
688	CUPFERRON	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. Protect from air for long term storage. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to air or heat. (NTP, 1992). Insoluble in water.	An organometallic. Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																			
689	CYANOACETIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Slightly soluble in water.	METHYL CYCLOHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
690	CYANURIC ACID	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with a strong oxidizing acid. The unsubstituted tetrazole is unstable when heated above its melting point. Its solutions are also explosive when shocked. Carbonyl azides are explosive, some exceptionally so, and suitable handling is necessary, Leiber, E. et al., Chem. Rev., 1965, 65, 377.	Explosive	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 250 meters (800 feet) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate evacuation including emergency responders for 500 meters (1/3 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
685	COTTONSEED OIL														(USCG, 1999)		0.824				(USCG, 1999)			208.4 to 210.2	760		(USCG, 1999)		86.13											MBL	Flammable Liquid	C5H10O	Cellulose-Based Absorbents|Dirt/Earth	12.0	1.0	20.0	3.0	4.0
686	COUMARIN																																									Flammable Liquid	(C8H20N)4P2O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	30.0	3.0	4.0
687	CUMENE								(EPA, 1998)		3.26				(EPA, 1998)		1.223		68		(EPA, 1998)		160		760		(EPA, 1998)		94.5											MHC	Poison Inhalation Hazard|Flammable Liquid|Corrosive	C2H3ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	17.0	1.0	38.0	3.0	4.0
688	CUPFERRON																				(NTP, 1992)						(NTP, 1992)		635.71						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C32H68S2Sn		10.0	1.0	20.0	3.0	4.0
689	CYANOACETIC ACID																																								Flammable Liquid|Corrosive	C7H15N	Mineral-Based & Clay-Based Absorbents	10.0	1.0	23.0	3.0	4.0
690	CYANURIC ACID																																								Explosive 1.4C	C3H4N4O2S		13.0	1.0	33.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
691	CYANURIC CHLORIDE	CYANUR CHLORIDE|CYANURIC CHLORIDE|CYANURIC TRICHLORIDE|CYANURYL CHLORIDE|ISOCYANURIC TRICHLORIDE|S-TRIAZINE TRICHLORIDE|S-TRIAZINE, 2,4,6-TRICHLORO-|SYM-TRICHLOROTRIAZINE|2,4,6-TRICHLORO-1,3,5-TRIAZINE|1,3,5-TRICHLORO-2,4,6-TRIAZINE|TRICHLORO-S-TRIAZINE|2,4,6-TRICHLORO-S-TRIAZINE|2,4,6-TRICHLORO-SYM-TRIAZINE|TRICHLOROCYANIDINE|1,3,5-TRICHLOROTRIAZINE|2,4,6-TRICHLOROTRIAZINE	108-77-0	A colorless crystalline solid with a pungent odor. Melting point 146Â°C. Density 1.32 g / cm3. Very slightly soluble in water. Toxic by ingestion and inhalation of vapors. Irritates skin and eyes. Used to make dyes.	1.0	2.5	5.0	1805.0	188.0	576.0	231.0	233.0	306.0	35.0	98.0	40.0	39.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
692	CYCLOHEXANOL	ADRONAL|ADRONOL|ANOL|CYCLOHEXANOL|1-CYCLOHEXANOL|CYCLOHEXYL ALCOHOL|HEXAHYDROPHENOL|HEXALIN|HEXALIN (ALCOHOL)|HYDRALIN|HYDROPHENOL|HYDROXYCYCLOHEXANE|NAXOL|PHENOL, HEXAHYDRO-	108-93-0	A colorless liquid with a camphor-like odor. Soluble in most organic liquids. Flash point 154Â°F. May be toxic by inhalation or skin exposure. Vapors are narcotic in high concentrations. Irritates skin, eyes and mucus membranes. Used in making soap, lacquers, and plastics.	2.5	5.0	2.5	1809.0	188.0	580.0	231.0	233.0	307.0	35.0	99.0	40.0	39.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
693	CYCLOHEXENE	BENZENE TETRAHYDRIDE|BENZENE, TETRAHYDRO-|CYCLOHEX-1-ENE|CYCLOHEXENE|TETRAHYDROBENZENE|1,2,3,4-TETRAHYDROBENZENE	110-83-8	A colorless liquid. Insoluble in water and less dense than water. Flash point 20Â°F. Vapors heavier than air. Inhalation of high concentrations may have a narcotic effect. Used to make other chemicals.	2.5	5.0	2.5	1813.0	188.0	584.0	231.0	233.0	308.0	35.0	100.0	40.0	39.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
694	CYCLOHEXYL ISOCYANATE	CYCLOHEXANE, ISOCYANATO-|CYCLOHEXYL ISOCYANATE|ISOCYANATO CYCLOHEXANE|ISOCYANIC ACID, CYCLOHEXYL ESTER|NSC 87419	3173-53-3	A yellowish liquid with an irritating odor. Insoluble in water. Flash point 127Â°F. Very toxic by inhalation, skin absorption and ingestion. Used to make pharmaceuticals and agricultural chemicals.	2.5	5.0	2.5	1813.0	188.0	584.0	231.0	233.0	308.0	35.0	100.0	40.0	39.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
695	CYCLOHEXYLAMINE	AMINOCYCLOHEXANE|1-AMINOCYCLOHEXANE|AMINOHEXAHYDROBENZENE|BENZENAMINE, HEXAHYDRO-|CHA|CYCLOHEXANAMINE|CYCLOHEXYLAMINE|1-CYCLOHEXYLAMINE|HEXAHYDROANILINE|HEXAHYDROBENZENAMINE|MONOCYCLOHEXYLAMINE	108-91-8	A clear colorless to yellow liquid with an odor of ammonia. Flash point 90Â°F. Irritates the eyes and respiratory system. Skin contact may cause burns. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	1813.0	188.0	584.0	231.0	233.0	308.0	35.0	100.0	40.0	39.0	(BLOB)	Reacts violently with water. Extremely flammable; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode violently in heat of fire. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire or explosion hazard. When heated to decomposition, it emits toxic fumes of nitrogen oxides. Avoid water, acids, alkali, amines, iron, tin, copper, and other catalysts. Avoid heat, flame, oxidizers, water. Hazardous polymerization may occur. Methyl isocyanate (MIC) will react with water, or in the presence of catalysts (such as sodium hydroxide, sodium methoxide, triphenylarsine, triethyl phosphine, metallic chlorides) to form either a cyclic trimer (trimethyl isocyanurate) or a gummy, resinous polymer. These reactions are exothermic, producing about 540 Btu per pound of MIC. Heat produced in	Material is extremely hazardous to health but areas may be entered with extreme care. Full protective clothing, including self-contained breathing apparatus (coat, pants, gloves, boots, and bands around legs, arms and waist) should be provided. No skin surface should be exposed. Stay away from ends of tanks. Do not get water inside container. Spray cooling water on containers that are exposed to flames until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
691	CYANURIC CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DICHLOBENIL is a chlorinated benzonitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
692	CYCLOHEXANOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. May be sensitive to exposure to air(peroxide formation). (NTP, 1992). Water soluble.	METHYL GLYCIDYL ETHER, an ether can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		less than 69																					
693	CYCLOHEXENE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Less dense than water and slightly soluble in water.	METHYL HEXANOATE AND METHYL OCTANOATE are esters. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
694	CYCLOHEXYL ISOCYANATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as METHYL ISOBUTYL KETONE PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
695	CYCLOHEXYLAMINE	(BLOB)	(BLOB)	Highly flammable. Reacts exothermically with water to produce carbon dioxide, methylamine, dimethylurea and/or trimethylbiuret. Heat of reaction causes evolution of the vapors of the isocyanate. Reaction is relatively slow below 20Â°C but becomes violent at more elevated temperatures or in the presence of acids and bases.	Airborne vapors of METHYL ISOCYANATE are explosive when exposed to heat, flame or sparks. Vapor may ignite on contact with strong oxidizing agents. Emits toxic fumes of nitriles and oxides of nitrogen when heated to decomposition [Lewis, 3rd ed., 1993, p. 860]. Caused the death of thousands in 1984 in Bhopal, India when released accidentally as a vapor following an exothermic reaction caused by contamination with water [Chem. Eng. News, 1985, 63(6), p. 27]. Reacts rapidly with acids and bases (including amines). May polymerize in contact with iron, tin, copper and certain other catalysts such as triphenylarsenic oxide, triethyl phosphine and tributyltin oxide. Polymerizes at elevated temperatures. Attacks some plastics, rubbers, and coatings [NTP].	Highly Flammable; Polymerizable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2480 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5	No Water	(EPA, 1998)		19		(EPA, 1998)		5.3		%	(EPA, 1998)		26		%	(USCG, 1999)		995		(EPA, 1998)		-112	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
691	CYANURIC CHLORIDE																																								Class 9	C7H3Cl2N		10.0	1.0	21.0	3.0	4.0
692	CYCLOHEXANOL																										(NTP, 1992)		88.11						(NTP, 1992)	at 68.9Â°F		greater than or equal to 100	mg/mL		Flammable Liquid|Poison	C4H8O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	28.0	3.0	4.0
693	CYCLOHEXENE																																								Flammable Liquid	C7H14O2 (methyl hexanoate)|C9H18O2 (methyl octanoate)		12.0	1.0	21.0	3.0	4.0
694	CYCLOHEXYL ISOCYANATE																																								Organic Peroxide	C12H26O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0
695	CYCLOHEXYLAMINE	(EPA, 1998)		348		68		mm Hg	(EPA, 1998)	About twice as heavy as air					(EPA, 1998)		0.9599		68		(EPA, 1998)		102		760		(EPA, 1998)		57.05		(NIOSH, 2003)		3	ppm	(NTP, 1992)	Decomposes				MIS	Poison Inhalation Hazard|Flammable Liquid	C2H3NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
696	CYCLOPENTANE	CYCLOPENTANE|PENTAMETHYLENE|ZEONSOLV HP	287-92-3	A clear colorless liquid with a petroleum-like odor. Flash point of -35Â°F. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	1813.0	192.0	584.0	239.0	233.0	308.0	36.0	100.0	42.0	39.0	(BLOB)	Combustion produces irritating sulfur dioxide. Flash back along vapor track may occur. Very dangerous when exposed to heat, flame, or oxidizers. On decomposition it emits highly toxic fumes of sulfur oxides. It will react with water, steam or acids to produce toxic and flammable vapors; and can react vigorously with oxidizing materials. Irritating sulfur dioxide is produced upon combustion. When heated to decomposition, it emits highly toxic fumes and flammable vapors. Incompatible with mercuric oxide and oxidizing materials. Avoid direct sunlight, and areas of high fire hazards. Hazardous polymerization may not occur. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Evacuate area endangered by gas. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: let burn unless leak can be stopped immediately. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Cool container with water using unmanned device until well after fire is out. Isolate area until gas has dispersed. Preferably let fire burn, stop gas flow. Fires may be extinguished with dry chemical, foam, or carbon dioxide. (EPA, 1998)
697	CYCLOPENTANONE	ADIPIC KETONE|ADIPINKETON|CYCLOPENTANONE|DUMASIN|KETOCYCLOPENTANE|KETOPENTAMETHYLENE	120-92-3	A clear colorless liquid with a petroleum-like odor. Flash point 87Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1813.0	196.0	584.0	239.0	233.0	308.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
698	CYCLOPHOSPHAMIDE	(BLOB)	50-18-0	PHYSICAL DESCRIPTION: Fine white crystalline powder. Odorless with a slightly bitter taste. Melting point 41-45Â°C. A 2% solution has pH of 4 to 6. Used medicinally as an antineoplastic agent.	1.0	2.5	5.0	1817.0	196.0	584.0	239.0	233.0	309.0	37.0	100.0	42.0	39.0	Call a physician. EYES: Flush with water. SKIN: Wash. INGESTION: Gastric lavage for large doses. For small doses, give activated charcoal, follow in 3 to 4 hours with sodium sulfate cathartic. (USCG, 1999)	Special Hazards of Combustion Products: Highly toxic fumes are imminent. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
699	CYCLOPHOSPHAMIDE MONOHYDRATE	(BLOB)	6055-19-2	PHYSICAL DESCRIPTION: Fine white crystalline powder with a slightly bitter taste. Little or no odor. (NTP, 1992)	1.0	2.5	5.0	1821.0	196.0	584.0	239.0	233.0	310.0	37.0	100.0	42.0	39.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
700	CYTARABINE	AC 1075|ALEXAN|4-AMINO-1-ARABINOFURANOSYL-2-OXO-1,2-DIHYDROPYRIMIDINE|ARA-C|ARA-CYTIDINE|ARA-CYTOSINE|ARABINOCYTOSINE|(ARABINOFURANOSYL)CYTOSINE|1-(ARABINOFURANOSYL)CYTOSINE|ARABINOSIDE C|ARABINOSYLCYTOSINE|ARACYTIDINE|ARACYTIN|ARAFCYT|1-BETA-ARABINOFURANOSYLCYTOSINE|BETA-CYTOSINE, ARABINOSIDE|1(BETA-D-ARABINOFURANOSYL)CYTOSINE|1-(BETA-D-ARABINOFURANOSYL)CYTOSINE|1-BETA-D-ARABINOFURANOSYLCYTOSINE|1-BETA-D-ARABINOSYL-4-AMINO-2(1H)PYRIMIDINONE|BETA-D-ARABINOSYLCYTOSINE|1-BETA-D-ARABINOSYLCYTOSINE|CITOZAR|CYCLOCIDE|CYTARABIN|CYTARABINE|CYTARAB	147-94-4	Colorless crystals. Used as an antiviral agent.	1.0	2.5	5.0	1821.0	196.0	584.0	239.0	233.0	310.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
696	CYCLOPENTANE	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	(BLOB)	Highly flammable. Reacts with water, steam or acids to produce toxic, flammable vapors [Lewis].	METHYL MERCAPTAN is a reducing agent--can react vigorously with oxidizing agents. Dangerous fire or explosion hazard when exposed to heat, flame, sparks or strong oxidizing agents (e.g., calcium hypochlorite). When heating to decomposition emits highly toxic fumes of oxides of sulfur [Lewis, 3rd ed., 1993, p. 862]. Violent reaction with mercury(II) oxide [Klason P., Ber., 1887, 20, p. 3410].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1064 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5		(EPA, 1998)		0		(EPA, 1998)		3.9		%	(EPA, 1998)		21.8		%						(EPA, 1998)		-189.4	
697	CYCLOPENTANONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Aqueous solutions at a concentration of 0.25 mg / mL are stable for 3 weeks in the dark at room temperature. Aqueous 0.0001 M solutions show no degradation after 17.1 hours of midday sunlight. High intensity UV irradiation of solutions causes decomposition (NTP, 1992).	METHYL MERCURY(II)CHLORIDE may be sensitive to light.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		338	
698	CYCLOPHOSPHAMIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus, rubber gloves, hats, suits, and boots. (USCG, 1999)	Insoluble in water.	DICHLONE is a halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		379.4	
699	CYCLOPHOSPHAMIDE MONOHYDRATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DICHLONE is a chlorinated quinone.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
700	CYTARABINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 5-NITROACENAPHTHENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		217 to 219	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chris_codes	dot_labels	formulas	incompatible_abbr	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
696	CYCLOPENTANE	(EPA, 1990)			1 to 400		-131.26 to 44.24	mm Hg	(EPA, 1990)		1.66				(USCG, 1999)		0.892		42.8		(EPA, 1990)		42.7		760		(EPA, 1990)	48.11		(NOSH, 2003)		150	ppm	(NOSH, 2003)		2		%		MMC	Poison Gas|Flammable Gas	CEHSH		14.0	1.0	29.0	3.0	4.0
697	CYCLOPENTANONE	(NTP, 1992)		0.0085				mm Hg							(NTP, 1992)		4.06		77								(NTP, 1992)	251.08		(NOSH, 2003)		2	mg/m3	(NTP, 1992)	at 70Â° F	2		mg/mL			Poison	CH3HgCl		11.0	1.0	23.0	3.0	4.0
698	CYCLOPHOSPHAMIDE																				(USCG, 1999)	Sublimes 527A° F					(USCG, 1999)	227.06							at 70Â° F	less than 0.1	mg/mL		DCL	Poison	C10H14Cl2O2		11.0	1.0	28.0	3.0	4.0
699	CYCLOPHOSPHAMIDE MONOHYDRATE																																						Poison	C10H14Cl2O2		11.0	1.0	28.0	3.0	4.0
700	CYTARABINE																										(NTP, 1992)	199.22							at 68Â° F	less than 1	mg/mL			Poison	C12H9N5O2	Cellulose-Based Absorbents|Clay and Modified Clay Absorbents|Polymeric Absorbents	11.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
701	D(+)-TRYPTOPHAN	ALPHA-AMINO-3,3'-INDOLYLPROPANOIC ACID|2 AMINO-3,3'-INDOLYLPROPANOIC ACID|D(+)-TRYPTOPHAN|D-TRYPTOPHAN|D-TRYPTOPHANE|3,3'-INDOLYL-2-ALANINE|(R)-ALPHA-AMINO-3-INDOLEPROPIONIC ACID|(R)-ALPHA-AMINOINDOLE-3-PROPANOIC ACID|(R)-TRYPTOPHAN|(+)-TRYPTOPHAN|TRYPTOPHAN, D-	153-94-6	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	1821.0	196.0	584.0	239.0	233.0	310.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical is not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinquisher. (NTP, 1992)
702	D-ALPHA-TOCOPHERYL ACETATE	ALFACOL|ALPHA-TOCOPHEROL ACETATE|(+)-ALPHA-TOCOPHEROL ACETATE|ALPHA-TOCOPHERYL ACETATE|(+)-ALPHA-TOCOPHERYL ACETATE|6-CHROMANOL, 2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-, ACETATE, (+)-|COMBINAL E|CONTOPHERON|COPHEROL 1250|COVITOL 1360|D-ALPHA-TOCOPHEROL ACETATE|D-ALPHA-TOCOPHERYL ACETATE|E-FEROL|E-TOPLEX|ECOFROL|ECON|ENDO E DOMPE|EPHYNAL ACETATE|EPSILAN-M|EREVIT|EVIPHEROL|FERTIL|VIT|GEVEX|2H-1-BENZOPYRAN-6-OL, 3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-, ACETATE, [2R-[2R*(4R*,8R*)]]-|(2R,4'R,8'R)-ALPHA-TOCOPHEROL	58-95-7	PHYSICAL DESCRIPTION: Odorless off-white crystals. Darkens at 401Â° F. (NTP, 1992)	1.0	2.5	5.0	1821.0	196.0	584.0	239.0	233.0	310.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
703	DAUNORUBICIN HYDROCHLORIDE	CERUBIDINE|DAUNOBLASTIN|DAUNOBLASTINA|DAUNOMYCIN CHLOROHYDRATE|DAUNOMYCIN HYDROCHLORIDE|DAUNOMYCIN, HYDROCHLORIDE|DAUNORUBICIN HYDROCHLORIDE|5,12-NAPHTHACENEDIONE, 8-ACETYL-10-[(3-AMINO-2,3,6-TRIDEOXY-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY]-7,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-, HYDROCHLORIDE, (8S-CIS)-|ONDENA|(8S-CIS)-8-ACETYL-10-(3-AMINO-2,3,6-TRIDEOXY-ALPHA-L-LYXO-HEXOPYRANOSYL)OXY)-7,8,9,10-TETRAHYDRO-6,8,11-TRIHYDROXY-1-METHOXY-5,12-NAPHTHACENEDIONE HYDROCHLORIDE	23541-50-6	PHYSICAL DESCRIPTION: Orange-red powder. Thin red needles decomposing at 188-190Â°C. An anti-cancer drug.	1.0	2.5	5.0	1821.0	196.0	584.0	239.0	233.0	310.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
704	DECABROMODIPHENYL OXIDE	ADINE 505|AFR 1021|BERKFLAM B 10E|BIS(PENTABROMOPHENYL) ETHER|BR 55N|BROMKAL 81|BROMKAL 82-0DE|BROMKAL 82-ODE|BROMKAL 83-10DE|CALIBAN F/R-P 39P|DB 10|DB 101|DB 102|DE 83|DE 83R|DECABROM|DECABROMOBIPHENYL ETHER|DECABROMOBIPHENYL OXIDE|DECABROMODIPHENYL ETHER|2,2',3,3',4,4',5,5',6,6'-DECABROMODIPHENYL ETHER|DECABROMODIPHENYL OXIDE|DECABROMOPHENYL ETHER|DP 10F|DPBPO|102(E)|EB 10|EB 10FP|EB 10W|EBR 700|ETHER, BIS(PENTABROMOPHENYL)|FIRE CUT 83D|FLAME CUT 110R|FLAME CUT BR 100|FR 10|FR 10 (ETHER)|FR 1210|FR 300|FR 300BA|FR-PE|FR-PE(H)|FRP 53|NCI-C55287|NONNEN DP	1163-19-5	PHYSICAL DESCRIPTION: White to off-white powder with a chemical odor. (NTP, 1992)	1.0	2.5	5.0	1825.0	196.0	584.0	239.0	233.0	311.0	37.0	100.0	42.0	39.0	(BLOB)	Flash point data for this chemical are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
705	DECANOIC ACID	CAPRIC ACID|CAPRINIC ACID|CAPRYNIC ACID|DECANOIC ACID|DECOIC ACID|DECYLIC ACID|EMERY 659|HEXACID 1095|LUNAC 10-95|LUNAC 10-98|N-CAPRIC ACID|N-DECANOIC ACID|N-DECOIC ACID|N-DECYLIC ACID|NAA 102|NEO-FAT 10|1-NONANE CARBOXYLIC ACID|1-NONANECARBOXYLIC ACID|PRIFAC 2906|PRIFAC 296	334-48-5	White crystalline solid with a rancid odor. Melting point 31.5Â°C. Soluble in most organic solvents and in dilute nitric acid; non-toxic. Used to make esters for perfumes and fruit flavors and as an intermediate for food-grade additives.	1.0	2.5	5.0	1829.0	196.0	584.0	239.0	233.0	312.0	37.0	100.0	42.0	39.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
701	D(+)-TRYPTOPHAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Slightly soluble in water.	6-AMINO-4-NITRO-1-PHENOL-2-SULFONIC ACID may react with strong oxidizers and mineral acids (NTP, 1992). May react with bases.	Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)	545	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in ambient temperatures. (NTP, 1992)																																		
702	D-ALPHA-TOCOPHERYL ACETATE		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)							0																				(NTP, 1992)		473 to 478
703	DAUNORUBICIN HYDROCHLORIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hygroscopic. Water soluble.	A weak acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.							0																						(NTP, 1992)	(Decomposes)		450 to 451
704	DECABROMODIPHENYL OXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. UÃ¶e absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures away from all oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	6-NITROBENZIMIDAZOLE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						(NTP, 1992)		405 to 408
705	DECANOIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	When in contact with water or steam it may produce fumes that can cause illness from inhalation.	DICHLORODIFLUOROETHYLENE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
701	D(+)-TRYPTOPHAN																										(NTP, 1992)		234.2						(NTP, 1992)	at 70.7Â° F		1 to 5	mg/mL		Corrosive	C6H6N2O6S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	36.0	3.0	4.0
702	D-ALPHA-TOCOPHERYL ACETATE																										(NTP, 1992)		137.16						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C6H7N3O	Mineral-Based & Clay-Based Absorbents	11.0	1.0	37.0	3.0	4.0
703	DAUNORUBICIN HYDROCHLORIDE																										(NTP, 1992)		205.64													C8H11NO3.ClH		11.0	1.0	38.0	3.0	4.0
704	DECABROMODIPHENYL OXIDE																										(NTP, 1992)		163.14						(NTP, 1992)	at 61.7Â° F		less than 0.1	mg/mL		Poison	C7H5N3O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	29.0	3.0	4.0
705	DECANOIC ACID																																								Poison	C2Cl2F2	Dirt/Earth	13.0	1.0	31.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
706	DEXAMETHAZONE	(BLOB)	50-02-2	PHYSICAL DESCRIPTION: Odorless white to off-white crystalline powder with a slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	1833.0	196.0	584.0	239.0	233.0	313.0	37.0	100.0	42.0	39.0	(BLOB)	Special Hazards of Combustion Products: Although nonflammable, dissociation products generated in a fire may be irritating or toxic. Behavior in Fire: Helps extinguish fire. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
707	DI-(2,4-DICHLOROBENZOYL) PEROXIDE	BIS(2,4-DICHLOROBENZOYL) PEROXIDE|C 2|C 2 (CROSSLINKING AGENT)|CADOX TDP|CADOX TS|CADOX TS 50|CHALOXYD DCLBP 50PSI|DCBP|DI-(2,4-DICHLOROBENZOYL) PEROXIDE|LUPERCO CST|O,O',P,P'-TETRACHLORODIBENZOYL PEROXIDE|SILOPRENE CL 40|TC 2|TC 2 (PEROXIDE)	133-14-2	Not shipped or stored at concentrations higher than 75%, because of explosion hazard. Mixed with water.	2.5	5.0	2.5	1837.0	196.0	584.0	247.0	237.0	314.0	37.0	100.0	44.0	40.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
708	DI-(2,4-DICHLOROBENZOYL) PEROXIDE, [<= 52% AS A PASTE]	BIS(2,4-DICHLOROBENZOYL) PEROXIDE|C 2|C 2 (CROSSLINKING AGENT)|CADOX TDP|CADOX TS|CADOX TS 50|CHALOXYD DCLBP 50PSI|DCBP|DI-(2,4-DICHLOROBENZOYL) PEROXIDE|DI-(2,4-DICHLOROBENZOYL) PEROXIDE, [<= 52% AS A PASTE]|LUPERCO CST|O,O',P,P'-TETRACHLOROD|BENZOYL PEROXIDE|SILOPRENE CL 40|TC 2|TC 2 (PEROXIDE)	133-14-2		2.5	5.0	2.5	1841.0	196.0	584.0	247.0	237.0	315.0	37.0	100.0	44.0	40.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
709	DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, [TECHNICALLY PURE]	BIS(2-ETHYLHEXYL) PERDICARBONATE|BIS[2-ETHYLHEXYL) PEROXYDICARBONATE|BIS(ETHYLHEXYL) PEROXYDICARBONATE|DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, [TECHNICALLY PURE]|DI-(2-ETHYLHEXYL)PEROXYDICARBONATE|DI-2-ETHYLHEXYL PEROXYDICARBONATE|ESPERCARB 840M|2-ETHYLHEXYL PEROXYDICARBONATE|LUPERSOL 223|PEROYL OPP|PEROYL OPP 60E|TRIGONOX EHP|TRIGONOX EHP-W 40	16111-62-9	This liquid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. They are generally stored or transported in a solvent slurry.	2.5	5.0	2.5	1845.0	196.0	584.0	247.0	237.0	316.0	37.0	100.0	44.0	40.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
710	DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE, [TECHNICALLY PURE]	BIS(4-TERT-BUTYLCYCLOHEXYL) PERCARBONATE|BIS(4-TERT-BUTYLCYCLOHEXYL) PEROXYDICARBONATE|CYCLOHEXANOL, 4-TERT-BUTYL-, PEROXYDICARBONATE (2:1)|DI(4-TERT-BUTYLCYCLOHEXYL) PEROXYDICARBONATE|DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE|DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE, [TECHNICALLY PURE]|DI-TERT-BUTYLDICYCLOHEXYL PEROXYDICARBONATE|PERKADOX 16|PERKADOX 16N|PERKADOX 16S|PERKADOX 16W40|PERKADOX PX 16|PEROXYDICARBONIC ACID, BIS(4-TERT-BUTYLCYCLOHEXYL) ESTER|PEROYL TCP	15520-11-3	Crystalline solid. This solid peroxide is particularly heat and contamination sensitive. These materials above a given "control temperature" may decompose violently. They are often stored in a temperature controlled vessel, also mixed with water to form a slurry of the peroxide. This greatly lessens the explosion hazard risk.	1.0	2.5	5.0	1845.0	196.0	588.0	247.0	237.0	316.0	37.0	101.0	44.0	40.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
706	DEXAMETHAZONE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	The liquefied gas poured into water can be violently explosive. This is due to the phase transition from superheated liquid to vapor.	The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure, [Chem. Eng. News 39(27):44(1961)].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
707	DI-(2,4-DICHLOROBENZOYL) PEROXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Sensitive to heat. Incompatible with oxidizers. Also incompatible with strong acids, strong reducing agents, acid chlorides and acid anhydrides. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		165																(NTP, 1992)		25	
708	DI-(2,4-DICHLOROBENZOYL) PEROXIDE, [<= 52% AS A PASTE]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Sensitive to exposure to light, air, and moisture. Reacts with water or steam to produce toxic and corrosive fumes.	1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN reacts violently with xylene. It is incompatible with strong acids, easily oxidized materials, ammonia salts and sulfides. It will react with water or steam to produce toxic and corrosive fumes. At a pH of 9, it decomposes completely. (NTP, 1992)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0			(NIOSH, 2003)		346																(NTP, 1992)		270	
709	DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, [TECHNICALLY PURE]	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Forms fumes containing HCl in moist air. Can spontaneously ignite on contact with moist air. Reacts with water to form hydrochloric acid, reaction may be violent and ignite unreacted material.	METHYL PHOSPHONOUS DICHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2845 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
710	DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE, [TECHNICALLY PURE]	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable.	The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure, [Chem. Eng. News 39(27):44(1961)].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
706	DEXAMETHAZONE	(NTP, 1992)		5		61		atm							(USCG, 1999)		1.35		59		(NTP, 1992)		-21.6		760		(NTP, 1992)		120.91		(NIOSH, 2003)		15000	ppm	(NTP, 1992)	Insoluble				DCF	Non-Flammable Gas	CCl2F2		11.0	1.0	45.0	3.0	4.0
707	DI-(2,4-DICHLOROBENZOYL) PEROXIDE	(NTP, 1992)	; 5 mm Hg at 126.0Â° F	1		82.4		mm Hg	(NTP, 1992)		4.45				(NTP, 1992)		1.3506		63		(NTP, 1992)		345		760		(NTP, 1992)		128.99						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison	C3H6Cl2O	Cellulose-Based Absorbents	10.0	1.0	16.0	3.0	4.0
708	DI-(2,4-DICHLOROBENZOYL) PEROXIDE, [<= 52% AS A PASTE]								(NTP, 1992)		6.8				(NTP, 1992)		1.5		68		(NTP, 1992)	Sublimes at 212Â° F					(NTP, 1992)		197.03		(NIOSH, 2003)		5	mg/m3	(NTP, 1992)	Reaction					Oxidizer	C5H6Cl2N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	10.0	1.0	16.0	3.0	4.0
709	DI-(2-ETHYLHEXYL) PEROXYDICARBONATE, [TECHNICALLY PURE]																																								Poison Inhalation Hazard|Spontaneously Combustible	C3H3Cl2P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	17.0	3.0	4.0
710	DI-(4-TERT-BUTYLCYCLOHEXYL)PEROXYDICARBONATE, [TECHNICALLY PURE]																																								Non-Flammable Gas	CCl2F2|C2H4F2		10.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
711	DIACETONE ALCOHOL	DIACETONE ALCOHOL,[DIACETONE ALCOHOL, [COMBUSTIBLE LIQUID LABEL]]DIACETONE ALCOHOL, [FLAMMABLE LIQUID LABEL]	123-42-2	A clear colorless liquid with a pleasant odor. Flash point below 141Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	1845.0	196.0	588.0	255.0	237.0	316.0	37.0	101.0	46.0	40.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Emits toxic fumes under fire conditions. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
712	DIACETYL	BIACETYL|BUTADIONE|2,3-BUTADIONE|BUTANE-2,3-DIONE|BUTANEDIONE|DIACETYL|2,3-DIKETOBUTANE|DIMETHYL DIKETONE|DIMETHYLGLYOXAL|2,3-DIOXOBUTANE	431-03-8	A clear colorless liquid with a strong chlorine-like odor. Flash point 80Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	1849.0	196.0	588.0	255.0	237.0	317.0	37.0	101.0	46.0	40.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
713	DIAZEPAM	(BLOB)	439-14-5	PHYSICAL DESCRIPTION: Off-white to yellow crystalline powder. Practically odorless. Tasteless at first with a bitter aftertaste. (NTP, 1992)	1.0	2.5	5.0	1849.0	200.0	588.0	255.0	241.0	317.0	38.0	101.0	46.0	41.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fires. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
714	DIAZINON	(BLOB)	333-41-5	Liquid; light to dark brown. Sinks in water. Commercial solutions can contain ethanol/xylene/acetone with a flash point in the range 82-105Â° F.	2.5	5.0	2.5	1849.0	204.0	592.0	255.0	245.0	317.0	39.0	102.0	46.0	42.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
715	DIBUTYLTIN DILAURATE	(BLOB)	77-58-7	PHYSICAL DESCRIPTION: Clear yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	1853.0	204.0	596.0	255.0	245.0	318.0	39.0	103.0	46.0	42.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
711	DIACETONE ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Self contained breathing apparatus, rubber boots, and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	METHYL SALICYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is incompatible with oxidizers. It is also incompatible with strong bases. It may react with iron salts. (NTP, 1992)			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		205											(USCG, 1999)		847		(NTP, 1992)		16.5	
712	DIACETYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	(BLOB)						0															(NTP, 1992)		232 to 234
713	DIAZEPAM	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	TDE is a halogenated hydrocarbon. Compounds in this group may react with acids, bases, and oxidizing and reducing agents. They are incompatible with alkali, and strong oxidizers, in particular.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0															(NTP, 1992)		228 to 230
714	DIAZINON	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	METHYL VALERATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound reacts with oxidizing agents, bases and acids. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		72																		
715	DIBUTYLTIN DILAURATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Soluble in water.	This compound is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		149 to 158															(NIOSH, 2003)		-58	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source
711	DIACETONE ALCOHOL	(NTP, 1992)	1.1 mm Hg at 129Â° F	0.0975		68		mm Hg	(NTP, 1992)		5.24				(USCG, 1999)		1.174				(NTP, 1992)		432		760		(NTP, 1992)
712	DIACETYL														(NTP, 1992)		1.4105				(NTP, 1992)	Decomposes					
713	DIAZEPAM	(NTP, 1992)		1.00E-06		86		mm Hg	(NTP, 1992)		11				(NTP, 1992)		1.385				(NTP, 1992)		379		760		(NTP, 1992)
714	DIAZINON	(NTP, 1992)	1 : 262 mm Hg at 167Â° F; 320 mm Hg at 199Â° F	63		124		mm Hg							(NTP, 1992)		0.8947		68		(NTP, 1992)		259.7		760		(NTP, 1992)
715	DIBUTYLTIN DILAURATE	(NOSH, 2003)		2		86		mm Hg							(NOSH, 2003)		0.92				(NOSH, 2003)		311 to 356		760		(NOSH, 2003)

id	name	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score	formulas	dot_labels	chris_codes	solbity_unit	solbity_range	solbity_value	solbity_note	solbity_source	idlh_unit	idlh_value	idlh_note	idlh_source	molwgt_range	molwgt_value	molwgt_source	incompatible_absorbents
711	DIACETONE ALCOHOL	13.0	1.0	27.0	3.0	4.0	C6H8O3		MES	mg/mL	less than 1		at 66Â° F	(NTP, 1992)						152.15	(NTP, 1992)	
712	DIACETYL	10.0	1.0	24.0	3.0	4.0	C5H8O4			mg/mL	greater than or equal to 100		at 72Â° F	(NTP, 1992)						132		
713	DIAZEPAM	11.0	1.0	22.0	3.0	4.0	C16H10ClN3O	Poison	DDD	mg/mL	less than 1		at 65.3Â° F	(NTP, 1992)						350.46	(NTP, 1992)	
714	DIAZINON	10.0	1.0	24.0	3.0	4.0	C12H21O3PS	Flammable Liquid		mg/mL	less than 1		at 72Â° F	(NTP, 1992)						116.16	(NTP, 1992)	
715	DIBUTYLTIN DILAURATE	11.0	1.0	27.0	3.0	4.0	C7H14O	Flammable Liquid		%		4		(NIOSH, 2003)	ppm	500		(NIOSH, 2003)		114.2		Cellulose-Based Absorbents

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
716	DICHLORVOS	(BLOB)	62-73-7	A colorless to amber liquid with an aromatic odor. When heated to high temperatures may emit toxic chloride fumes and phosgene gas. Flash point 175Â°F or higher. Toxic by inhalation, skin absorption or ingestion. Used as a pesticide.	2.5	5.0	2.5	1853.0	204.0	596.0	255.0	245.0	318.0	39.0	103.0	46.0	42.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
717	DICHLORVOS MIXTURE, [DRY]	ATGARD|ATGARD V|BIBESOL|BREVINYL|BREVINYL E 50|CANOGARD|CHLORVINPHOS|DDVP|DDVP (INSECTICIDE)|DEDEVAP|DES|DICHLOFOS|DICHLORMAN|2,2-DICHLOROETHENYL DIMETHYL PHOSPHATE|DICHLOROVINPHOS|2,2-DICHLOROVINYL DIMETHYL PHOSPHATE|DICHLOROVOS|DICHLORVOS|DICHLORVOS MIXTURE, [DRY]|DIMETHYL 2,2-DICHLOROETHENYL PHOSPHATE|DIMETHYL 2,2-DICHLOROVINYL PHOSPHATE|DIMETHYL DICHLOROVINYL PHOSPHATE|DIVIPAN|ENT 20738|EQUIGARDEQUIGEL|ESTROSEL|ESTROSOL|ETHENOL, 2,2-DICHLORO-, DIMETHYL PHOSPHATE|FECAMA|FEKAMA|INSECTIGAS D|MOPAR|NEFRAFOS|NERKOL|NOGOS|NOGOS	62-73-7	An aromatic colorless to amber liquid absorbed in a dry carrier. Denser than water and slightly soluble in water. Toxic by inhalation, skin absorption, absorption, or ingestion. When heated to high temperatures may emit toxic chloride fumes and phosgene gas. Used as a pesticide.	2.5	5.0	2.5	1857.0	204.0	600.0	255.0	245.0	319.0	39.0	104.0	46.0	42.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
718	DICUMYL PEROXIDE	ACTIVE DICUMYL PEROXIDE|ALPHA,ALPHA'-DICUMYL PEROXIDE|ALPHA,ALPHA-DIMETHYLBENZYL PEROXIDE|ALPHA-CUMYL PEROXIDE|BIS(1-METHYL-1-PHENYLETHYL) PEROXIDE|BIS(2-PHENYL-2-PROPYL) PEROXIDE|BIS(ALPHA,ALPHA-DIMETHYLBENZYL) PEROXIDE|C 3|C 3 (CROSSLINKING AGENT)|CUMENE PEROXIDE|CUMYL PEROXIDE|DCP|DCP 40C|DCP 95R|DI-ALPHA-CUMYL PEROXIDE|DI-CUP|DI-CUP 40C|DI-CUP 40HAF|DI-CUP 40KE|DI-CUP 60|DI-CUP R|DI-CUP T|DICUMENE HYDROPEROXIDE|DICUMENYL PEROXIDE|DICUMYL PEROXIDE|DICUMYL PEROXIDE, [DRY]|DICUP 40|DICUP 40KE|DIISOPROPYLBENZENE PEROXIDE|INTEROX DCUP	80-43-3	PHYSICAL DESCRIPTION: White powder with a characteristic odor. (NTP, 1992)	1.0	2.5	5.0	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
719	DICYCLOHEXYLAMINE	AMINODICYCLOHEXANE|BIS(CYCLOHEXYL)AMINE|DCHA|DICYCLOHEXYLAMINE|DODECAHYDRODIPHENYLAMINE|N,N-DICYCLOHEXYLAMINE|N-CYCLOHEXANAMINE|N-CYCLOHEXYLCYCLOHEXANAMIDE|N-CYCLOHEXYLCYCLOHEXANAMINE|PERHYDRODIPHENYLAMINE	101-83-7	A colorless liquid with a faint fishlike odor. Less dense than water. May be toxic by ingestion. Severely irritates skin, eyes and mucous membranes. Used to make paints, varnishes and detergents.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
720	DICYCLOPENTADIENE	3A,4,7,7A-TETRAHYDRO-[3A,4,7,7A-TETRAHYDRO-4,7-METHANOINDENE|BICYCLOPENTADIENE|BISCYCLOPENTADIENE|CYCLOPENTADIENE DIMER|1,3-CYCLOPENTADIENE, DIMER|DCPD|DICY|DICYCLOPENTADIENE|1,3-DICYCLOPENTADIENE DIMER|4,7-METHANOINDENE, 3A,4,7,7A-TETRAHYDRO-|4,7-METHANOINDENE|TRICYCLO[5.2.1.02,6]DECA-3,8-DIENE	77-73-6	A liquid with an acrid odor. Flash point 90Â°F. The vapors are irritating to the eyes and respiratory system. Subject to polymerization if subjected to heat for prolonged periods or if contaminated. If the polymerization takes place inside a container, the container may violently rupture. Insoluble in water. Density 8.2 lb / gal. Used in paints, varnishes, as an intermediate in insecticides, as a flame retardant in plastics.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
721	DIETHYL ALUMINUM CHLORIDE	CHLORODIETHYLALUMINUM {DIETHYLALUMINUM CHLORIDE}|DIETHYL ALUMINUM CHLORIDE	96-10-6	Colorless liquid. Dangerous fire and explosion hazard. Used as an intermediate in production of organometallics.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorine-containing compounds. Flammable/combustible material; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Fire may produce irritating or poisonous gases. Reacts strongly with oxidizing materials. (EPA, 1998)	Isolate for 1/2 mile in all directions if tank car or truck is involved in a fire. Wear self-contained (positive pressure) breathing apparatus with full protective clothing. Do not get water inside container. For small fires, use dry chemical, carbon dioxide, water spray or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
716	DICHLORVOS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble..Rapidly hydrolyzes.	This compound is sensitive to light, hydrolysis, oxidation, and heat. It is very hygroscopic. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)			543 to 545
717	DICHLORVOS MIXTURE, [DRY]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolysis rapidly occurs under alkaline conditions	A halogenated dicarboximide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
718	DICUMYL PEROXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Resinifies (oxidizes, hardens and turns yellow or brown) on long exposure to air. Very soluble in water [Hawley]. Reacts exothermically with water to evolve gaseous ammonia.	ACETALDEHYDE AMMONIA reacts with strong oxidizing agents and halogens. Attacks copper, aluminum, zinc and their alloys. Reacts with mercury and silver oxides to form shock-sensitive compounds [Handling Chemicals Safely 1980. p. 139]. Readily decomposes into acetaldehyde and ammonia when heated, causing the hazards of those substances [Lewis].	Water-Reactive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
719	DICYCLOHEXYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	METHYLNAPHTHALENE is incompatible with strong oxidizing agents. It is also incompatible with peroxides and oxygen. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1-methylnaphthalene, CAS number 90 12-0.	1	1	0	1		(NTP, 1992)		greater than 200																				
720	DICYCLOPENTADIENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters, such as METHYLPENTACHLOROSTEARATE, react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																												
721	DIETHYL ALUMINUM CHLORIDE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Insoluble in water. Methylphenyldichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 6.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as METHYLPHENYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2437 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0			(EPA, 1998)	SUSPECT	83																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
716	DICHLORVOS																									(NTP, 1992)		909.16							(NTP, 1992)	at 76.1Â° F		greater than or equal to 10	mg/mL		Poison	C46H58N4O9.H2O4S	Cellulose-Based Absorbents	10.0	1.0	41.0	3.0	4.0
717	DICHLORVOS MIXTURE, [DRY]																																								Class 9	C12H9Cl2NO3	Dirt/Earth	10.0	1.0	41.0	3.0	4.0
718	DICUMYL PEROXIDE																																								Class 9	CH3CH(OH)NH2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	12.0	1.0	28.0	3.0	4.0
719	DICYCLOHEXYLAMINE	(NTP, 1992)	; 31 mm Hg at 122Â° F; 38 mm Hg at 158Â° F	23		77		mm Hg							(NTP, 1992)		1.01		59.9		(NTP, 1992)			450 to 590	760		(NTP, 1992)		142.2						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Class 9	C11H10		11.0	1.0	24.0	3.0	4.0
720	DICYCLOPENTADIENE																											(NTP, 1992)		470.74						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C19H33ClSO2		19.0	1.0	41.0	3.0	4.0
721	DIETHYL ALUMINUM CHLORIDE	(EPA, 1998)		1		96.26		mm Hg							(EPA, 1998)		1.19				(EPA, 1998)			401	760		(EPA, 1998)		191.14											Corrosive	C7H8Cl2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
722	DIETHYL CARBONATE	CARBONIC ACID, DIETHYL ESTER|CARBONIC ETHER|DIATOL|DIETHYL CARBONATE|ETHYL CARBONATE|ETHYL CARBONATE ((ETO)2CO)|EUFIN	105-58-8	A colorless liquid with a mild pleasant odor. It is slightly less dense than water and insoluble in water. Hence floats on water. Flash point 77Â°F. Vapors are heavier than air. When heated to high temperatures it may emit acrid smoke. Used as a solvent.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
723	DIETHYL ETHER	AETHER|ANAESTHETIC ETHER|ANESTHESIA ETHER|ANESTHETIC ETHER|DIETHYL ETHER|DIETHYL ETHER (ETHYL ETHER)|DIETHYL OXIDE|ETHANE, 1,1'-OXYBIS-|ETHER|ETHOXYETHANE|ETHYL ETHER|ETHYL OXIDE|3-OXAPENTANE|1,1'-OXYBISETHANE|PRONARCOL|SOLVENT ETHER|SULFURIC ETHER	60-29-7	A clear colorless liquid with an anesthetic odor. Flash point -49Â°F. Less dense than water and slightly soluble in water. Hence floats on water. Vapors are heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
724	DIETHYL KETONE	DEK|DIETHYL KETONE|DIMETHYL ACETONE|DIMETHYLACETONE|ETHYL KETONE|ETHYL PROPIONYL|METACETONE|METHACETONE|3-PENTANONE|PROPIONE|ZED 2EK	96-22-0	A clear colorless liquid with an acetone-like odor. Flash point 55Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	Toxic hydrogen chloride and phosgene gases may form in fires. Reacts with water or steam to form hydrochloric acid. Vapor forms flammable mixture with air. May form explosive mixture in air. Avoid contact with water or moist air. (EPA, 1998)	Self-contained breathing apparatus is required as combustion/decomposition yields acid gases/pulmonary irritants. Corrosion-resistant protective clothing, as well as appropriate foot, hand, arm, head, eye, and face protection are required where contact is possible. Dry chemical or carbon dioxide may be used for small fires. Water may be used for large fires if firefighters are protected from violent reaction of methyltrichlorosilane with water. Water may be used to keep containers cool. (EPA, 1998)
725	DIETHYL PHTHALATE	ANOZOL|1,2-BENZENEDICARBOXYLIC ACID, DIETHYL ESTER|DEP|DIETHYL 1,2-BENZENEDICARBOXYLATE|DIETHYL ESTER OF PHTHALIC ACID|DIETHYL PHTHALATE|DIETHYL PHTHALATE (0)|DIETHYL-O-PHTHALATE|ESTOL 1550|ETHYL PHTHALATE|NCI-C60048|NEANTINE|O-BENZENEDICARBOXYLIC ACID DIETHYL ESTER|O-BIS(ETHOXYCARBONYL)BENZENE|PALATINOL A|PHTHALIC ACID, DIETHYL ESTER|PHTHALOL|PLACIDOL E|SOLVANOL|UNIMOLL DA	84-66-2	A clear, colorless liquid without significant odor. More dense than water and insoluble in water. Hence sinks in water. Primary hazard is to the environment. Spread to the environment should be immediately stopped. Easily penetrates soil, contaminates groundwater and nearby waterways. Flash point 325Â°F. Severely irritates eyes and mildly irritates skin. Used in the manufacture of perfumes, plastics, mosquito repellents and many other products.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	INHALATION: Call for medical aid. Move victim from contaminated area to fresh air. Apply artificial respiration if necessary. INGESTION: If victim is conscious administer 1,2 glasses of water and induce vomiting. EYES: Immediately rinse with large amounts of running water. Do not apply any medication, unless advised by a physician. SKIN: Wash with soap and plenty of water including hair and undernails. Do not apply any medication except on the advice of a physician. Remove clothing and wash before reuse. (USCG, 1999)		Fire Extinguishing Agents: Dry chemical, alcohol foam or carbon dioxide (USCG, 1999)
726	DIETHYLAMINE	DEA|DEN|DIETHAMINE|DIETHYLAMINE|ETHANAMINE, N-ETHYL-|N,N-DIETHYLAMINE|N-ETHYLETHANAMINE	109-89-7	A clear colorless liquid with an ammonia-like odor. Density 5.9 lb / gal. Flash point -15Â°F. A respiratory irritant. Corrosive to the eyes and skin. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	1861.0	204.0	604.0	255.0	245.0	320.0	39.0	105.0	46.0	42.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
722	DIETHYL CARBONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	METHYL-P-TOLUATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.									0		(NTP, 1992)		204														(NTP, 1992)		91	
723	DIETHYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	METHYLTHIOURACIL reacts with strong oxidizing agents. Forms complexes with metals and is oxidized by iodine and other sulfhydryl oxidizing agents (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(NTP, 1992)	(Decomposes)		570 to 577
724	DIETHYL KETONE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Fumes in air. Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas. [Handling Chemicals Safely 1980. p. 924]. Methyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.4 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as METHYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1250 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5	No Water	(EPA, 1998)		15		(EPA, 1998)		7.6		%	(EPA, 1998)		20		%	(USCG, 1999)		greater than 760	(EPA, 1998)		-108	
725	DIETHYL PHTHALATE		In case of spill: Wear chemical safety glasses or goggles, rubber gloves, waterproof boots, and approved chemical cartridge respirator. In case of fire: Wear full protective clothing and self contained breathing apparatus. (USCG, 1999)	Slightly soluble in water. Hydrolyzed by strong mineral acids and strong alkalis.	METOLACHLOR is a chlorinated acetamide. May react with azo and diazo compounds to generate toxic gases. May form flammable gases with strong reducing agents. Combustion generates mixed oxides of nitrogen (NOx).							0		(USCG, 1999)		greater than 230										(USCG, 1999)		510				
726	DIETHYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	METRONIDAZOLE darkens on exposure to light. This chemical is incompatible with strong oxidizing agents. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)		316 to 320

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
722	DIETHYL CARBONATE														(NTP, 1992)		1.058		77		(NTP, 1992)		423		760		(NTP, 1992)		150.19						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C9H10O2		10.0	1.0	25.0	3.0	4.0
723	DIETHYL ETHER																									(NTP, 1992)		142.18						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Class 9	C5H6N2OS	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	19.0	1.0	35.0	3.0	4.0
724	DIETHYL KETONE								(EPA, 1998)		5.17				(EPA, 1998)		1.27		77		(EPA, 1998)		152		760		(EPA, 1998)		149.48											MTS	Flammable Liquid|Corrosive	CH3Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	23.0	3.0	4.0
725	DIETHYL PHTHALATE														(USCG, 1999)		1.12				(USCG, 1999)		212		0.001		(USCG, 1999)		283.81											MCO		C15H22ClNO2		15.0	1.0	42.0	3.0	4.0
726	DIETHYLAMINE																									(NTP, 1992)		171.18						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C6H9N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	46.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
727	DIETHYLENE GLYCOL DIMETHYL ETHER	BIS(2-METHOXYETHYL) ETHER|BIS-(2-METHOXYETHYL)-ETHER|DI(2-METHOXYETHYL) ETHER|DIETHYLENE GLYCOL DIMETHYL ETHER|DIETHYLENE GLYCOL, DIMETHYL ETHER|DIGLYCOL METHYL ETHER|DIGLYME|DIMETHYL CARBITOL|DIMETHYL DIGOL|ETHANOL, 2,2'-OXYBIS-, DIMETHYL ETHER|ETHER, BIS(2-METHOXYETHYL)|GLYME 2|GLYME 3|2-(2-METHOXYETHOXY)-1-METHOXYETHANE|2-METHOXYETHYL ETHER|(2-METHOXYETHYL) ETHER|METHYL DIGLYME|1,1'-OXYBIS[2-METHOXY)ETHANE|2,2'-OXYBISETHANOL DIMETHYL ETHER|2,2'-OXYBISETHANOL, DIMETHYL ETHER|POLY SOLV|POLY-SOLV|2,5,8-TRIOXANONANE|2,5,8-TRIOXANONANE, 3,7-DIMETHYL|3,7-DIMETHYL-2,5,8-TRIOXANONANE|DIGLYME, BIS(2-METHOXYETHYL) ETHER|DIGLYME, METHYL|DIGLYME|1,1'-OXYBIS(2-METHOXY)ETHANE|2,2'-OXYBISETHANOL DIMETHYL ETHER|2,2'-OXYBISETHANOL, DIMETHYL ETHER|POLY SOLV|POLY-SOLV|2,5,8-TRIOXANONANE|2,5,8-TRIOXANONANE, 3,7-DIMETHYL|3,7-DIMETHYL-2,5,8-TRIOXANONANE	111-96-6	Colorless watery liquid with a pleasant odor. Floats and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	Behavior in Fire: Supports combustion (USCG, 1999)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
728	DIETHYLENE GLYCOL MONOBUTYL ETHER	BDG-NS|BUTADIGOL|BUTOXYDIETHYLENE GLYCOL|BUTOXYDIGLYCOL|2-(2-BUTOXYETHOXY) ETHANOL|2-(2-BUTOXYETHOXY)ETHANOL|BUTOXYETHOXYETHANOL|BUTYL CARBITOL|BUTYL DIGLYCOL|BUTYL DIGOL|BUTYL DIOXITOL|BUTYL OXITOL GLYCOL ETHER|DIEHYLENE DB|DIETHYLENE GLYCOL BUTYL ETHER|DIETHYLENE GLYCOL MONO-N-BUTYL ETHER|DIETHYLENE GLYCOL MONOBUTYL ETHER|DIETHYLENE GLYCOL MONOETHYL ETHER|DIETHYLENE GLYCOL N-BUTYL ETHER|DIGLYCOL MONOBUTYL ETHER|3,6-DI0XA-1-DECANOL|DOWANOL DB|EKTASOLVE DB|ETHANOL, 2,2'-OXYBIS-, MONOBUTYL	112-34-5	Colorless liquid with a mild pleasant odor. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
729	DIETHYLENE GLYCOL MONOETHYL ETHER	APV|2-(BETA-ETHOXYETHOXY)ETHANOL|CARBITOL|CARBITOL CELLOSOLVE|CARBITOL SOLVENT|CARBITOL SOLVENT LOW|DIETHYLENE GLYCOL ETHYL ETHER|DIETHYLENE GLYCOL MONOETHYL ESTER|DIETHYLENE GLYCOL MONOETHYL ETHER|DIGLYCOL|DIGLYCOL MONOETHYL ETHER|3,6-DIOXA-1-OCTANOL|3,6-DIOXAOCTAN-1-OL|DIOXITOL|DOWANOL|DOWANOL DE|EKTASOLVE DE|ETHANOL, 2,2'-OXYBIS-, MONOETHYL ETHER|ETHANOL, 2-(2-ETHOXYETHOXY)-|ETHOXY DIGLYCOL|2-(2-ETHOXYETHOXY) ETHANOL|2-(ETHOXYETHOXY)ETHANOL|2-(2-ETHOXYETHOXY)ETHANOL|2-(2-ETHOXYETHOXY)ETHANOL|2-(2-ETHOXYETHOXY)ETHANOL	111-90-0	A colorless, slightly viscous liquid with a mild pleasant odor. Flash point near 190Â°F. Used to make soaps, dyes, and other chemicals.	2.5	5.0	2.5	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
730	DIETHYLZINC	DIETHYLZINC|ETHYLZINC|ZINC DIETHYL|ZINC ETHYL	557-20-0	Diethylzinc is a pyrophoric liquid with a garlic-like odor. It is stable when it is shipped in sealed tubes with carbon dioxide. It may decompose violently in water and ignite spontaneously with air. It is toxic by ingestion. If exposed to heat or flame, containers of this material may explode. It is used as an aircraft fuel.	2.5	5.0	2.5	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	Flash point data for this chemical are not available, but it is probably non-flammable. (NTP, 1992)	Fires associated with this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
731	DIFLUBENZURON	DIFLUBENZURON	35367-38-5	Colorless to yellow crystals. Used as a selective insecticide.	1.0	2.5	5.0	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated. Behavior in Fire: Dangerous when exposed to heat or fire. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
732	DIHYDRO-2H-PYRAN	DELTA2-DIHYDROPYRAN|3,4-DIHYDRO-2(H)-PYRAN|DIHYDRO-2H-PYRAN|3,4-DIHYDRO-2H-PYRAN|3,6-DIHYDRO-2H-PYRAN|5,6-DIHYDRO-2H-PYRAN|2,3-DIHYDRO-4H-PYRAN|5,6-DIHYDRO-4H-PYRAN|2,3-DIHYDRO-GAMMA-PYRAN|DIHYDROPYRAN|2,3-DIHYDROPYRAN|2H-3,4-DIHYDROPYRAN|PYRAN, DIHYDRO-	110-87-2	A clear colorless liquid with an ethereal odor. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	1865.0	204.0	604.0	255.0	245.0	321.0	39.0	105.0	46.0	42.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	noer_llev_resp	prec_Clothing	air_water_reactions	chemical_profile	special_Hazards	isolation	hfpa_source	hfpa_note	hfpa_health	hfpa_flam	hfpa_react	hfpa_specific	fp_source	fp_note	fp_value	fp_range	fp_source	hel_note	hel_value	hel_range	hel_unit	hel_source	hel_note	hel_value	hel_range	hel_unit	hel_source	hel_note	hel_value	hel_range	hel_unit	al_value	al_note	al_source	al_unit	al_range	mp_source	mp_note	mp_value	mp_range
727	DIETHYLENE GLYCOL DIMETHYL ETHER	STORAGE PRECAUTIONS: You should protect this material from exposure to light and store it under ambient temperatures. Keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the potential exists for exposure over the exposure limit, a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	MIREX is sensitive to exposure to sunlight. This compound may react with strong oxidizers. It reacts with lithium and tertiary butyl alcohol. (NTP, 1992)		Excerpt from CLUDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																												
729	DIETHYLENE GLYCOL MONOETHYL ETHER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridge. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	May be unstable to prolonged exposure to air. Decomposes in water and alcohol. (NTP, 1992)	Water-Reactive	M-NITROBENZOYL CHLORIDE is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react with reducing agents. May react vigorously or explosively if mixed with dissopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].																												
728	DIETHYLENE GLYCOL MONOBUTYL ETHER	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the potential is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Fluorinable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. Tthat is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).																												
730	DIETHYLZINC	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from all mineral acids and bases. (NTP, 1992)	U.S. Bu. Mines approved respirator; safety glasses or face shield; protective gloves (USCG, 1999)	Insoluble in water.	MOLYBDENUM TROXIDE reacts violently with chlorine trifluoride. lithium, potassium and sodium. Readily combines with acids and bases to form a series of polymeric compounds. Incompatible with interhalogens and metals. A violent detonation occurs when heated with molten magnesium. (NTP, 1992)		Excerpt from CLUDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
731	DIFLUBENZURON	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak; spill area on inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)		(BLOB)	Flammable. Reacts violently with water to generate acetic acid. This reaction is heightened by the presence of mineral acids (nitric, perchloric, sulfuric acid, etc.) [Chem. Eng. News 25, 3458].			(NFPA, 2010)																								
732	DIHYDRO-ZH-PYRAN	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the potential exists for exposure over the NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.				0	(NTP, 1992)																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
727	DIETHYLENE GLYCOL DIMETHYL ETHER	(NTP, 1992)		3.00E-07		77		mm Hg	(NTP, 1992)		18.8										(NTP, 1992)	(Sublimes with decomposition)	905		1		(NTP, 1992)		545.55						(NTP, 1992)	at 75Â° F		less than 1	mg/mL	MRX	Poison	C10Cl12		11.0	1.0	25.0	3.0	4.0
728	DIETHYLENE GLYCOL MONOBUTYL ETHER																				(NTP, 1992)			590 to 599	760		(NTP, 1992)		166.14						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C7H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	32.0	3.0	4.0
729	DIETHYLENE GLYCOL MONOETHYL ETHER								(NTP, 1992)		6.43										(NTP, 1992)			527 to 532	760		(NTP, 1992)		185.57						(NTP, 1992)	Decomposes					Corrosive	C7H4ClNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	11.0	1.0	25.0	3.0	4.0
730	DIETHYLZINC														(USCG, 1999)		4.69		68		(NTP, 1992)	(Sublimes)	2111		760		(NTP, 1992)		143.94		(NIOSH, 2003)	(as Mo)	1000	mg/m3	(NTP, 1992)	at 75Â° F		less than 1	mg/mL	MTO	Poison	MoO3		11.0	1.0	21.0	3.0	4.0
731	DIFLUBENZURON	(NTP, 1992)		10		96.8		mm Hg	(NTP, 1992)		3.52				(USCG, 1999)		1.08				(NTP, 1992)		283.19		760		(NTP, 1992)		102.09		(NIOSH, 2003)		200	ppm	(NTP, 1992)	Soluble in cold (greater than or equal to 10mg/ml); Decomposes in hot				ACA	Corrosive|Flammable Liquid	C4H6O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	25.0	3.0	4.0
732	DIHYDRO-2H-PYRAN														(NTP, 1992)		1.42		77								(NTP, 1992)		112.03						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			CH5O4P		10.0	1.0	23.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
733	DIISOBUTYL KETONE	DIBC|DIBK|DIISOBUTYL KETONE|DIISOPROPYLACETONE|5-DIISOPROPYLACETONE|2,6-DIMETHYL-4-HEPTANE|2,6-DIMETHYL-4-HEPTANONE|2,6-DIMETHYLHEPTAN-4-ONE|ISOBUTYL KETONE|ISOVALERONE|5-DIISOPROPYLACETONE|SYM-DIISOPROPYL ACETONE|VALERONE	108-83-8	A clear colorless liquid. Flash point 140Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1869.0	204.0	604.0	263.0	245.0	322.0	39.0	105.0	48.0	42.0	Call a physician. INHALATION: Remove to fresh air. If not breathing, give artificial respiration. Give oxygen if breathing is difficult. EYES: 15-Minute emergency eye washing. See physician as soon as possible. SKIN: Wash with soap and water. Flush for at least 15 minutes. Remove contaminated clothing. INGESTION: Wash mouth, drink water, get medical aid. (USCG, 1999)	Special Hazards of Combustion Products: Extreme danger, enter with great care. Thermal decomposition may produce nitrogen oxides, CO and/or CO 2 . Behavior in Fire: Keep away from heat and open flame; can react vigorously. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
734	DI-ISOBUTYL PHTHALATE	1,2-BENZENE DICARBOXYLIC ACID, DI-(2-METHYLPROPYL)ESTER|1,2-BENZENEDICARBOXYLIC ACID, BIS(2-METHYLPROPYL) ESTER|DI(2-METHYLPROPYL) PHTHALATE|DI(ISOBUTYL) 1,2-BENZENEDICARBOXYLATE|DI-ISO-BUTYL PHTHALATE|DI-ISOBUTYL PHTHALATE|DIISOBUTYL PHTHALATE|HEXAPLAS M/1B|ISOBUTYL PHTHALATE|PALATINOL IC|PHTHALIC ACID, DI-ISOBUTYL ESTER|PHTHALIC ACID, DIISOBUTYL ESTER	84-69-5	Oily colorless liquid with a slight ester odor. Denser than water. Insoluble in water. Low toxicity.	2.5	5.0	2.5	1869.0	204.0	604.0	263.0	245.0	322.0	39.0	105.0	48.0	42.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
735	DIISODECYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DIISODECYL ESTER|BIS(8-METHYLNONYL)PHTHALATE|BIS(ISODECYL) PHTHALATE|DI-ISODECYL PHTHALATE|DIDP|DIDP (PLASTICIZER)|DIISODECYL PHTHALATE|HEXAPLAS DIDP|ISODECYL ALCOHOL, PHTHALATE (2:1)|ISODECYL PHTHALATE|JAYFLEX DIDP|PALATINOL Z|PHTHALIC ACID, BIS (8-METHYL-NONYL) ESTER|PHTHALIC ACID, DIISODECYL ESTER|PLASTHALL DIDP|PLASTICIZED DDP|PX 120|SICOL 184|VESTINOL DZ	26761-40-0	Colorless liquid. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	1873.0	204.0	604.0	263.0	245.0	323.0	39.0	105.0	48.0	42.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
736	DIISOPROPYL ETHER	BIS(ISOPROPYL) ETHER|DIISOPROPYL ETHER|DIISOPROPYL OXIDE|2-ISOPROPOXY PROPANE|2-ISOPROPOXYPROPANE|ISOPROPYL ETHER|2,2'-OXYBISPROPANE	108-20-3	A clear colorless liquid with an ethereal odor. Flash point -18Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	1873.0	204.0	604.0	263.0	245.0	323.0	39.0	105.0	48.0	42.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
737	DIISOPROPYLAMINE	BIS(ISOPROPYL)AMINE|DIISOPROPYLAMINE|DIPA|N,N-DIISOPROPYLAMINE|N-(1-METHYLETHYL)-2-PROPANAMINE	108-18-9	A clear colorless liquid with an ammonia-like odor. Flash point 30Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used to make other chemicals.	2.5	5.0	2.5	1873.0	204.0	604.0	263.0	245.0	323.0	39.0	105.0	48.0	42.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. A water spray can also be used. (NTP, 1992)
738	DIMETHOATE	(BLOB)	60-51-5	A white crystalline solid, with a camphor-like odor, white to grayish crystals for technical product. This material is a contact and systemic organophosphate insecticide effective against a broad range of insects and mites when applied on a wide range of crops. It has not been produced in the U.S. since 1982. (EPA, 1998)	1.0	2.5	5.0	1877.0	208.0	604.0	263.0	249.0	324.0	40.0	105.0	48.0	43.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fire. Behavior in Fire: Xylene solvent vapors may travel to source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
733	DIISOBUTYL KETONE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber or plastic gloves, splash-proof goggles or face shield. Protective equipment that will prevent contact of liquid or vapor with eyes, skin, and respiratory tract. (USCG, 1999)	Highly flammable. Slightly soluble in water.	Colorless, alkaline liquid, very volatile (b. p. 48Â° C), moderately toxic, highly flammable. Dangerous fire hazard when exposed to heat, flame, sparks, or strong oxidizers. When heated to decomposition it emits toxic fumes of oxides of nitrogen. Incompatible with triethylaluminum, complex may explode on sublimation [Chini, P. et al., Chim. e Ind (Milan), 1962, 44, p. 1220].	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(USCG, 1999)		-35		(USCG, 1999)		2		%	(USCG, 1999)		10.4		%	(USCG, 1999)		604		(USCG, 1999)		-117.4	
734	DI-ISOBUTYL PHTHALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	MONOSODIUM GLUTAMATE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																						(NTP, 1992)	(Decomposes)	450	
735	DIISODECYL PHTHALATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water Insoluble in water	m-PHTHALODINITRILE is a combustible solid. Emits toxic fumes of NOx and CN- when heated to decomposition. Incompatible with strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NIOSH, 2003)	(Sublimes)	324	
736	DIISOPROPYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as M-TOLUNITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.					0		(NTP, 1992)		188																(NTP, 1992)		-9	
737	DIISOPROPYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		183 to 187	
738	DIMETHOATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self-contained breathing apparatus if exposed to vapors; rubber gloves; splash goggles (USCG, 1999)	Hydrolyzed in alkaline media to dichlorobenzophenone and chloroform. Insoluble in water.	DICOFOL is an organochlorine bridged diphenyl. Halogenated aliphatic compounds are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Halogenated aliphatics are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. DICOFOL hydrolyzes in alkali. It is slightly corrosive to metals. Contact with steel at elevated temperatures causes formation of toxic gases. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		75		(USCG, 1999)	(for xylene solution)	1.1		%	(USCG, 1999)	(for xylene solution)	7		%	(USCG, 1999)		986		(NTP, 1992)		173.3 to 175.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
733	DIISOBUTYL KETONE														(USCG, 1999)		0.7182		68		(USCG, 1999)		119.5		760		(USCG, 1999)		59.11											PRA	Flammable Liquid|Corrosive	C3H9N	Mineral-Based & Clay-Based Absorbents	12.0	1.0	19.0	3.0	4.0
734	DI-ISOBUTYL PHTHALATE																				(NTP, 1992)						(NTP, 1992)		191.1						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C5H9NO4.Na		14.0	1.0	25.0	3.0	4.0
735	DIISODECYL PHTHALATE	(NIOSH, 2003)		0.01				mm Hg							(NIOSH, 2003)		4.42				(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		128.1						(NIOSH, 2003)	Slight				Poison	C6H4(CN)2			14.0	1.0	24.0	3.0	4.0
736	DIISOPROPYL ETHER														(NTP, 1992)		1.0316		68		(NTP, 1992)		415		760		(NTP, 1992)		117.15						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C8H7N		13.0	1.0	31.0	3.0	4.0
737	DIISOPROPYLAMINE																				(NTP, 1992)		275		16		(NTP, 1992)		268.25						(NTP, 1992)	Insoluble				Poison	C12H16N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	24.0	3.0	4.0
738	DIMETHOATE	(NTP, 1992)	Negligible			68									(USCG, 1999)	<0.9 at 20Â°C (liquid)		greater than 1.1	68		(NTP, 1992)		437		760		(NTP, 1992)		370.5						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	DTM	Class 9	C14H9Cl5O	Cellulose-Based Absorbents	14.0	1.0	37.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
739	DIMETHYL ETHER	DEMEON D|DIMETHYL ETHER|DIMETHYL OXIDE|DME|DYMEL A|ETHER, DIMETHYL|ETHER, METHYL|METHANE, OXYBIS METHOXY METHANE|METHOXYMETHANE|METHYL ETHER|METHYL OXIDE|OXYBISMETHANE|WOOD ETHER	115-10-6	Dimethyl ether is a colorless gas with a faint ethereal odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air. Any leak can be either liquid or vapor. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	1881.0	208.0	608.0	263.0	249.0	325.0	40.0	106.0	48.0	43.0	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
740	DIMETHYL PHTHALATE	AVOLIN|1,2-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER|DIMETHYL 1,2-BENZENDICARBOXYLATE|DIMETHYL 1,2-BENZENEDICARBOXYLATE|DIMETHYL BENZENEORTHODICARBOXYLATE|DIMETHYL ESTER OF 1,2-BENZENEDICARBOXYLIC ACID|DIMETHYL O-PHTHALATE|DIMETHYL PHTHALATE|DIMETHYLPHTHALATE|DMF (INSECT REPELLANT)|DMF (INSECT REPELLENT)|DMP|ENT 262|FERMINE|METHYL PHTHALATE|MIPAX|NTM|PALATINOL M|PHTHALIC ACID METHYL ESTER|PHTHALIC ACID, DIMETHYL ESTER|REPEFTAL|SOLVANOM|SOLVARONE|UNIMOLL DM	131-11-3	A water-white liquid without significant odor. Denser than water and insoluble in water. Hence sinks in water. Flash point 300Â°F. Eye contact may produce severe irritation and direct skin contact may produce mild irritation. Used in the manufacture of a variety of products including plastics, insect repellents, safety glass, and lacquer coatings.	2.5	5.0	2.5	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
741	DIMETHYL SULFATE	DIMETHYL ESTER OF SULFURIC ACID|DIMETHYL MONOSULFATE|DIMETHYL SULFATE|DIMETHYL SULPHATE|DIMETHYLSULFATE|DMS|DMS(METHYL SULFATE)|METHYL SULFATE|SULFURIC ACID, DIMETHYL ESTER	77-78-1	Dimethyl sulfate is a colorless oily liquid, odorless to a faint onion-like odor. It is very toxic by inhalation. It is a combustible liquid and has a flash point of 182Â°F. It is slightly soluble in water and decomposed by water to give sulfuric acid with evolution of heat. It is corrosive to metals and tissue. It is a potent methylating agent.	2.5	5.0	2.5	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
742	DIMETHYLACETAMIDE	ACETD|DIMETHYLAMIDE|ACETIC ACID, DIMETHYLAMIDE|ACETYLDIMETHYLAMINE|DIMETHYLACETAMIDE|DIMETHYLACETAMIDE|DIMETHYLACETONE AMIDE|DIMETHYLAMIDE ACETATE|DMA|DMAA|DMAC|N,N-DIMETHYL ACETAMIDE|N,N-DIMETHYLACETAMIDE|N,N-DIMETHYLETHANAMIDE|N-N-DIMETHYLACETAMIDE|NSC 3138|U-5954	127-19-5	A clear colorless liquid with a faint odor similar to ammonia. About the same density as water. Flash point 145Â°F. Vapors heavier than air. May by toxic by skin absorption. May irritate eyes and skin.	2.5	5.0	2.5	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical should be controlled using a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
743	DIMETHYLAMINE, ANHYDROUS	DIMETHYLAMINE|DIMETHYLAMINE (ANHYDROUS)|DIMETHYLAMINE, ANHYDROUS|DIMETHYLAMINE, [ANHYDROUS]|METHANAMINE, N-METHYL-|METHANAMINE, N-METHYL-|METHYLAMINES (DI-)|N-METHYLMETHANAMINE	124-40-3	A colorless gas smelling of fish at low concentrations and of ammonia at higher concentrations. Shipped as a liquid under its vapor pressure. Contact with the unconfined liquid can cause frostbite by evaporative cooling and chemical type burns. Density of liquid 5.5 lb / gal. The gas, which is corrosive, dissolves readily in water to form flammable corrosive solutions. The gas is heavier than air and can asphyxiate by the displacement of air. Gas is easily ignited and produces toxic oxides of nitrogen when burned. Long-term inhalation of low concentrations or short-term inhalation of low concentrations has adverse health effects. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Used to make other chemicals and as a solvent.	5.0	1.0	1.0	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. A water spray may also be used. (NTP, 1992)
744	DIMETHYLAMINE, AQUEOUS SOLUTION	DIMETHYLAMINE|DIMETHYLAMINE, AQUEOUS SOLUTION|DIMETHYLAMINE, SOLUTION|DIMETHYLAMINE, [AQUEOUS SOLUTION]|METHANAMINE, N-METHYL-|METHYLAMINES (DI-)|N,N-DIMETHYLAMINE|N-METHYLMETHANAMINE	124-40-3	A solution of a gas in water. Odor ranging from a fishlike to ammonia-like depending on vapor concentration. Corrosive to skin and eyes. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	5.0	1.0	1.0	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
739	DIMETHYL ETHER	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	VINYL BUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable; Polymerizable; Strong Reducing Agent; Peroxidizable Compound	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			3	2	5		(NFPA, 2010)		68																		
740	DIMETHYL PHTHALATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	May be sensitive to moisture.	N,N'-DICYCLOHEXYLCARBODIIMIDE is an amine. This compound is incompatible with acids and oxidizing agents. It reacts with water. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 235																(NTP, 1992)			93 to 95
741	DIMETHYL SULFATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations.	N,N-DIETHYL-4-((5-NITRO-2-THIAZOYL)AZO) BENZENAMINE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																						
742	DIMETHYLACETAMIDE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N,N'-DIETHYLCARBANILIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This compound is incompatible with acids and oxidizing agents. This chemical reacts violently when severely shocked or exposed to extreme temperatures. (NTP, 1992)	Explosive		(NFPA, 2010)		0	1	3	4		(NTP, 1992)		302															(NTP, 1992)		174	
743	DIMETHYLAMINE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Moderately water soluble.	VINYL CARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This chemical is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992).						0																			(NTP, 1992)			129 to 131
744	DIMETHYLAMINE, AQUEOUS SOLUTION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	TRIETHYLAMINE reacts violently with oxidizing agents. Reacts with Al and Zn. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		20		(USCG, 1999)		1.2		%	(USCG, 1999)		8		%	(USCG, 1999)		842		(NTP, 1992)		-174.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
739	DIMETHYL ETHER																																								Flammable Liquid	C6H10O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	16.0	1.0	37.0	3.0	4.0
740	DIMETHYL PHTHALATE																				(NTP, 1992)			252 to 255	6		(NTP, 1992)		206.33						(NTP, 1992)	Reaction					Poison	C13H22N2	Mineral-Based & Clay-Based Absorbents	14.0	1.0	33.0	3.0	4.0
741	DIMETHYL SULFATE																										(NTP, 1992)		305.35													C13H15N5O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	31.0	3.0	4.0
742	DIMETHYLACETAMIDE								(NTP, 1992)		9.3				(NTP, 1992)		1.12		68		(NTP, 1992)			617 to 626	760		(NTP, 1992)		268.39						(NTP, 1992)	at 70.7Â°F		less than 1	mg/mL			C17H20N2O		16.0	1.0	47.0	3.0	4.0
743	DIMETHYLAMINE, ANHYDROUS																										(NTP, 1992)		87.09						(NTP, 1992)	Moderately soluble						C3H5NO2	Dirt/Earth	18.0	1.0	43.0	3.0	4.0
744	DIMETHYLAMINE, AQUEOUS SOLUTION	(NTP, 1992)		53.5				mm Hg	(NTP, 1992)		3.48				(USCG, 1999)		0.729		68		(NTP, 1992)		192.7		760		(NTP, 1992)		101.22		(NIOSH, 2003)		200	ppm	(NTP, 1992)	Soluble				TEN	Flammable Liquid|Corrosive	C6H15N	Mineral-Based & Clay-Based Absorbents	18.0	1.0	43.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
745	DIMETHYLAMINOPROPYLAMINE	3-AMINO-1-(DIMETHYLAMINO)PROPANE|1-AMINO-3-(DIMETHYLAMINO)PROPANE|1-AMINO-3-DIMETHYLAMINOPROPANE|(3-AMINOPROPYL)DIMETHYLAMINE|3-(DIMETHYLAMINE)PROPYLAMINE|3-(DIMETHYLAMINO)-1-AMINOPROPANE|3-(DIMETHYLAMINO)-1-PROPANAMINE|3-(DIMETHYLAMINO)-1-PROPYLAMINE|1-(DIMETHYLAMINO)-3-AMINOPROPANE|3-(DIMETHYLAMINO)PROPANAMINE|3-(DIMETHYLAMINO)PROPYLAMINE|DIMETHYLAMINOPROPYLAMINE|3-DIMETHYLAMINOPROPYLAMINE|GAMMA-DIMETHYLAMINOPROPYLAMINE|N,N-DIMETHYL-1,3-DIAMINOPROPANE|N,N-	109-55-7	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
746	DI-N-BUTYLAMINE	1-BUTANAMINE, N-BUTYL|DI-N-BUTYLAMINE|DIBUTYLAMINE|N,N-DI-N-BUTYLAMINE|N-BUTYL-1-BUTANAMINE|N-BUTYLAMINE|N-DIBUTYLAMINE	111-92-2	A yellow-colored liquid with a amine-like odor. Denser than water. Very corrosive, may burn skin, eyes, and mucous membranes. Flash point 125Â°F. Combustible. Produce toxic oxides of nitrogen when burned. Used to make other chemicals.	2.5	5.0	2.5	1885.0	208.0	608.0	263.0	249.0	326.0	40.0	106.0	48.0	43.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
747	DINITROBENZENE SOLUTION	DINITROBENZENE|DINITROBENZENE (MIXED ISOMERS)|DINITROBENZENE SOLUTION|DNB	25154-54-5	One or more of the three isomeric (1,2- 1,3- and 1,4-) dinitrobenzenes, which are solids at room conditions, presumably in a non-aqueous solvent or carrier. Toxic by skin absorption. Exposure of the confined material to heat or shock may result in explosive decomposition. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	1889.0	208.0	608.0	263.0	249.0	327.0	40.0	106.0	48.0	43.0	SKIN OR EYE CONTACT: irrigate affected area with water for 15 min; (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
748	DINITROBENZENES	DINITROBENZENE|DINITROBENZENE (MIXED ISOMERS)|DINITROBENZENE, [SOLID]|DINITROBENZENES|DNB	25154-54-5	Dinitrobenzene is a white or yellow crystalline solid or dissolved in a liquid carrier. It is insoluble in water. It is toxic by skin absorption and by inhalation (dust, etc.). It is combustible. Exposure of the confined material to fire or heat or shock may result in the spontaneous decomposition of the material with a resultant explosion. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	1889.0	208.0	608.0	263.0	249.0	327.0	40.0	106.0	48.0	43.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
749	DIOXANE	DI(ETHYLENE OXIDE)(DIETHYLENE DIOXIDE)|1,4-DIETHYLENE DIOXIDE|DIETHYLENE ETHER|DIETHYLENE OXIDE|DIOKAN|1,4-DIOXACYCLOHEXANE|DIOXAN|1,4-DIOXAN|DIOXANE|DIOXANE 1,4|1, 4-DIOXANE|1,4-DIOXANE|1,4-DIOXIN, TETRAHYDRO-|DIOXYETHYLENE ETHER|ETHYLENE GLYCOL ETHYLENE ETHER|GLYCOL ETHYLENE ETHER|NCI-C03689|NE 220|P-DIOXAN|P-DIOXANE|P-DIOXIN, TETRAHYDRO-|TETRAHYDRO-1,4-DIOXIN|TETRAHYDRO-P-DIOXIN	123-91-1	A clear colorless liquid with a faint ethereal odor. Flash point 55Â°F. Slightly denser than water and soluble in water. Vapors heavier than air. Susceptible to autooxidation to form peroxides.	2.5	5.0	2.5	1893.0	208.0	612.0	263.0	249.0	328.0	40.0	107.0	48.0	43.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
745	DIMETHYLAMINOPROPYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N,N-DIETHYL-P-PHENYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 230													(NTP, 1992)			79 to 82
746	DI-N-BUTYLAMINE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N,N-ETHYLENE-BIS(TETRABROMOPHTHALIMIDE) may react with strong oxidizers. (NTP, 1992)					0															(NTP, 1992)		835	
747	DINITROBENZENE SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protect eyes and skin from direct contact. (USCG, 1999)	Slightly soluble in water.	ACETOPHENONE reacts with many acids and bases liberating heat and flammable gases (e.g., H2). Reacts with many oxidizing agents. Reacts with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. The amount of heat in these reactions may be sufficient to start a fire in the unreacted portion. Incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		180	(USCG, 1999)		1.1		%	(USCG, 1999)		6.7		%	(USCG, 1999)		1058		(USCG, 1999)		67.5	
748	DINITROBENZENES	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	TRINITROTOLUENE may begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)	(Explodes)														(NIOSH, 2003)		176	
749	DIOXANE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	AMYL FORMATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		79																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
745	DIMETHYLAMINOPROPYLAMINE														(NTP, 1992)		0.988				(NTP, 1992)			500 to 504	760		(NTP, 1992)		164.28						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C10H16N2		10.0	1.0	28.0	3.0	4.0
746	DI-N-BUTYLAMINE														(NTP, 1992)		2.67				(NTP, 1992)						(NTP, 1992)		951.47						(NTP, 1992)	Insoluble at 70Â° F)						C18H4Br8N2O4		10.0	1.0	23.0	3.0	4.0
747	DINITROBENZENE SOLUTION														(USCG, 1999)		1.028		68		(USCG, 1999)		395.1		760		(USCG, 1999)		120.15											ACP	Combustible Liquid	C8H8O		12.0	1.0	16.0	3.0	4.0
748	DINITROBENZENES	(NIOSH, 2003)		0.0002				mm Hg							(NIOSH, 2003)		1.65				(NIOSH, 2003)	(Explodes)	464		760		(NIOSH, 2003)		227.1		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	at 77Â° F	0.01		%		Flammable Solid	C7H5N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	16.0	3.0	4.0
749	DIOXANE																																								Flammable Liquid	C6H12O2		16.0	1.0	43.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
750	DIPENTENE	ALPHA-LIMONENE|(.+-.)-ALPHA-LIMONENE|CAJEPUTEN|CAJEPUTENE|CINEN|CINENE|DELTA-1,8-TERPODIENE|DIPENTEN|DIPENTENE|(.+-.)-DIPENTENE|DL-LIMONENE|EULIMEN|FLAVOR ORANGE|GOLDFLUSH II|4-ISOPROPENYL-1-METHYL-1-CYCLOHEXENE|4-ISOPROPENYL-1-METHYLCYCLOHEXENE|KAUTSCHIN|LIMONEN|LIMONENE|(.+-.)-LIMONENE|1-METHYL-4-(1-METHYLETHENYL)-CYCLOHEXENE|1-METHYL-4-ISOPROPENYLCYCLOHEXENE|1-METHYL-P-ISOPROPENYL-1-CYCLOHEXENE|NESOL|ORANGE FLAVOR|P-MENTHA-1,8-DIENE|1,8-P-MENTHADIENE|PC 560|PHELLANDRENE|TERPINENE	138-86-3	A colorless liquid with an odor of lemon. Flash point 113Â°F. Density about 7.2 lb /gal and insoluble in water. Hence floats on water. Vapors heavier than air. Used as a solvent for rosin, waxes, rubber; as a dispersing agent for oils, resins, paints, lacquers, varnishes, and in floor waxes and furniture polishes.	2.5	5.0	2.5	1897.0	208.0	612.0	263.0	249.0	329.0	40.0	107.0	48.0	43.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
751	DIPHENHYDRAMINE HYDROCHLORIDE	(BLOB)	147-24-0	PHYSICAL DESCRIPTION: White or almost-white crystalline powder. Odorless with a bitter numbing taste. pH (5% aqueous solution) 4-6. (NTP, 1992)	1.0	2.5	5.0	1901.0	208.0	612.0	263.0	249.0	330.0	40.0	107.0	48.0	43.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
752	DIPHENYL CHLOROPHOSPHATE	CHLORODIPHENOXYPHOSPHINE OXIDE|CHLOROPHOSPHONIC ACID DIPHENYL ESTER|DIPHENOXYCHLOROPHOSPHINE OXIDE|DIPHENYL CHLOROPHOSPHATE|DIPHENYL PHOSPHOCHLORIDATE|DIPHENYL PHOSPHOROCHLORATE|DIPHENYL PHOSPHOROCHLORIDATE|DIPHENYLPHOSPHORIC ACID MONOCHLORIDE|DIPHENYL PHOSPHORYL CHLORIDE|DPPC|O,O-DIPHENYL CHLOROPHOSPHATE|PHENYL PHOSPHOROCHLORIDATE ((PHO)2CLPO)|PHENYL PHOSPHOROCHLORIDITE|PHOSPHORIC ACID CHLORIDE DIPHENYL ESTER	2524-64-3	A clear colorless to light yellow liquid with a pungent odor. Insoluble in water and denser than water. Hence sinks in water. Contact may severely irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	1905.0	208.0	612.0	263.0	249.0	331.0	40.0	107.0	48.0	43.0	INHALATION: remove to fresh air. INGESTION: give large amounts of water. EYES: flush with water until irritation subsides. SKIN: wash with soap and water; remove contaminated clothing and launder before reuse. (USCG, 1999)		
753	DIPHENYLAMINE	ANILINOBENZENE|BENZENE, (PHENYLAMINO)-|BIG DIPPER|C.I. 10355|DBA|DFA|DIPHENYLAMINE|DPA|N,N-DIPHENYLAMINE|N-PHENYLANILINE|N-PHENYLBENZENAMINE|N-PHENYLBENZENEAMINE|NOSCALD|NO-SCALD|(PHENYLAMINO)BENZENE|PHENYLANILINE|SCALDIP	122-39-4	Light tan to brown solid with a pleasant odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	1905.0	208.0	612.0	263.0	249.0	331.0	40.0	107.0	48.0	43.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
754	DIPHENYLMETHANE-4,4'-DIISOCYANATE	(BLOB)	101-68-8	Diphenylmethane-4,4-diisocyanate is a light yellow colored solid. It is not soluble in water. It may be toxic by ingestion, inhalation, or skin absorption. If in a solution it may or may not burn depending on the nature of the material and/or the solvent. It is used to make plastics.	1.0	2.5	5.0	1905.0	208.0	612.0	263.0	249.0	331.0	40.0	107.0	48.0	43.0	EYES: wash with plenty of water and get medical attention. SKIN: wash with plenty of soap and water. INGESTION: induce vomiting and call a physician. (USCG, 1999)	Behavior in Fire: May explode. Burns with accelerating intensity. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
750	DIPENTENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Negligibly soluble in water.	A mixture containing NAPHTHALENE and METHYLNAPHTHALENES may react vigorously with strong oxidizing agents. Can react exothermically with bases and with diazo compounds. Naphthalene reacts violently with chromic anhydride [Haz. Chem. Data 1967. p 68]. Friedel-Crafts acylation of naphthalene using benzoyl chloride, catalyzed by AlCl3, must be conducted above the melting point of the mixture, or the reaction may be violent [Clar, E. et al., Tetrahedron, 1974, 30, 3296].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		174																			
751	DIPHENHYDRAMINE HYDROCHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DIDECYLMETHYL AMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
752	DIPHENYL CHLOROPHOSPHATE		Safety glasses or face mask (USCG, 1999)	Insoluble in water.	(BLOB)								0		(USCG, 1999)		300		(USCG, 1999)		1		%													
753	DIPHENYLAMINE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as ACETYL CYCLOHEXANESULFONYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry	Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
754	DIPHENYLMETHANE-4,4'-DIISOCYANATE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Protective goggles; rubber apron and gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as ACETYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness.	Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	4	6		(USCG, 1999)		113												(USCG, 1999)	Explodes			(USCG, 1999)		17	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
750	DIPENTENE																																								Corrosive	C10H8	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	10.0	1.0	22.0	3.0	4.0
751	DIPHENHYDRAMINE HYDROCHLORIDE																																								Corrosive	C21H45N	Mineral-Based & Clay-Based Absorbents	11.0	1.0	35.0	3.0	4.0
752	DIPHENYL CHLOROPHOSPHATE														(USCG, 1999)		0.982		68		(USCG, 1999)			270 to 470	760		(USCG, 1999)	(mixture)		200 to 250										NTI					10.0	1.0	28.0	3.0	4.0
753	DIPHENYLAMINE																																									Organic Peroxide|Explosive	C8H14O5S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	36.0	3.0	4.0
754	DIPHENYLMETHANE-4,4'-DIISOCYANATE														(USCG, 1999)		1.2		68								(USCG, 1999)	Mixture												APS	Organic Peroxide	C4H6O4 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	31.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
755	DIPHOSPHORAMIDE, OCTAMETHYL-	BIS(BISDIMETHYLAMINOPHOSPHONOUS) ANHYDRIDE|BIS(DIMETHYLAMINO)PHOSPHONOUS ANHYDRIDE|BIS(DIMETHYLAMINO)PHOSPHORIC ANHYDRIDE|BIS-N,N,N',N'-TETRAMETHYL-PHOSPHORODIAMIDIC ANHYDRIDE|DIPHOSPHORAMIDE, OCTAMETHYL-|LETHALAIRE G-59|OCTAMETHYL|OCTAMETHYL PYROPHOSPHORTETRAMIDE|OCTAMETHYL TETRAMIDO PYROPHOSPHATE|OCTAMETHYL-PYROPHOSPHORAMIDE|OCTAMETHYLDIPHOSPHORAMIDE|OCTAMETHYLPYROPHOSPHORAMIDE|OCTAMETHYLPYROPHOSPHORIC ACID AMIDE|OCTAMETHYLPYROPHOSPHORIC ACID TETRAMIDE|OMPA|OMPACIDE|OMPATOX|OMPAX|PESTOX|PESTOX 3|PESTOX	152-16-9	Dark brown viscous liquid. Used as an insecticide and as an acaricide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	1909.0	208.0	616.0	271.0	249.0	332.0	40.0	108.0	50.0	43.0	Seek medical attention. INHALATION: maintain respiration; give oxygen if needed. ASPIRATION: enforce bed rest; administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was ingested, guard against aspiration into lungs. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
756	DIPROPYLAMINE	DI-N-PROPYLAMINE|DIPROPANAMINE|DIPROPYLAMINE|N-DIPROPYLAMINE|N-PROPYL-1-PROPANAMINE	142-84-7	A clear colorless liquid with an ammonia-like odor. Flash point 30Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	1909.0	208.0	620.0	271.0	249.0	332.0	40.0	109.0	50.0	43.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
757	DIPROPYLENE GLYCOL	DIPROPYLENE GLYCOL|OXYBISPROPANOL|PROPANOL, OXYBIS-	25265-71-8	Thick odorless, colorless liquid. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1913.0	208.0	620.0	279.0	249.0	333.0	40.0	109.0	52.0	43.0	INHALATION: Remove victim from exposure; if breathing stops, administer artificial respiration; If breathing is difficult, give oxygen; call physician. EYES: Irrigate with copious amounts of water for at least 15 min.; call physician if needed. SKIN: Flush with water for 15 min.; get medical attention for burns. INGESTION: Give large amounts of water; do NOT induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic hydrogen chloride and phosgene may be formed. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flashback. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from
758	DISPERSE RED 60	1-AMINO-2-PHENOXY-4-HYDROXYANTHRAQUINONE|1-AMINO-4-HYDROXY-2-PHENOXY-9,10-ANTHRACENEDIONE|1-AMINO-4-HYDROXY-2-PHENOXYANTHRAQUINONE|C.I. DISPERSE RED 60|C.I. DISPERSE RED 7|C.I. DISPERSE RED 83|DIANIX RED FB-E|DIANIX RED FB-E 220|DISPERSE POLYESTER PINK 2S|DISPERSE RED 3B|DISPERSE RED 60|DISPERSOL RED B 2B|DURANOL BRILLIANT RED T 2B|FORON BRILLIANT RED E 2BL|HOSTATHERM PINK FBL|INTRASIL BRILLIANT RED 2BL|LATYL CERISE N|LURAFIX RED 430|MIKETON POLYESTER RED FB|MS RED G|NAVILENE RED FB|OSTACET BRILLIANT RED E-LB|OSTACET RED E-L 2B|PALANIL RED BF|PTR 63|RESIREN RED TB|RESOLIN RED	17418-58-5	PHYSICAL DESCRIPTION: Fine deep-red powder with white specks. (NTP, 1992)	1.0	2.5	5.0	1913.0	208.0	620.0	279.0	249.0	333.0	40.0	109.0	52.0	43.0	(BLOB)	Pure acrylamide will decompose at 347-572F giving ammonia, hydrogen and carbon monoxide. Avoid strong oxidizers. Avoid heat, ultraviolet light. Hazardous polymerization may occur. It readily polymerizes when heated to the melting point or when exposed to ultraviolet light. It is known to polymerize with violence when heated. (EPA, 1998)	Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. For small fires, use dry chemical, carbon dioxide, water spray or foam. For large fires use water spray, fog or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
759	DI-TERT-BUTYL PEROXIDE	B 50ELQ|BIS(1,1-DIMETHYLETHYL) PEROXIDE|BIS(1,1-DIMETHYLETHYL)PEROXIDE|BIS(TERT-BUTYL) PEROXIDE|CADOX|CADOX TBP|DI-TERT-BUTYL PEROXIDE|DI-TERT-BUTYL PEROXIDE, [TECHNICALLY PURE]|DIBUTYL PEROXIDE (TERTIARY)|DTBP|INTEROX DTB|KAYABUTYL D|PERBUTYL D|PEROXIMON DB|TERT-BUTYL PEROXIDE|TRIGONOX B	110-05-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	1913.0	208.0	620.0	279.0	249.0	333.0	40.0	109.0	52.0	43.0	Get medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic gases, such as carbon dioxide and carbon monoxide, may be produced in fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
755	DIPHOSPHORAMIDE, OCTAMETHYL-	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves. (USCG, 1999)	Highly flammable.	Saturated aliphatic hydrocarbons, which are contained in NATURAL GASOLINE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		less than 0	(USCG, 1999)		1.3		%	(USCG, 1999)		7.1		%								
756	DIPROPYLAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	N-BUTYL ALCOHOL attacks plastics. [Handling Chemicals Safely 1980. p. 236]. Mixtures with concentrated sulfuric acid and strong hydrogen peroxide can cause explosions. May form explosive butyl hypochlorite by reacting with hypochlorous acid. May form butyl explosive butyl hypochlorite with chlorine.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		84	(USCG, 1999)		1.4		%	(USCG, 1999)		11.2		%	(USCG, 1999)	650		(USCG, 1999)	-129	
757	DIPROPYLENE GLYCOL	(BLOB)	NIOSH approved airline respirator with full face piece; chemical protective gloves and clothing. (USCG, 1999)	Highly flammable. Decomposes exothermically in water to give hydrochloric acid and organic acids.	N-BUTYL CHLOROFORMATE is incompatible with bases (including amines), with water, with strong oxidizing agents, with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2743 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		77																	
758	DISPERSE RED 60	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Very soluble in water.	Amides, such as ACRYLAMIDE, react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). Spontaneous, violent polymerization occurs at its melting point (86Â°C) [Bretherick, 5th ed., 1995, p. 428]. Can polymerize vigorously if mixed with peroxides.	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	2	4		(EPA, 1998)		280.4	(NTP, 1992)	Decomposes				(NTP, 1992)	Decomposes				(USCG, 1999)	464		(EPA, 1998)	184	
759	DI-TERT-BUTYL PEROXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear full impervious protective clothing and approved respirator. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Very slightly soluble in water.	BUTYL PROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		101														(USCG, 1999)	-128	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
755	DIPHOSPHORAMIDE, OCTAMETHYL-														(USCG, 1999)		0.671		59		(USCG, 1999)			58 to 275	760														GCS	Flammable Liquid			11.0	1.0	22.0	3.0	4.0
756	DIPROPYLAMINE	(USCG, 1999)		15.51				mm Hg							(USCG, 1999)		0.81		68		(USCG, 1999)		243.9		760		(USCG, 1999)		74.12		(NIOSH, 2003)		1400	ppm	(NIOSH, 2003)		9		%	BAN	Flammable Liquid	C4H10O	Cellulose-Based Absorbents	10.0	1.0	20.0	3.0	4.0
757	DIPROPYLENE GLYCOL														(USCG, 1999)		1.0513		68		(USCG, 1999)		280.4		760		(USCG, 1999)		136.58											BFO	Poison Inhalation Hazard|Corrosive|Flammable Liquid	C5H9ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	28.0	3.0	4.0
758	DISPERSE RED 60	(EPA, 1998)		0.007		68		mm Hg	(EPA, 1998)		2.45				(EPA, 1998)		1.122		86		(EPA, 1998)		189		2		(EPA, 1998)		71.08		(NIOSH, 2003)	; A potential human carcinogen.	60	mg/m3	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	AAM	Poison	C3H5NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	31.0	3.0	4.0
759	DI-TERT-BUTYL PEROXIDE														(USCG, 1999)		0.8754				(USCG, 1999)		296.2		760		(USCG, 1999)		130.19											BPN	Flammable Liquid	C7H14O2		16.0	1.0	35.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
760	DIURON	DCMC|DCMU|DCMU 99|DI-ON|DICHLORFENDISM|3-(3,4-DICHLOROPHENYL)-1,1-DIMETHYLUREA|1-(3,4-DICHLOROPHENYL)-3,3-DIMETHYLUREA|1,1-DIMETHYL-3-(3,4-DICHLOROPHENYL)UREA|DIREXÂ®|DIUREX|DIURON|DMU|DP HARDENER 95|DURAN|DYHARD UR 200|HERBATOX|HW 920|KARMEX|KARMEX D|KARMEX DIURON HERBICIDE|KARMEX DW|KARMEXÂ®|LUCENT|MARMER|N'-(3,4-DICHLOROPHENYL)-N,N-DIMETHYLUREA|N,N-DIMETHYL-N'-(3,4-DICHLOROPHENYL)UREA|N-(3,4-DICHLOROPHENYL)-N,N'-DIMETHYLUREA|TELVAR DIURON WEED KILLER|UREA, 3-(3,4-DICHLOROPHENYL)-1,1-DIMETHYL-	330-54-1	Diuron is a white crystalline solid. It is a wettable powder. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It can cause illness by inhalation, skin absorption and/or ingestion. It is used as a herbicide.	1.0	2.5	5.0	1917.0	208.0	624.0	279.0	249.0	334.0	40.0	110.0	52.0	43.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
761	D-LIMONENE	(+)-ALPHA-LIMONENE|BIOGENIC SE 374|CARVENE|(+)-CARVENE|CITRENE|CYCLOHEXENE, 1-METHYL-4-(1-METHYLETHENYL)-, (R)-|D-(+)-LIMONENE|D-LIMONENE|D-P-MENTHA-1,8-DIENE|(+)-DIPENTENE|EC 7|GLIDESAFE|GLIDSAFE|(+)-4-ISOPROPENYL-1-METHYLCYCLOHEXENE|(+)-LIMONENE|LIMONENE, (+)-|NCI-C55572|P-MENTHA-1,8-DIENE|(+)-P-MENTHA-1,8-DIENE|P-MENTHA-1,8-DIENE, (R)-(+)-|(R)-(+)-LIMONENE|(4R)-(+)-LIMONENE|(R)-(+)-P-MENTHA-1,8-DIENE|(R)-1-METHYL-4-(1-METHYLETHENYL)CYCLOHEXENE|(R)-4-ISOPROPENYL-1-METHYL-1-CYCLOHEXENE|(R)-LIMONENE|(+)-R-LIMONENE|(+)-(4R)-LIMONENE|(R)-P-MENTHA-1,8-DIENE|(+)-R-	5989-27-5	PHYSICAL DESCRIPTION: Clear colorless mobile liquid with a pleasant lemon-like odor. (NTP, 1992)	2.5	5.0	2.5	1917.0	208.0	624.0	283.0	249.0	334.0	40.0	110.0	53.0	43.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
762	D-MANNITOL	CORDYCEPIC ACID|D-(-)-MANNITOL|D-MANNITE|D-MANNITOL|DIOSMOL|1,2,3,4,5,6-HEXANEHEXOL|ISOTOL|MANICOL|MANITA|MANITON S|MANNA SUGAR|MANNIDEX|MANNIGEN|MANNISTOL|MANNIT|MANNITE|MANNITOL|MANNITOL, D-|MANNITOL|MNCI-C50362|OSMITROL|OSMOSAL	69-65-8	PHYSICAL DESCRIPTION: Odorless white crystalline powder or free-flowing granules. Sweet taste. (NTP, 1992)	1.0	2.5	5.0	1921.0	208.0	628.0	283.0	249.0	335.0	40.0	111.0	53.0	43.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
763	DODECANOL	DODECANOL|DODECYL ALCOHOL|LAURYL ALCOHOL	112-53-8	Colorless thick liquid with a sweet odor. Floats on water. Freezing point is 75Â°F. (USCG, 1999)	2.5	5.0	2.5	1925.0	208.0	628.0	291.0	249.0	336.0	40.0	111.0	55.0	43.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: immediately flush with running water for at least 15 min.; hold eyelids open if necessary. Wash skin with soap and water. INGESTION: if conscious, give victim several glasses of water and induce vomiting. If unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain acrid smoke and fumes including toxic acrylic acid, one of the most serious eye injury chemcials and a severe skin irritant. Behavior in Fire: It may decompose to yield acrid smoke and fumes. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
764	DODECYL ALCOHOL ETHOXYLATE	(BLOB)	9002-92-0	PHYSICAL DESCRIPTION: Clear colorless to light yellow viscous liquid. Colorless at 266Â°F; brown at 644Â°F. Bland odor. (NTP, 1992)	2.5	5.0	2.5	1929.0	208.0	628.0	299.0	249.0	337.0	40.0	111.0	57.0	43.0	INHALATION: move to fresh air. INGESTION: do NOT induce vomiting; call a doctor. EYES: flush with water. SKIN: wipe off; flush with water; wash with soap and water. ASPIRATION: enforced bed rest; administer oxygen; call a doctor. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide (USCG, 1999)
765	DODECYL METHACRYLATE	DODECYL 2-METHYL-2-PROPENOATE|DODECYL METHACRYLATE|DODECYL METHACRYLATE|LAURYL METHACRYLATE|METHACRYLIC ACID, DODECYL ESTER	142-90-5	Liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	1929.0	208.0	628.0	299.0	249.0	337.0	40.0	111.0	57.0	43.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
760	DIURON	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		87	
761	D-LIMONENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N-BUTYL-P-HYDROXYBENZOATE is incompatible with strong oxidizing agents and strong caustics. (NTP, 1992)						0																					(NTP, 1992)		154 to 156	
762	D-MANNITOL	SMALL SPILLS AND LEAKAGE: Use absorbent paper to pick up spilled material. Follow by washing surfaces well first with alcohol, then with soap and water. Seal all wastes in vapor-tight plastic bags for eventual disposal. STORAGE PRECAUTIONS: Store in a cool, dry place or in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble. May hydrolyze under acid or basic conditions (NTP, 1992).	Organophosphates, such as DIETHYL ETHYLPHOSPHONATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		220																	(NTP, 1992)		388	
763	DODECANOL	Neutralizing Agents for Acids and Caustics: Not appl (USCG, 1999)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Insoluble in water.	N-DECYL ACRYLATE reacts exothermically with acids to give n-decyl alcohol and acrylic acid. May react vigorous with strong oxidizing acids and generate enough heat to ignite the reaction products. Interaction with caustic solutions also generates heat. Incompatible with alkali metals and hydrides. Polymerizes readily in the presence of heat and light generating much heat. [Handling Chemicals Safely, 1980. p. 250]. Burns to give acrid smoke and fumes that contain toxic acrylic acid, one of the most serious eye injury chemcials and a severe skin irritant.	Highly Flammable; Polymerizable	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	2	3		(USCG, 1999)		260																	(USCG, 1999)		less than 32	
764	DODECYL ALCOHOL ETHOXYLATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between arrnatic hydrocarbons, such as N-DECYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. May attack some forms of plastics (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(USCG, 1999)		225																				
765	DODECYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-DODECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		165		(NTP, 1992)		0.6		%						(NTP, 1992)		400		(NTP, 1992)		14.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
760	DIURON	(NIOSH, 2003)		7.00E-08		77		mm Hg							(NIOSH, 2003)		1.32				(NIOSH, 2003)	(Decomposes)		248 to 257	760		(NIOSH, 2003)		466.5						(NIOSH, 2003)	Insoluble					Class 9	C16H12O6P2S3		12.0	1.0	34.0	3.0	4.0
761	D-LIMONENE																										(NTP, 1992)		194.25						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C11H14O3		12.0	1.0	22.0	3.0	4.0
762	D-MANNITOL														(NTP, 1992)		1.0259		68		(NTP, 1992)			180 to 181	11		(NTP, 1992)		166.16						(NTP, 1992)	Slightly soluble					Class 9	C6H15O3P		10.0	1.0	30.0	3.0	4.0
763	DODECANOL														(USCG, 1999)		0.8781		68		(USCG, 1999)	(est.)	473		760		(USCG, 1999)		212.37											DAR	Class 9	C13H24O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	33.0	3.0	4.0
764	DODECYL ALCOHOL ETHOXYLATE														(USCG, 1999)		0.855		68		(USCG, 1999)		572		760		(USCG, 1999)		218											DBZ	Class 9	C16H26		16.0	1.0	47.0	3.0	4.0
765	DODECYL METHACRYLATE	(NTP, 1992)	; 0.3 mm Hg at 68Â° F	1		118		mm Hg	(NTP, 1992)		5.96				(NTP, 1992)		0.7487		68		(NTP, 1992)		421.3		760		(NTP, 1992)		170.34						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Combustible Liquid	C12H26		10.0	1.0	18.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
766	DODECYL SULFATE, [TRIETHANOLAMINE SALT]	DODECYL SULFATE, TRIETHANOLAMINE SALT]DODECYL SULFATE, [TRIETHANOLAMINE SALT]|LAURYL SULFATE, TRIETHANOLAMINE SALT|TRIETHANOLAMINE LAURYL SULFATE	139-96-8	Colorless liquid with a mild odor, Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	1933.0	208.0	632.0	307.0	249.0	338.0	40.0	112.0	59.0	43.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
767	DODECYL/PENTADECYL METHACRYLATE	DODECYL/PENTADECYL METHACRYLATE|METHACRYLIC ACID, DODECYL AND PENTADECYL ESTER MIX|METHACRYLIC ACID, LAURYL AND PENTADECYL ESTER MIX	142-90-5	Colorless liquid. Less dense than water and insoluble in water. A mixture of esters of methacrylic acid . (USCG, 1999)	2.5	5.0	2.5	1933.0	208.0	636.0	307.0	249.0	338.0	40.0	113.0	59.0	43.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
768	D-PHENYLALANINE	ALANINE, PHENYL-, D-|D-(+)-PHENYLALANINE|D-ALPHA-AMINO-BETA-PHENYLPROPIONIC ACID|D-ALPHA-AMINOHYDROCINNAMIC ACID|D-BETA-PHENYL-ALPHA-AMINOPROPIONIC ACID|D-BETA-PHENYLALANINE|D-PHE|D-PHENYLALANINE|(R)-(+)-PHENYLALANINE|(R)-PHENYLALANINE	673-06-3	PHYSICAL DESCRIPTION: Needles or prisms. (NTP, 1992)	1.0	2.5	5.0	1933.0	208.0	636.0	307.0	249.0	338.0	40.0	113.0	59.0	43.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
769	ECONAZOLE NITRATE	1-(2-((4-CHLOROPHENYL)METHOXY)-2-(2,4-DICHLOROPHENYL)ETHYL)-1H-IMIDAZOLE MONONITRATE|1-(2-((4-CHLOROPHENYL)METHOXY)-2-(2,4-DICHLOROPHENYL)ETHYL)-1H-IMIDAZOLE NITRATE|1-(2,4-DICHLORO-BETA-((P-CHLOROBENZYL)OXY)PHENETHYL)IMIDAZOLE MONONITRATE|1-(2,4-DICHLORO-BETA-((P-CHLOROBENZYL)OXY)PHENETHYL)IMIDAZOLE NITRATE|ECONAZOLE NITRATE|(+-)-ECONAZOLE NITRATE|ECOSTATIN|EPI-PEVARYL|GYNO-PEVARYL|1H-IMIDAZOLE, 1-(2-((4-CHLOROPHENYL)METHOXY)-2-(2,4-DICHLOROPHENYL)ETHYL)-,|1H-IMIDAZOLE, 1-[2-[(4-CHLOROPHENYL)METHOXY]-2-(2,4-	24169-02-6	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	1933.0	208.0	636.0	307.0	249.0	338.0	40.0	113.0	59.0	43.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
770	ENDOSULFAN	(BLOB)	115-29-7	A brown or colorless crystalline solid with a pungent odor. More dense than water and nearly insoluble in water. Toxic by inhalation, skin absorption, or ingestion. Used as a pesticide, fungicide or herbicide.	1.0	2.5	5.0	1937.0	208.0	640.0	307.0	249.0	339.0	40.0	114.0	59.0	43.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
766	DODECYL SULFATE, [TRIETHANOLAMINE SALT]	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air-supplied apparatus or organic vapor cartridge; goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	NEOHEXANE may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		-54		(NTP, 1992)		1.2		%	(NTP, 1992)		7		%	(USCG, 1999)		797		(NTP, 1992)		-148	
767	DODECYL/PENTADECYL METHACRYLATE	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
768	D-PHENYLALANINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Butyl rubber North B-174 0.61 mm 480 min Viton North F-091 0.30 mm 27 min PVA Edmont 29-250 0.28 mm 22 min (NTP, 1992)	Highly flammable. Can form dangerous peroxides when exposed to air. Water soluble.	1,3-DIOXANE is sensitive to heat. This chemical can react with oxidizers. (NTP, 1992)	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		35.6		(NTP, 1992)		2		%	(NTP, 1992)		22		%						(NTP, 1992)		-44	
769	ECONAZOLE NITRATE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIETHYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition. Several explosions were due to shock, heat or friction. Amines and certain metals can cause accelerated decomposition [Beetherick, 1979 p. 156]. Danger of explosion when dry.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
770	ENDOSULFAN	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Organosulfides, such as DIETHYL SULFIDE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sk_source	sk_note	sk_value	sk_range	sk_value_tempDegF	sk_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solhby_source	solhby_note	solhby_value	solhby_range	solhby_unit	chrcs_coef	doc_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
766	DODECYL SULFATE, [TRIETHANOLAMINE SALT]	(NTP, 1992)	400 mm Hg at 87.8A° F	274		70		mm Hg	(NTP, 1992)		3				(USCG, 1999)		0.649		68		(NTP, 1992)		121.5		760		(NTP, 1992)		86.18						(NTP, 1992)	at 72A° F		less than 1 mg/mL		NIIX	Flammable Liquid	C6H14		16.0	1.0	27.0	3.0	4.0
767	DODECYLPENTADECYL METHACRYLATE																																							Non-Flammable Gas	Ne		10.0	1.0	18.0	3.0	4.0
768	D-PHENYLALANINE	(NTP, 1992)		1.0342		68		(NTP, 1992)			221		755		(NTP, 1992)		88.11		greater than or equal to 100		(NTP, 1992)		mg/mL																Flammable Liquid	C4H8O2		8.0	0.0	58.0	4.0	4.0
769	ECONAZOLE NITRATE																																							Organic Peroxide	C6H10O6	Cellulose-Based Absorbents;Exp anded Polystyrene Absorbents	11.0	1.0	26.0	3.0	4.0
770	ENDOSULFAN																																							Flammable Liquid	C4H10S		10.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
771	ENDOSULFAN AND METABOLITES	ENDOSULFAN AND METABOLITES	115-29-7	A brown or colorless crystalline solid with a pungent odor. Shipped suspended in a liquid carrier. Denser than water and practically insoluble in, water. Toxic by inhalation, skin absorption or ingestion. Not combustible but liquid carrier may be combustible with a flash point over 200Â°F. A mixture of isomers of a sulfurous acid ester of a chlorinated cyclic diol. Used as an insecticide and acaricide.	1.0	2.5	5.0	1937.0	208.0	640.0	307.0	249.0	339.0	40.0	114.0	59.0	43.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
772	ENDOSULFAN MIXTURE, [LIQUID]	ENDOSULFAN MIXTURE, [LIQUID]|6,7,8,9,10-HEXACHLORO-1,5,5A,6,9,9A-HEXAHYDRO6,9-METHANO-2,4,3-BENZODIOXATHIEPIN 3 OXIDE	115-29-7	A brown or colorless crystalline solid with a pungent odor. Shipped in suspension in a liquid carrier. Denser than water and practically insoluble in water. Toxic by inhalation, skin absorption, and ingestion. Not combustible but the liquid carrier might be combustible. A mixture of isomers of a sulfurous acid ester of a hexachlorinated cyclic diol. Used as an insecticide and acaricide.	1.0	2.5	5.0	1937.0	208.0	640.0	307.0	249.0	339.0	40.0	114.0	59.0	43.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
773	EOSIN	(BLOB)	548-26-5	PHYSICAL DESCRIPTION: Red crystalline powder. (NTP, 1992)	1.0	2.5	5.0	1937.0	208.0	640.0	307.0	249.0	339.0	40.0	114.0	59.0	43.0	(BLOB)	Special Hazards of Combustion Products: Vapors are irritating Behavior in Fire: Vapors are heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
774	EPOXIDIZED VEGETABLE OILS	DRYING OIL EPOXIDES|EPOXIDIZED DRYING OILS|EPOXIDIZED OILS|EPOXIDIZED VEGETABLE OILS	8013-07-8	Odorless pale yellow oily liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	1941.0	208.0	640.0	307.0	249.0	340.0	40.0	114.0	59.0	43.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
775	ERGOCALCIFEROL	ACTIVATED ERGOSTEROL|BUCO-D|CALCIFEROL|CALCIFERON 2|CONDACAPS|CONDOCAPS|CONDOL|CRTRON|CRYSTALLINA|CYCLOHEXANOL, 4-METHYLENE-3-[2-[TETRAHYDRO-7A-METHYL-1-(1,4,5-TRIMETHYL-2-HEXENYL)-4(3AH)-INDANYLIDENE]ETHYLIDENE]-[D-ARTHIN|D-TRACETTEN|DARAL|DAVITAMON D|DAVITIN|DE-RAT CONCENTRATE|DECAPS|DEEOSTEROL|DEE-RON|DEE-RONAL|DEE-ROUAL|DELTALIN|DERATOL|DETALUP|DIACTOL|DIVITURTO|DORAL|DRISDOL|ERGOCALCIFEROL|ERGORONE|ERGOSTEROL ACTIVATED|ERGOSTEROL, IRRADIATED|ERTRON|FORTODYL|GELTABS|HI-DERATOL|INFRON|IRRADIATED ERGOSTA-5,7,22-TRIEN-3-BETA-OL|IRRADIATED	50-14-6	Odorless white crystals. Used as a dietary supplement and food additive. (EPA, 1998)	1.0	2.5	5.0	1941.0	208.0	640.0	307.0	249.0	340.0	40.0	114.0	59.0	43.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
771	ENDOSULFAN AND METABOLITES	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reaction with water liberates carbon dioxide, reaction is slow at STP.	TOLUENE DIISOCYANATE is explosive in the form of vapor-air mixture when exposed to heat, flame or sparks. Potentially violent polymerization reaction with strong bases or acyl chlorides. Reaction with aniline may generate enough heat to ignite unreacted portion and surrounding materials. Reaction with water liberates carbon dioxide. Potential explosion if stored in polyethylene containers due to absorption of water through the plastic. Emits toxic fumes of oxides of nitrogen when heated to decomposition[Lewis, 3rd ed., 1993, p. 1251].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2,4-diisocyanatotoluene, CAS number 584-84-9.	3	1	2	3		(NTP, 1992)		250		(NTP, 1992)		0.9		%	(NTP, 1992)		9.5		%	(NTP, 1992)			greater than 300	(NTP, 1992)			67.1 to 70.7
772	ENDOSULFAN MIXTURE, [LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TOLUENE ETHYLSULFONAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0		(NTP, 1992)			greater than 200																		
773	EOSIN	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water. Sensitive to heat. May be sensitive to prolonged exposure to air.	DIETHYLAMINE is strongly alkaline. Incompatible with strong oxidizing agents and with strong acids. Violent reactions occur with sulfuric acid. Causes ignition on contact with cellulose nitrate. Explodes on contact with dicyanofurazan or dicyanofuroxan. Attacks some forms of plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		-20		(NTP, 1992)		1.8		%	(NTP, 1992)		10.1		%	(USCG, 1999)		594		(NTP, 1992)		-58	
774	EPOXIDIZED VEGETABLE OILS	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N-ETHYLTOLUIDINES are amines. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Light sensitive		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
775	ERGOCALCIFEROL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a freezer. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: It is recommended that you wear two dissimilar glove types when working with this chemical. (NTP, 1992)	Slightly water soluble (NTP, 1992)	AFLATOXIN G2 is incompatible with strong oxidizing agents, strong acids and strong bases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			459 to 464

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
771	ENDOSULFAN AND METABOLITES	(NTP, 1992)	; 1 mm Hg at 176Â° F	0.025		77		mm Hg	(NTP, 1992)		6				(NTP, 1992)		1.22		77		(NTP, 1992)		484		760		(NTP, 1992)		174.16						(NTP, 1992)	Reacts with water					Poison	C9H6N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	30.0	3.0	4.0
772	ENDOSULFAN MIXTURE, [LIQUID]	(NTP, 1992)		4.15		77		mm Hg							(NTP, 1992)		1.203		63.9								(NTP, 1992)		199.27						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C9H13NO2S		10.0	1.0	30.0	3.0	4.0
773	EOSIN	(NTP, 1992)	; 200 mm Hg at 70Â° F	195		68		mm Hg	(NTP, 1992)		2.53				(USCG, 1999)		0.708		68		(NTP, 1992)		131.9		760		(NTP, 1992)		73.14		(NIOSH, 2003)		200	ppm	(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL	DEN	Flammable Liquid|Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	11.0	1.0	41.0	3.0	4.0
774	EPOXIDIZED VEGETABLE OILS																																							Poison	C9H13N		15.0	1.0	38.0	3.0	4.0
775	ERGOCALCIFEROL																											(NTP, 1992)		330.3						(NTP, 1992)	Slighty soluble					Poison	C17H14O7		10.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
776	ERGOTAMINE TARTRATE	COMPONENT OF CAFERGOT|ERGAM|ERGATE|ERGOMAR|ERGOTAMAN-3',6',18-TRIONE, 12'-HYDROXY-2'-METHYL-5'-(PHENYLMETHYL)-, (5'ALPHA)-, [R-(R*,R*)]-2,3-DIHYDROXYBUTANEDIOATE (2:1) (SALT)|ERGOTAMAN-3',6',18-TRIONE, 12'-HYDROXY-2'-METHYL-5'-(PHENYLMETHYL)-,(5'ALPHA)-,[R-(R*,R*)]- 2,3-DIHYDROXYBUTANEDIOATE(2:1)(SALT)|ERGOTAMINE BITARTRATE|ERGOTAMINE TARTRATE|ERGOTAMINE, TARTRATE (2:1) (SALT)|ERGOTAMINE, TARTRATE(2:1)(SALT)|ETIN|EXMIGRA|FEMERGIN|GOTAMINE|GOTAMINE TARTRATE|GYNERGEN|8H-OXAZOLO[3,2-A]PYRROLO[2,1-C]PYRAZINE, ERGOTAMAN-3',6',18-TRIONE DERIV.|INDOLO[4,3-FG]QUINOLINE,	379-79-3	Powder or liquid forms available as drugs. Used in obstetrics and in the treatment of migraine headaches. (EPA, 1998)	1.0	2.5	5.0	1941.0	208.0	640.0	307.0	249.0	340.0	40.0	114.0	59.0	43.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
777	ERYTHROMYCIN STEARATE	ABBOTICINE|BRISTAMYCIN|DOWMYCIN E|ERATREX|ERYPAR|ERYTHROMYCIN STEARATE|ERYTHROMYCIN STEARATE (SALT)|ERYTHROMYCIN STEARIC ACID SALT|ERYTHROMYCIN, OCTADECANOATE (SALT)|ERYTHROMYCIN, STEARATE (SALT)|GALLIMYCIN|MEBERYT|NCI-C55674|OCTADECANOIC ACID, COMPOUND WITH ERYTHROMYCIN (1:1)|OE 7|OXACYCLOTETRADECANE, ERYTHROMYCIN DERIV.|PANTOMICINA|STEARIC ACID, COMPOUND WITH ERYTHROMYCIN (1:1)	643-22-1	PHYSICAL DESCRIPTION: Fluffy colorless powder or fine white powder. (NTP, 1992)	1.0	2.5	5.0	1941.0	208.0	640.0	307.0	249.0	340.0	40.0	114.0	59.0	43.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
778	ETHANE	BIMETHYL|DIMETHYL|ETHANE|ETHANE, COMPRESSED|ETHYL HYDRIDE|METHYLMETHANE|R 170|R 170 (HYDROCARBON)	74-84-0	A colorless odorless gas. It is easily ignited. The vapors are heavier than air. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Contact with the liquid may cause frostbite.	5.0	1.0	1.0	1945.0	208.0	640.0	307.0	249.0	341.0	40.0	114.0	59.0	43.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
779	ETHANE, REFRIGERATED LIQUID	ETHANE|ETHANE, REFRIGERATED LIQUID|ETHANE, [REFRIGERATED]	74-84-0	A colorless odorless very cold liquid. Boils at -88.6Â°C. Easily ignited and a flame can flash back to the source of a leak very easily. Vapors are heavier than air. Vapors can asphyxiate by the displacement of air from enclosed spaces. Direct contact can cause frostbite. Contact of very cold liquid with water may result in vigorous or violent boiling. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Used in manufacturing other chemicals.	2.5	5.0	2.5	1949.0	208.0	640.0	307.0	249.0	342.0	40.0	114.0	59.0	43.0	Call a doctor. INHALATION: Remove from contaminated area and administer artificial respiration and oxygen if necessary. EYES: Flush with copious amounts of water. SKIN: Wash with copious amounts of water. INGESTION: Gastric lavage and saline cathartics. (USCG, 1999)	Behavior in Fire: Explosive hazard (USCG, 1999)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles; cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
780	ETHANE-PROPANE MIXTURE, REFRIGERATED LIQUID	ETHANE-PROPANE MIXTURE, REFRIGERATED LIQUID|ETHANE-PROPANE MIXTURE, [REFRIGERATED LIQUID]|PROPANE-ETHANE MIXTURE, REFRIGERATED LIQUID	74-84-0	An odorless liquid that boils at rapidly at ordinary temperatures. The vapors are easily ignited and denser than air. Can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	2.5	5.0	2.5	1949.0	208.0	640.0	307.0	249.0	342.0	40.0	114.0	59.0	43.0	(BLOB)	Flash point data for this compound is not available,but it is probably combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
776	ERGOTAMINE TARTRATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE is incompatible with oxidizing materials and alkalis. (NTP, 1992)							0		(NTP, 1992)			greater than 200													(NTP, 1992)		-31	
777	ERYTHROMYCIN STEARATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. They exhibit both weak acid and weak base behavior.							0																							
778	ETHANE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	VINYL CHLOROACETATE reacts with acids to liberate heat. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable; Polymerizable; Strong Reducing Agent; Peroxidizable Compound	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
779	ETHANE, REFRIGERATED LIQUID	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full face mask, self-contained breathing apparatus, eye protection, and rubber gloves. (USCG, 1999)	Highly flammable. Slightly soluble in water. Tends to form explosively unstable peroxides when exposed to oxygen.	VINYL ETHYL ETHER is a very dangerous fire and explosion hazard when exposed to heat or flame. Undergoes autooxidation with formation of peroxides in the air. Can react vigorously with oxidizing materials. Undergoes explosive polymerization in contact with methanesulfonic acid [Eaton, P. E. et al., J. Org. Chem., 1972, 37, p. 1947].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6		(USCG, 1999)		less than -50	(USCG, 1999)		1.7		%	(USCG, 1999)		28		%	(USCG, 1999)		395		(USCG, 1999)		-175	
780	ETHANE-PROPANE MIXTURE, REFRIGERATED LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-HEPTADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
776	ERGOTAMINE TARTRATE	(NTP, 1992)	; 150.5 mm Hg at 163Â° F	32		124		mm Hg							(NTP, 1992)		1.381		72		(NTP, 1992)		232		760		(NTP, 1992)		406.32						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL			(C4H12O4P)2 SO4		11.0	1.0	23.0	3.0	4.0
777	ERYTHROMYCIN STEARATE																																	(NTP, 1992)	at 63Â° F		less than 1	mg/mL			(C12H18O9)n	Cellulose-Based Absorbents	10.0	1.0	28.0	3.0	4.0
778	ETHANE																																								Poison|Flammable Liquid	C4H5ClO2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	29.0	3.0	4.0
779	ETHANE, REFRIGERATED LIQUID														(USCG, 1999)		0.7589		68		(USCG, 1999)		96		760		(USCG, 1999)		72.104											VEE	Flammable Liquid	C4H8O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	29.0	3.0	4.0
780	ETHANE-PROPANE MIXTURE, REFRIGERATED LIQUID														(NTP, 1992)		0.778		68		(NTP, 1992)		575.2		760		(NTP, 1992)		240.48													C17H36		14.0	1.0	29.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
781	ETHINYLESTRADIOL	(BLOB)	57-63-6	PHYSICAL DESCRIPTION: Fine white to creamy white powder. A synthetic steroid. Used in combination with progestogen as an oral contraceptive.	1.0	2.5	5.0	1953.0	208.0	640.0	307.0	249.0	343.0	40.0	114.0	59.0	43.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
782	ETHOXYLATED TRIDECANOL	ETHOXYLATED TRIDECANOL|ETHOXYLATED TRIDECYL ALCOHOL|POLY(OXYETHYL) TRIDECYL ETHER|TERGITOL NONIONIC 3-A-6	69011-36-5	Colorless to yellow liquid with a pleasant odor. (USCG, 1999)	2.5	5.0	2.5	1953.0	208.0	640.0	307.0	249.0	343.0	40.0	114.0	59.0	43.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
783	ETHOXYQUIN	AMEA 100|ANTAGE AW|ANTIOXIDANT EC|ANTOX|ARIES ANTOX|DAWE'S NUTRIGARD|1,2-DIHYDRO-2,2,4-TRIMETHYL-6-ETHOXYQUINOLINE|1,2-DIHYDRO-6-ETHOXY-2,2,4-TRIMETHYLQUINOLINE|EMQEQ|6-ETHOXY-1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE|6-ETHOXY-2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE|ETHOXYQUIN|ETHOXYQUINE|NIFLEX|NIFLEX D|NIX-SCALD|NOCRAC AW|PERMANAX 103|QUINOLED|RALUQUIN|SANTOFLEX A|SANTOFLEX AW|SANTOQUIN|SANTOQUINE|STOP-SCALD|2,2,4-TRIMETHYL-1,2-DIHYDRO-6-ETHOXYQUINOLINE|2,2,4-TRIMETHYL-6-ETHOXY-1,2-DIHYDROQUINOLINE|USAF B-24	91-53-2	PHYSICAL DESCRIPTION: Clear light yellow to dark brown viscous liquid. Discolors and stains badly. Mercaptan-like odor. (NTP, 1992)	2.5	5.0	2.5	1957.0	208.0	640.0	307.0	249.0	344.0	40.0	114.0	59.0	43.0	INHALATION: remove to fresh air; get medical attention if exposure has been severe. INGESTION: give large amount of water. EYES: flush with water 15 min.; consult physician if irritation persists. SKIN: wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
784	ETHYL ACETOACETATE	ACETOACETIC ACID, ETHYL ESTER|ACETOACETIC ESTER|DIACETIC ETHER|EAA|1-ETHOXYBUTANE-1,3-DIONE|ETHYL 3-KETOBUTYRATE|ETHYL 3-OXOBUTANOATE|ETHYL 3-OXOBUTYRATE|ETHYL ACETOACETATE|ETHYL ACETONECARBOXYLATE|ETHYL ACETYLACETATE|3-OXOBUTANOIC ACID ETHYL ESTER	141-97-9	A colorless liquid with a fruity odor. Flash point 185Â°F. Boiling point 365Â°F. May cause adverse health effects if ingested or inhaled. May irritate to skin, eyes and mucous membranes. Used in organic synthesis and in lacquers and paints.	2.5	5.0	2.5	1961.0	208.0	640.0	307.0	249.0	345.0	40.0	114.0	59.0	43.0	INHALATION: move to fresh air; get medical attention if exposure has been severe. INGESTION: give large amount of water. EYES: flush with plenty of water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
785	ETHYL ACRYLATE, INHIBITED	ACRYESTER E|ACRYLIC ACID ETHYL ESTER|ACRYLIC ACID, ETHYL ESTER|ACRYLIC ACID, ETHYL ESTER (INHIBITED)|ETHOXYCARBONYLETHYLENE|ETHYL 2-PROPENOATE|ETHYL ACRYLATE|ETHYL ACRYLATE (INHIBITED)|ETHYL ACRYLATE, INHIBITED|ETHYL ACRYLATE, [INHIBITED]|ETHYL ACRYLIC ESTER|ETHYL ESTER OF ACRYLIC ACID|ETHYL PROPENOATE|NCI-C50384|2-PROPENOIC ACID ETHYL ESTER|PROPENOIC ACID, ETHYL ESTER (INHIBITED)|2-PROPENOIC ACID, ETHYL ESTER	140-88-5	A clear colorless liquid with an acrid odor. Flash point 60Â°F. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Auto ignition temperature 721Â°F (383Â°C) (NTP). Less dense than water. Vapors heavier than air. Used to make paints and plastics.	2.5	5.0	2.5	1961.0	208.0	640.0	307.0	249.0	345.0	40.0	114.0	59.0	43.0	(BLOB)	Not flammable. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
781	ETHINYLESTRADIOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzes under strongly acidic and strongly basic conditions.	A halogenated acetamide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
782	ETHOXYLATED TRIDECANOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	NICETHAMID is incompatible with sodium carbonate solutions which cause precipitation. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		235														(NTP, 1992)			75 to 79
783	ETHOXYQUIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; safety goggles; protective clothing (USCG, 1999)	Water soluble.	NICKEL ACETATE is a green, crystalline material, mildly toxic and carcinogenic. Combustible when exposed to heat or flame. When heated to decomposition it emits acrid smoke and irritating fumes [Lewis, 3rd ed., 1993, p. 909].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
784	ETHYL ACETOACETATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield; protective gloves; Bu. Mines approved respirator; protective clothing. (USCG, 1999)	Soluble in water.	NICKEL CHLORIDE is a yellow, crystalline material, mildly toxic, carcinogenic. On contact with strong acids or acid fumes it produces highly toxic and corrosive hydrogen chloride gas. When heated to decomposition it emits toxic chloride fumes [Lewis, 3rd ed., 1993, p. 915].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
785	ETHYL ACRYLATE, INHIBITED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear dust respirator and rubber overclothing (including gloves). (USCG, 1999)	Insoluble in water.	NICKEL CYANIDE is thermally unstable and easily oxidized. Weakly basic. Liberates flammable and lethally poisonous hydrogen cyanide gas on contact with acids or acid fumes. Undergoes violent reactions with fluorine, hypochlorites, nitric acid, nitrates, nitrites. Undergoes an explosive reaction if melted with nitrites or chlorates (at about 450Â°C). Emits highly toxic cyanide fumes when heated to decomposition. [Lewis, 3rd ed., 1993, p. 360, 912]. Undergoes an incandescent reaction if heated with magnesium [Mellor, 1940, vol. 4, p. 271].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_mmHG	bp_range_mmHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	melwgt_value_amge	melwgt_range_amge	ldlh_source	ldlh_note	ldlh_value	ldlh_unit	solhlty_source	solhlty_note	solhlty_value	solhlty_range	solhlty_unit	chiris_codes	dec_labels	formulas	incompatible_adsorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
781	ETHINYLESTRADIOL																							760	565 to 572	(NTP, 1992)						(NTP, 1992)								Poison	C14H20O2		11.0	1.0	35.0	3.0	4.0
782	ETHOXYLATED TRIDECANOL													(NTP, 1992)				77	1,656 to 1,066	(NTP, 1992)	(some decomposition)					(NTP, 1992)		178.23		(NOSH, 2003)	(as Ni). A potential human carcinogen.	10	mg/m3	(NTP, 1992)	at 73Å° F		greater than or equal to 100	mg/mL			Poison	C16H14N2O		12.0	1.0	24.0	3.0	4.0
783	ETHOXYQUIN													(USCG, 1999)		1.74		68								(USCG, 1999)		248.86		(NOSH, 2003)	(as Ni). A potential human carcinogen.	10	mg/m3						NKA	Poison	NUGHD O2C24H		10.0	1.0	16.0	3.0	4.0
784	ETHYL ACETOACETATE													(USCG, 1999)		3.55		59								(USCG, 1999)		237.7		(NOSH, 2003)	(as Ni). A potential human carcinogen.	10	mg/m3						NCL	Poison	C2N1		14.0	1.0	36.0	3.0	4.0
785	ETHYL ACRYLATE, INHIBITED													(USCG, 1999)		2.4		77		(USCG, 1999)	Decomposes.			760	565 to 572	(NTP, 1992)		110.75		(NOSH, 2003)	(as Ni). A potential human carcinogen.	10	mg/m3						NCN	Poison	C2N2N1		15.0	1.0	33.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
786	ETHYL BROMIDE	BROMIC ETHER|BROMOETHANE|ETHANE, BROMO-|ETHYL BROMIDE|HALON 2001|HYDROBROMIC ETHER|MONOBROMOETHANE|NCI-C55481	74-96-4	A colorless volatile liquid. Slightly soluble in water and denser than water. Flash point below 0Â°F. Vapors are heavier than air. Toxic by inhalation. Irritates skin and eyes. Used to make pharmaceuticals and as a solvent.	2.5	5.0	2.5	1961.0	208.0	640.0	311.0	249.0	345.0	40.0	114.0	60.0	43.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
787	ETHYL BROMOACETATE	ALPHA-BROMOACETIC ACID ETHYL ESTER|ANTOL|BROMOACETIC ACID ETHYL ESTER(ETHOXYCARBONYL) METHYL BROMIDE|ETHYL 2-BROMOACETATE|ETHYL ALPHA-BROMOACETATE|ETHYL BROMACETATE|ETHYL BROMOACETATE|ETHYL BROMOETHANOATE|ETHYL MONOBROMOACETATE	105-36-2	A clear, colorless liquid. A lachrymator. Toxic by ingestion, inhalation and skin absorption; a strong irritant of the skin. Insoluble in water and soluble in alcohol, benzene, and ether.	2.5	5.0	2.5	1965.0	208.0	640.0	319.0	249.0	346.0	40.0	114.0	62.0	43.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
788	ETHYL BUTYRATE	BUTYRIC ACID, ETHYL ESTER|BUTYRIC ETHER|ETHYL BUTANOATE|ETHYL BUTYRATE|ETHYL N-BUTANOATE|ETHYL N-BUTYRATE	105-54-4	A clear colorless liquid with a pineapple-like odor. Flash point 78Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	1965.0	208.0	640.0	319.0	249.0	346.0	40.0	114.0	62.0	43.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
789	ETHYL CHLOROFORMATE	CATHYL CHLORIDE|CHLOROCARBONIC ACID ETHYL ESTER|CHLOROFORMIC ACID ETHYL ESTER|CHLOROFORMIC ACID, ETHYL ESTER|ETHOXYCARBONYL CHLORIDE|ETHYL CARBONOCHLORIDATE|ETHYL CHLOROCARBONATE|ETHYL CHLOROFORMATE|FORMIC ACID, CHLORO-, ETHYL ESTER	541-41-3	A colorless liquid with a pungent odor. Flash point 66Â°F. Very toxic by inhalation. Corrosive to metals and tissue. Vapors are heavier than air. Prolonged exposure to low concentrations or short exposure to high concentrations may have adverse health effects from inhalation.	2.5	5.0	2.5	1969.0	208.0	640.0	319.0	249.0	347.0	40.0	114.0	62.0	43.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
790	ETHYL ISOBUTYRATE	ETHYL 2,2-DIMETHYLACETATE|ETHYL 2-METHYLPROPANOATE|ETHYL 2-METHYLPROPIONATE|ETHYL ISOBUTANOATE|ETHYL ISOBUTYRATE|ISOBUTYRIC ACID, ETHYL ESTER|2-METHYLPROPANOIC ACID ETHYL ESTER|2-METHYLPROPIONIC ACID ETHYL ESTER	97-62-1	A colorless volatile liquid with a fruity, aromatic odor. Less dense than water and insoluble in water. Vapors heavier than air. May irritate skin and eyes. Used to make flavoring extracts and other chemicals.	2.5	5.0	2.5	1969.0	208.0	640.0	319.0	249.0	347.0	40.0	114.0	62.0	43.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
791	ETHYL LACTATE	ACTYLOL|ACYTOL|DL-ETHYL LACTATE|DL-LACTIC ACID, ETHYL ESTER|ETHYL 2-HYDROXYPROPANOATE|ETHYL 2-HYDROXYPROPIONATE|(.+-.)-ETHYL 2-HYDROXYPROPIONATE|ETHYL DL-LACTATE|ETHYL LACTATE|(.+-.)-ETHYL LACTATE|ETHYL RAC-LACTATE|2-HYDROXYPROPANOIC ACID ETHYL ESTER|(.+-.)-LACTIC ACID ETHYL ESTER|LACTIC ACID, ETHYL ESTER|PURASOLV ELS|SOLACTOL	97-64-3	A clear colorless liquid with a mild odor. Flash point 115Â°F. Denser than water and soluble in water. Vapors heavier than air.	2.5	5.0	2.5	1969.0	208.0	640.0	319.0	249.0	347.0	40.0	114.0	62.0	43.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
786	ETHYL BROMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Flammable and toxic as dust or fume. Insoluble in water.	NICKEL OXIDE may be light-sensitive. It should be thermally stable at temperatures up to 644Â° F. This compound reacts violently with iodine, hydrogen sulfide and (BaO + air). It is incompatible with anilinium perchlorate and hydrogen peroxide. It incandesces in cold fluorine. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		3603	
787	ETHYL BROMOACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. Insoluble in water.	Inorganic sulfides, such as NICKEL SUBSULFIDE, are generally basic and therefore incompatible with acids. Many of these compounds are reducing agents and therefore react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Simple salts of sulfides (such as sodium, potassium, and ammonium sulfide) react vigorously with acids to release hydrogen sulfide gas.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		1454	
788	ETHYL BUTYRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. The neat material is sensitive to air. (NTP, 1992). Insoluble in water.	Organometallics, such as NICKELOCENE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)	(8-10% solution in toluene)	39																		(NTP, 1992)		340 to 343	
789	ETHYL CHLOROFORMATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Turns brown on exposure to air. Soluble in water.	Nicotine-An alkaloid produced from tobacco. Colorless, oily liquid, combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 919].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nicotine, CAS number 54-11-5.	3	1	0	1																													
790	ETHYL ISOBUTYRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	NINHYDRIN is sensitive to prolonged exposure to light. This compound yields highly fluorescent ternary compounds with aldehydes and primary amines. (NTP, 1992)					0																									(NTP, 1992)	(Decomposes)		466 to 469
791	ETHYL LACTATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]					0																									(NTP, 1992)	(decomposes)	442	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
786	ETHYL BROMIDE	(NTP, 1992)		0		68		mm Hg							(NTP, 1992)		6.67										(NTP, 1992)		74.71		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	NiO		13.0	1.0	46.0	3.0	4.0
787	ETHYL BROMOACETATE														(NTP, 1992)		5.82										(NTP, 1992)		240.25		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Class 9	Ni3S2		11.0	1.0	41.0	3.0	4.0
788	ETHYL BUTYRATE																										(NTP, 1992)		188.81		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	Insoluble (<1 mg/ml at 75Â° F)					Flammable Solid	C10H10Ni		11.0	1.0	37.0	3.0	4.0
789	ETHYL CHLOROFORMATE																														(NIOSH, 2003)	(as nicotine)	5	mg/m3							Poison	C10H13N2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	28.0	3.0	4.0
790	ETHYL ISOBUTYRATE																										(NTP, 1992)		178.15						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C9H6O4	Cellulose-Based Absorbents	10.0	1.0	18.0	3.0	4.0
791	ETHYL LACTATE																										(NTP, 1992)		216.24						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C6H8N4O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
792	ETHYL ORTHOFORMATE	AETHON|ETHONE|ETHYL ORTHOFORMATE|OF|ORTHO FORMIC ACID ETHYL ESTER|ORTHOFORMIC ACID, TRIETHYL ESTER|TRIETHOXYMETHANE|TRIETHYL ORTHOFORMATE	122-51-0	A clear, colorless liquid with a pungent odor. Less dense than water. Vapors heavier than air. May irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	1973.0	208.0	640.0	319.0	249.0	348.0	40.0	114.0	62.0	43.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
793	ETHYL OXALATE	DIETHYL ETHANEDIOATE|DIETHYL OXALATE|ETHYL OXALATE|OXALIC ACID, DIETHYL ESTER	95-92-1	A colorless liquid. Slightly denser than water and insoluble in water. Hence sinks in water. May irritate skin and mucous membranes; may be mildly toxic by ingestion; may emit irritating fumes in a fire. Vapors are much heavier than air. Used as a solvent for plastics and in the manufacture of perfumes and pharmaceuticals.	2.5	5.0	2.5	1977.0	208.0	640.0	319.0	249.0	349.0	40.0	114.0	62.0	43.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
794	ETHYL VANILLIN	BOUBONAL|BOURBONAL|ETHAVAN|ETHOVAN|2-ETHOXY-4-FORMYLPHENOL|3-ETHOXY-4-HYDROXYBENZALDEHYDE|ETHYL VANILLIN|ETHYLPROTAL|ETHYLVANILLIN|4-HYDROXY-3-ETHOXYBENZALDEHYDE|PROTOCATECHUIC ALDEHYDE ETHYL ETHER|QUANTROVANIL|VANILLAL|VANIROM	121-32-4	PHYSICAL DESCRIPTION: Colorless crystals. More intense vanilla odor and taste than vanillin. (NTP, 1992)	1.0	2.5	5.0	1981.0	208.0	640.0	319.0	253.0	350.0	40.0	114.0	62.0	44.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
795	ETHYL-2-METHYL BUTYRATE (FLAMMABLE LIQUIDS, N.O.S.)	BUTYRIC ACID, 2-METHYL-, ETHYL ESTER|ETHYL 2-METHYLBUTANOATE|ETHYL 2-METHYLBUTYRATE|ETHYL ALPHA-METHYLBUTYRATE|ETHYL-2-METHYL BUTYRATE (FLAMMABLE LIQUIDS, N.O.S.)|2-METHYLBUTYRIC ACID ETHYL ESTER	7452-79-1	A colorless oily liquid with a fruity odor. Insoluble in water and less dense than water. Contact may irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	1981.0	208.0	640.0	319.0	253.0	350.0	40.0	114.0	62.0	44.0	(BLOB)	Moderate explosion hazard when exposed to heat or flame. Reacts violently with nitric acid, aluminum trichloride plus phenol, aniline plus glycerine, silver perchlorate and nitrogen tetroxide. Avoid aluminum trichloride; aniline; gycerol; sulfuric acid; oxidants; phosphorus pentachloride; potassium; potassium hydroxide. Avoid sunlight, physical damage to container, freezing, and intense heat. (EPA, 1998)	Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Use water spray, dry chemical, foam, or carbon dioxide. (EPA, 1998)
796	ETHYLAMINE	AMINOETHANE|1-AMINOETHANE|ETHANAMINE|ETHYLAMINE|ETHYLAMINE (ANHYDROUS)|MONOETHYLAMINE|N-ETHYLAMINE|R 631	75-04-7	A colorless liquid or a gas (boiling point 62Â°F) with an odor of ammonia. Flash point less than 0Â°F. Density of liquid 5.7 lb / gal. Corrosive to the skin and eyes. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Exposure of the closed container to intense heat may cause it to rupture violently and rocket.	2.5	5.0	2.5	1985.0	208.0	644.0	319.0	253.0	351.0	40.0	115.0	62.0	44.0	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
792	ETHYL ORTHOFORMATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Fumes in air. Soluble in all proportions with water. Dissolution in water produces heat, fumes, and spattering.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2032 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1	Oxidizer																			(NIOSH, 2003)		-44	
793	ETHYL OXALATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Fumes in air. Fully soluble in water with the release of heat. Reacts violently with water with the production of heat, fumes, and spattering.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	0	0	Oxidizer																			(NIOSH, 2003)		-44	
794	ETHYL VANILLIN	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	ALCOHOL, [COMBUSTIBLE LABEL] can react vigorously with oxidizing agents. Reacts violently with acetyl chloride and acetyl bromide [Rose 1961; Merck 11th ed. 1989]. Mixtures with concentrated hydrogen peroxide form powerful explosives. Reaction with hypochlorous acid gives ethyl hypochlorite, which is explosive. The reaction proceeds readily either in aqueous solution or mixed aqueous-carbon tetrachloride solutions. Reaction with chlorine gives the same product, which decompose in the cold and explodes on exposure to sunlight or heat [NFPA 491 M. 1991]. Base-catalysed reactions with isocyanates should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer 1969].		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NIOSH, 2003)		55		(NIOSH, 2003)		3.3		%	(NIOSH, 2003)		19		%				(NIOSH, 2003)		-173	
795	ETHYL-2-METHYL BUTYRATE (FLAMMABLE LIQUIDS, N.O.S.)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Very slightly soluble in water.	Aluminum chloride added to NITROBENZENE containing about 5% phenol caused a violent explosion [Chem. Eng. News 31:4915. 1953]. Heating a mixture of nitrobenzene, flake sodium hydroxide and a little water led to an explosion, discussed in [Bretherick's 5th ed. 1995]. Mixed with oxidants, i.e. dinitrogen tetraoxide, fluorodinitromethane, nitric acid, peroxodisulfuric acid, sodium chlorate, tetranitromethane, uranium perchlorate, etc., forms highly sensitive explosive, [Bretherick 5th ed, 1995]. Heated mixtures of nitrobenzene and tin(IV) chloride produce exothermic decomposition with gas production [Bretherick, 5th Ed., 1995].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(EPA, 1998)		190.4		(EPA, 1998)		1.8		%	(USCG, 1999)		1.8		%	(USCG, 1999)		924		(EPA, 1998)		42	
796	ETHYLAMINE	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Less dense than water and very slightly soluble in water. Tends to form explosive peroxides when exposed to air. When ethers containing peroxides are heated (distilled) they can detonate [Lewis, 3rd ed., 1993, p. 728].	VINYL ISOBUTYL ETHER is a colorless, moderately toxic liquid, highly flammable. A very dangerous fire hazard when exposed to heat, flame or strong oxidizing agents. Highly explosive in the form of vapor when exposed to open flame or sparks.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NFPA, 2010)		15																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
792	ETHYL ORTHOFORMATE	(NIOSH, 2003)		48				mm Hg													(NIOSH, 2003)		181		760		(NIOSH, 2003)		63		(NIOSH, 2003)		25	ppm	(NIOSH, 2003)	Miscible					Corrosive|Oxidizer|Poison Inhalation Hazard	HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	28.0	3.0	4.0
793	ETHYL OXALATE	(NIOSH, 2003)		48				mm Hg							(NIOSH, 2003)		1.5		77		(NIOSH, 2003)		181		760		(NIOSH, 2003)		63		(NIOSH, 2003)		25	ppm	(NIOSH, 2003)	Miscible					Corrosive|Oxidizer	HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	23.0	3.0	4.0
794	ETHYL VANILLIN	(NIOSH, 2003)		44				mm Hg							(NIOSH, 2003)		0.79				(NIOSH, 2003)		173		760		(NIOSH, 2003)		46.1		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	3300	ppm	(NIOSH, 2003)	Miscible					Flammable Liquid	C2H6O	Cellulose-Based Absorbents	12.0	1.0	31.0	3.0	4.0
795	ETHYL-2-METHYL BUTYRATE (FLAMMABLE LIQUIDS, N.O.S.)	(EPA, 1998)		1		111.92		mm Hg	(EPA, 1998)		4.3				(EPA, 1998)		1.2037		68		(EPA, 1998)		411.4		760		(EPA, 1998)		123.11		(NIOSH, 2003)		200	ppm	(NTP, 1992)	Insoluble (<1 mg/ml at 75Â° F)				NTB	Poison	C6H5NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	25.0	3.0	4.0
796	ETHYLAMINE																																								Flammable Liquid	C6H12O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
797	ETHYLAMINE, AQUEOUS SOLUTION, WITH NOT LESS THAN 50% BUT NOT MORE THAN 70% ETHYLAMINE	AMINOETHANE|1-AMINOETHANE|ETHANAMINE|ETHYLAMINE|ETHYLAMINE SOLUTION|ETHYLAMINE (MONOETHYLAMINE)|ETHYLAMINE, AQUEOUS SOLUTION, WITH NOT LESS THAN 50% BUT NOT MORE THAN 70% ETHYLAMINE|MONOETHYLAMINE|N-ETHYLAMINE|R 631	75-04-7	An aqueous solution of a gas. Odor ranges from fishlike to ammonia-like as the vapor concentration increases. Corrosive to skin and eyes. Less dense than water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion.	5.0	1.0	1.0	1989.0	208.0	644.0	319.0	253.0	352.0	40.0	115.0	62.0	44.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. A water spray may also be used. (NTP, 1992)
798	ETHYLENE DIBROMIDE	AADIBROOM|ALPHA,BETA-DIBROMOETHANE|ALPHA,OMEGA-DIBROMOETHANE|BROMOFUME|CELMIDE|DBE|DIBROMOETHANE|1, 2-DIBROMOETHANE (ETHYLENE DIBROMIDE)|1,2-DIBROMOETHANE|DOW-FUME 40|DOWFUME 40|DOWFUME EDB|DOWFUME W 8|DOWFUME W 85|DOWFUME W-100|DOWFUME W-8|DOWFUME W-85|DOWFUME W-90|E-D-BEE|EDABROM|EDB|EDB-85|ENT 15,349|ETHYLENE BROMIDE|ETHYLENE DIBROMIDE|FUMO-GAS|GLYCOL BROMIDE|GLYCOL DIBROMIDE|ISCOBROMED|KOPFUME|NCI-C00522|NEFIS|NEPHIS|PESTMASTER|PESTMASTER EDB-85|SANHYUUM|SOILBROM|S	106-93-4	A clear colorless liquid with a sweetish odor. Density 18.1 lb /gal. Slightly soluble in water. Soluble in most organic solvents and thinners. Noncombustible. Very toxic by inhalation, skin absorption or ingestion. Used as a solvent, scavenger for lead in gasoline, grain fumigant and in the manufacture of other chemicals.	2.5	5.0	2.5	1993.0	208.0	648.0	319.0	253.0	353.0	40.0	116.0	62.0	44.0	INHALATION: remove victim to fresh air; if breathing is difficult, administer oxygen; call physician. EYES: wash with copious quantities of water; consult an eye specialist. SKIN: wash with copious quantities of water; treat frostbite by use of warm water or blankets. INGESTION: do NOT induce vomiting, get medical attention. (USCG, 1999)	Behavior in Fire: Containers may explode. Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
799	ETHYLENE DIBROMIDE AND METHYL BROMIDE MIXTURE, LIQUID	ETHYLENE DIBROMIDE AND METHYL BROMIDE MIXTURE, LIQUID|METHYL BROMIDE AND ETHYLENE DIBROMIDE MIXTURE, LIQUID|METHYL BROMIDE-ETHYLENE DIBROMIDE MIXTURE, [LIQUID]	106-93-4	A liquid solution with a chloroform-like odor. Noncombustible. Soluble in common organic solvents. Toxic by inhalation, ingestion, and/or skin absorption. Used as a fumigant.	2.5	5.0	2.5	1997.0	208.0	648.0	319.0	253.0	354.0	40.0	116.0	62.0	44.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
800	ETHYLENE GLYCOL MONOBUTYL ETHER	BETA-BUTOXYETHANOL|BUCS|2-BUTOXY-1-ETHANOL|BUTOXYETHANOL|2-BUTOXYETHANOL|BUTYL CELLOSOLVE|BUTYL CELLOSOLVEÂ®|BUTYL CELLU-SOL|BUTYL GLYCOL|BUTYL MONOETHER GLYCOL|BUTYL OXITOL|C4E1|CHIMEC NRDOWANOL EB|DOWANOLÂ® EB|EGBE|EKTASOLVE EB|EKTASOLVE EBÂ®|ETHYLENE GLYCOL BUTYL ETHER|ETHYLENE GLYCOL MONO-N-BUTYL ETHER|ETHYLENE GLYCOL MONOBUTYL ETHER|ETHYLENE GLYCOL N-BUTYL|ETHYLENE GLYCOL N-BUTYL ETHER|GAFCOL EB|GLYCOL BUTYL ETHER|GLYCOL EB|GLYCOL ETHER EB|GLYCOL ETHER EB	111-76-2	A colorless liquid with a mild, pleasant odor. Less dense than water. Flash point 160Â°F. Irritates skin and eyes and may be toxic by ingestion. Used as a solvent and to make paints and varnish.	2.5	5.0	2.5	1997.0	208.0	648.0	319.0	253.0	354.0	40.0	116.0	62.0	44.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
801	ETHYLENE GLYCOL MONOETHYL ETHER	BETA-ETHOXYETHANOL|BIKANOL|CELLOSOLVE|CELLOSOLVE SOLVENT|CELLOSOLVEÂ®|DOWANOL EE|EGEE|EKTASOLVE EE|EMKANOL|ETHANOL, 2-ETHOXY-|2-ETHOXYETHANOL|2-ETHOXYETHYL ALCOHOL|ETHYL 2-HYDROXYETHYL ETHER|ETHYL CELLOSOLVE|ETHYLENE GLYCOL ETHYL ETHER|ETHYLENE GLYCOL MONOETHYL ETHER|GLYCOL ETHER EE|GLYCOL ETHYL ETHER|GLYCOL MONOETHYL ETHER|HYDROXY ETHER|JEFFERSOL EE|MONOETHYLENE GLYCOL ETHYL ETHER|NCI-C54853|OXITOL|POLY-SOLV EE|SOLVID	110-80-5	A clear colorless liquid. Flash point of 120Â°F. Less dense than water. Its vapors are heavier than air.	2.5	5.0	2.5	2001.0	208.0	652.0	319.0	253.0	355.0	40.0	117.0	62.0	44.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
797	ETHYLAMINE, AQUEOUS SOLUTION, WITH NOT LESS THAN 50% BUT NOT MORE THAN 70% ETHYLAMINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical forms explosive peroxides on prolonged exposure to air. Its decomposition products may be sensitive to shock. Water soluble.	TRIETHYLENE GLYCOL DIMETHYL ETHER forms explosive peroxides on prolonged exposure to air. Its decomposition products may be sensitive to shock. The bulk chemical is stable for 2 weeks at temperatures up to 140Â° F when protected from light. This chemical is incompatible with strong oxidizers. It is also incompatible with strong acids. It may react with peroxides, oxygen, nitric acid and sulfuric acid. (NTP, 1992).	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(NTP, 1992)		232											(NTP, 1992)		1166		(NTP, 1992)		-49	
798	ETHYLENE DIBROMIDE	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Organic-vapor mask; plastic or rubber gloves; safety glasses (USCG, 1999)	Highly flammable. Reacts slowly with water to form acetaldehyde, reaction is not hazardous unless water is hot or acids are present. Form dangerous peroxides when exposed to air.	VINYL METHYL ETHER reacts vigorously with oxidizing materials. Explosive in the form of vapor when exposed to heat, flame or strong oxidizing agents. Reacts, possibly explosively with halogens (bromine, chlorine) or hydrogen halides (hydrogen bromide, hydrogen chloride) [Baker, 1988, p. 487]. On contact with dilute acids or even mildly acidic solids (calcium chloride, ceramics) undergoes rapid, exothermic homopolymerization, which cannot be prevented by antioxidants. Must be stored in the presence of base [MVE Brochure, Billingham, ICI, 1962].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6		(USCG, 1999)		-69		(USCG, 1999)		2.6		%	(USCG, 1999)		39		%	(USCG, 1999)		549		(USCG, 1999)		-188	
799	ETHYLENE DIBROMIDE AND METHYL BROMIDE MIXTURE, LIQUID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	The nitroparaffins, nitromethane, nitropropane, etc. form salts with inorganic bases such as calcium hydroxide. The dry salts are explosive [Chem. Eng. News 30:2344. 1952]. Nitroethane and other nitro compounds are mild oxidizers and should not be heated with easily oxidizable hydrocarbons under confinement [Chem. Eng. News 30:2344. 1940].	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6		(NTP, 1992)		106		(NTP, 1992)		3.4		%						(USCG, 1999)		778		(NTP, 1992)		-130	
800	ETHYLENE GLYCOL MONOBUTYL ETHER	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	NITROGLYCERIN is incompatible with heat, ozone, shock, acids. An OSHA Class A Explosive (1910.109). (NIOSH, 1997). May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. May react with inorganic bases to form explosive salts. The presence of metal oxides increases thermal sensitivity.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroglycerin, CAS number 55-63-0.	2	3	4	7																						
801	ETHYLENE GLYCOL MONOETHYL ETHER	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH MORE THAN 1% BUT NOT MORE THAN 5% NITROGLYCERIN may react vigorously with reducing agents, including hydrides, sulfides and nitrides. Incompatible with ozone, acids.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroglycerin, CAS number 55-63-0.	2	3	4	7		(NFPA, 2010)		518																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
797	ETHYLAMINE, AQUEOUS SOLUTION, WITH NOT LESS THAN 50% BUT NOT MORE THAN 70% ETHYLAMINE	(NTP, 1992)		0.9		68		mm Hg	(NTP, 1992)		4.7				(NTP, 1992)		0.99		68		(NTP, 1992)		421		760		(NTP, 1992)		178.23						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C8H18O4		11.0	1.0	30.0	3.0	4.0
798	ETHYLENE DIBROMIDE								(USCG, 1999)		0.777		32		(USCG, 1999)		41.9		760		(USCG, 1999)		58.1																	VME	Flammable Gas	C3H6O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	10.0	1.0	32.0	3.0	4.0
799	ETHYLENE DIBROMIDE AND METHYL BROMIDE MIXTURE, LIQUID	(NIOSH, 2003)		21		77		mm Hg							(USCG, 1999)		1.05		68		(NTP, 1992)		239		760		(NTP, 1992)		75.07		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	Slightly soluble				NTE	Flammable Liquid	C2H5NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	32.0	3.0	4.0
800	ETHYLENE GLYCOL MONOBUTYL ETHER																														(NIOSH, 2003)	(as nitroglycerine)	75	mg/m3							Flammable Solid	C3H5N3O9	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	41.0	3.0	4.0
801	ETHYLENE GLYCOL MONOETHYL ETHER																														(NIOSH, 2003)	(as nitroglycerine)	75	mg/m3							Flammable Liquid	C3H5N3O9 (solution in ethanol)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
802	ETHYLENE GLYCOL MONOMETHYL ETHER	AMSCO-SOLV EE|BETA-METHOXYETHANOL|DOWANOL EM|EGM|EGME|EKTASOLVE EM|ETHANOL, 2-METHOXY-|ETHYLENE GLYCOL METHYL ETHER|ETHYLENE GLYCOL MONOMETHYL ETHER|GLYCOL ETHER EM|GLYCOL METHYL ETHER|GLYCOL MONOMETHYL ETHER|GLYCOLMETHYL ETHER|1-HYDROXY-2-METHOXYETHANE|JEFFERSOL EM|MECS|2-METHOXY-1-ETHANOL|METHOXYETHANOL|2-METHOXYETHANOL|2-METHOXYETHYL ALCOHOL|METHOXYETHYLENE GLYCOL|METHOXYHYDROXYETHANE|METHYL CELLOSOLVE|METHYL CELLOSOLVEÃ®|METHYL ETHOXOL|METHYL GLYCOL|METHYL OXITOL|MONOETHYLENE GLYCOL METHYL	109-86-4	A clear colorless liquid. Flash point of 110Â°F. Less dense than water. Vapors are heavier than air.	2.5	5.0	2.5	2001.0	208.0	652.0	319.0	253.0	355.0	40.0	117.0	62.0	44.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
803	ETHYLENE GLYCOL PHENYL ETHER	AROSOL|BETA-HYDROXYETHYL PHENYL ETHER|BETA-PHENOXYETHANOL|BETA-PHENOXYETHYL ALCOHOL|DALPAD A|DOWANOL EP|DOWANOL EPH|EMERESSENCE 1160|EMERSSENCE 1160|EMERY 6705|ETHYLENE GLYCOL MONOPHENYL ETHER|ETHYLENE GLYCOL PHENYL ETHER|GLYCOL MONOPHENYL ETHER|H 4644|1-HYDROXY-2-PHENOXYETHANE|2-HYDROXYETHOXY)BENZENE|2-HYDROXYETHYL PHENYL ETHER|NEWPOL EFP|PHE G|PHENOXETHOL|PHENOXETOL|PHENOXYETHANOL|2-PHENOXYETHANOL|PHENOXYETHYL ALCOHOL|2-PHENOXYETHYL ALCOHOL|PHENOXYTOL|PHENYL CELLOSOLVE|PHENYLMONOGLYCOL ETHER|PLASTILIT	122-99-6	Colorless liquid with a pleasant odor. Density 1.02 g / cm3. An irritant.	2.5	5.0	2.5	2001.0	208.0	652.0	319.0	253.0	355.0	40.0	117.0	62.0	44.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
804	ETHYLENEDIAMINE	ALPHA,OMEGA-ETHANEDIAMINE|BETA-AMINOETHYLAMINE|BETA-AMINOETHYLAMINE|1,2-DIAMINOETHANE|1,4-DIAZABUTANE|DIMETHYLENEDIAMINE|EDAMINE|1,2-ETHANEDIAMINE|ETHYLENDIAMINE|ETHYLENEDIAMINE|ETHYLENEDIAMINE (ANHYDROUS)|ETHYLENEDIAMINE MOD|1,2-ETHYLENEDIAMINE|NCI-C60402	107-15-3	A clear colorless liquid with an ammonia-like odor. Flash point of 91Â°F and a melting point of 47Â°F. Corrosive to tissue. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Density 7.5 lb / gal. Used to make other chemicals and as a fungicide.	2.5	5.0	2.5	2001.0	208.0	652.0	319.0	253.0	355.0	40.0	117.0	62.0	44.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
805	ETHYLHEXOIC ACID	ALPHA-ETHYLCAPROIC ACID|ALPHA-ETHYLHEXANOIC ACID|2-BUTYLBUTANOIC ACID|BUTYLETHYLACETIC ACID|2-ETHYL-1-HEXANOIC ACID|2-ETHYLCAPROIC ACID|ETHYLHEXANOIC ACID|(+-)-2-ETHYLHEXANOIC ACID|2-ETHYLHEXANOIC ACID|ETHYLHEXOIC ACID|2-ETHYLHEXOIC ACID|3-HEPTANECARBOXYLIC ACID|HEXANOIC ACID, 2-ETHYL-|HEXONIC ACID, 2-ETHYL-	149-57-5	Ethylhexoic acid is a colorless to light yellow liquid with a mild odor. It will burn though it may take some effort to ignite. It is slightly soluble in water. It is corrosive to metals and tissue. It is used to make paint dryers and plasticizers.	2.5	5.0	2.5	2001.0	208.0	652.0	319.0	253.0	355.0	40.0	117.0	62.0	44.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
806	EUGENOL	4-ALLYL-1-HYDROXY-2-METHOXYBENZENE|4-ALLYL-2-METHOXYPHENOL|1-ALLYL-4-HYDROXY-3-METHOXYBENZENE|4-ALLYLCATECHOL-2-METHYL ETHER|ALLYLGUAIACOL|4-ALLYLGUAIACOL|5-ALLYLGUAIACOL|CARYOPHYLLIC ACID|EUGENIC ACID|EUGENOL|1,3,4-EUGENOL|FA 100|FEMA NO. 2467|1-HYDROXY-2-METHOXY-4-ALLYLBENZENE|1-HYDROXY-2-METHOXY-4-PROP-2-ENYLBENZENE|1-HYDROXY-2-METHOXY-4-PROPENYLBENZENE|4-HYDROXY-3-METHOXYALLYLBENZENE|1HYDROXY-4-ALLYL-2-METHOXYBENZENE|2-HYDROXY-5-ALLYLANISOLE|2-METHOXY-1-HYDROXY-4-ALLYLBENZENE|2-	97-53-0	PHYSICAL DESCRIPTION: Clear colorless pale yellow or amber-colored liquid. Odor of cloves. Spicy pungent taste. (NTP, 1992)	2.5	5.0	2.5	2001.0	208.0	656.0	319.0	253.0	355.0	40.0	118.0	62.0	44.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH,	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
807	FD & C YELLOW NO. 6	(BLOB)	2783-94-0	PHYSICAL DESCRIPTION: Orange-red crystals or a red powder. (NTP, 1992)	1.0	2.5	5.0	2001.0	212.0	656.0	319.0	257.0	355.0	41.0	118.0	62.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
802	ETHYLENE GLYCOL MONOMETHYL ETHER	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Nitroalkanes, such as NITROGUANIDINE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. Mercury and silver complex salts of nitroguanidine are very impact sensitive.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
803	ETHYLENE GLYCOL PHENYL ETHER	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Nitroalkanes, such as NITROGUANIDINE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. Mercury and silver complex salts of nitroguanidine are very impact sensitive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																										
804	ETHYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water. Insoluble in water.	1-NITROPYRENE may be sensitive to prolonged exposure to light. Reacts with ethanolic potassium hydroxide. Also reacts with zinc powder and ethanol with catalytic amounts of ammonium chloride or ammonia (NTP, 1992). Aromatic nitro compounds, such as NITROPYRENES, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		311	
805	ETHYLHEXOIC ACID	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Nitroalkanes, such as NITROSTARCH, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
806	EUGENOL	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	NITROUS OXIDE, [REFRIGERATED LIQUID] is an oxidizing agent. Nonflammable but supports combustion. Can explode at high temperature (after vaporization). Vapors may undergo a violent reaction with aluminum, boron, hydrazine, lithium hydride, phenyllithium, phosphine, sodium, tungsten carbide [Bretherick, 5th ed., 1995, p. 1686]. Contact of the cold liquefied gas with water may result in vigorous or violent boiling. If the water is hot, a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquefied gas contacts water in a closed container [Handling Chemicals Safely 1980].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		-132	
807	FD & C YELLOW NO. 6		Full face mask with canister for short exposures to high vapor levels; rubber gloves; goggles. (USCG, 1999)	Slightly soluble in water.	DIETHYLENE GLYCOL is incompatible with strong oxidizing agents. It is also incompatible with strong bases. It can react with sulfuric acid and other dehydrating agents, nitric acid, oxygen, hydrogen peroxide, perchloric acid and strong acids. Mixtures with sodium hydroxide decompose exothermically when heated to 446Â° F. (NTP, 1992)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		290		(NTP, 1992)		1.6		%	(NTP, 1992)		10.8		%	(USCG, 1999)		444		(NTP, 1992)		14	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
802	ETHYLENE GLYCOL MONOMETHYL ETHER																																									Flammable Solid	CH4N4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	35.0	3.0	4.0
803	ETHYLENE GLYCOL PHENYL ETHER																																								Explosive 1.1D	CH4N4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	50.0	3.0	4.0
804	ETHYLENEDIAMINE																									(NTP, 1992)	(mononitropyrene)	247.26							(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C16H9NO2 (mononitropyrene)|C16H8N2O4 (dinitropyrene)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	39.0	3.0	4.0
805	ETHYLHEXOIC ACID																																								Flammable Solid	(C6H7O2NO3)3]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	27.0	3.0	4.0
806	EUGENOL	(NIOSH, 2003)		51.3				atm															(NIOSH, 2003)		-127	760	(NIOSH, 2003)		44						(NIOSH, 2003)	at 77Â° F	0.1		%		Non-Flammable Gas|Oxidizer	N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	38.0	3.0	4.0
807	FD & C YELLOW NO. 6	(NTP, 1992)	; 0.01 mm Hg at 86Â° F		less than 0.01	68		mm Hg	(NTP, 1992)		3.66				(USCG, 1999)		1.118		68		(NTP, 1992)		473	760	(NTP, 1992)		106.12						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DEG		C4H10O3	Cellulose-Based Absorbents	12.0	1.0	37.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
808	FERRIC AMMONIUM CITRATE	AMMONIUM FERRIC CITRATE|AMMONIUM IRON(III) CITRATE|CITRIC ACID, AMMONIUM IRON(3+) SALT|FAC|FERRIC AMMONIUM CITRATE|FERRIC AMMONIUM CITRATE, BROWN|FERRIC AMMONIUM CITRATE, GREEN|IRON(III) AMMONIUM CITRATE	1185-57-5	Ferric ammonium citrate is a yellowish brown to red solid with a faint odor of ammonia. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in medicine, in making blueprints, and as a feed additive.	1.0	2.5	5.0	2005.0	212.0	660.0	319.0	257.0	356.0	41.0	119.0	62.0	45.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
809	FERRIC AMMONIUM OXALATE	AMMONIUM FERRIC OXALATE|AMMONIUM FERRIC OXALATE TRIHYDRATE|AMMONIUM FERRIOXALATE|AMMONIUM TRIOXALATOFERRATE(III) TRIHYDRATE|AMMONIUM TRIS(OXALATO)FERRATE(III)|FERRATE(3-), TRIS(OXALATO)-, TRIAMMONIUM|FERRATE(3-), TRIS[ETHANEDIOATO(2-)-O,O']-, TRIAMMONIUM, (OC-6-11)-|FERRIC AMMONIUM OXALATE|OXALIC ACID, AMMONIUM IRON(3+) SALT (3:3:1)|TRIAMMONIUM TRIS(OXALATO)FERRATE(3-)	2944-67-4	A green crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Used in making blueprints.	1.0	2.5	5.0	2005.0	212.0	660.0	319.0	257.0	356.0	41.0	119.0	62.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
810	FERRIC NITRATE	FE(NO3)3: FERRIC NITRATE, IRON(III) NITRATE|FERRIC NITRATE|FERRIC NITRATE NONAHYDRATE|IRON NITRATE (FE(NO3)3)|IRON TRINITRATE|IRON(III) NITRATE|NITRIC ACID, IRON(III) SALT	10421-48-4	A violet crystalline solid. Noncombustible but it will accelerate the burning of combustible materials. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. Prolonged exposure of the material to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. It is used for dyeing and tanning, in chemical analysis, and in medicine.	1.0	2.5	5.0	2005.0	212.0	660.0	319.0	257.0	356.0	41.0	119.0	62.0	45.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
811	FERROCENE	BIS(CYCLOPENTADIENYL)IRON|BIS(ETA-CYCLOPENTADIENYL)IRON|BIS(ETA5-CYCLOPENTADIENYL)IRON|BISCYCLOPENTADIENYLIRON|CATANE TMIDI-2,4-CYCLOPENTADIEN-1-YLIRON|DI-PI-CYCLOPENTADIENYL IRON|DICYCLOPENTADIENYL IRON|DICYCLOPENTADIENYLIRON|FERROCENE|FERROTSEN|IRON BIS(CYCLOPENTADIENE)|IRON BIS(CYCLOPENTADIENIDE)|IRON DICYCLOPENTADIENYL|IRON, BIS(ETA5-2,4-CYCLOPENTADIEN-1-YL)-	102-54-5	PHYSICAL DESCRIPTION: Orange crystalline solid or orange-yellow powder. Sublimes above 212Â°F. Camphor odor. (NTP, 1992)	1.0	2.5	5.0	2009.0	212.0	660.0	319.0	257.0	357.0	41.0	119.0	62.0	45.0	(BLOB)	This is a liquid organophosphorus pesticide. Fire may produce irritating or poisonous gases. Hydrolyzes under alkaline conditions. (EPA, 1998)	This is a liquid organophosphorus pesticide. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
812	FERROSILICON	FERROSILICON|FERROSILICON, [FLAMMABLE SOLID]|FERROSILICON, [WITH >= 30% BUT <= 70% SILICON]	8049-17-0	A solid alloy of iron and silicon. Used to add silicon to iron and steel. Ferrosilicon is an odorless, crystalline solid metal. It is flammable and can react explosively with oxidizing materials. In the presence of moisture or water it may emit toxic and explosive fumes. It is used in magnesium processing.	1.0	2.5	5.0	2009.0	212.0	660.0	319.0	257.0	357.0	41.0	119.0	62.0	45.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
813	FERROUS OXALATE	FERROUS OXALATE|FERROUS OXALATE DIHYDRATE|FERROX|IRON PROTOXALATE|OXALIC ACID, FERROUS SALT	516-03-0	Odorless yellow solid. Insoluble in water and denser in water. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2013.0	212.0	664.0	319.0	257.0	358.0	41.0	120.0	62.0	45.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
808	FERRIC AMMONIUM CITRATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	ALDRIN MIXTURE, LIQUID is a chlorinated diene. May be sensitive to prolonged exposure to light. Stable to heat and in the presence of inorganic and organic bases. Stable with hydrated metal chlorides and mild acids. Reacts with concentrated acids and phenols in the presence of oxidizing agents. Can react with acid catalysts, acid oxidizing agents and active metals. (NTP, 1992).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
809	FERRIC AMMONIUM OXALATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and air, and store it under refrigerated temperatures. (NTP, 1992)	Vinyl (not rubber) gloves; safety goggles. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously, [MCA Case History 616(1960)]. Water soluble.	A violent explosion occurred when lithium aluminum hydride was being used to dry diethylene glycol dimethyl ether. The ignition may have occurred due to the presence of large amounts of water or perhaps peroxide formed in the ether. About 75% of the ether had been removed when the explosion occurred, [MCA Case History 1494 (1968)].	Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3		(NTP, 1992)			153 to 158												(NTP, 1992)		-90	
810	FERRIC NITRATE		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	DIETHYLENE GLYCOL ETHYL ETHER ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		2	1	0	1		(USCG, 1999)		230												(USCG, 1999)		-13	
811	FERROCENE	This is a liquid organophosphorus pesticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzes under alkaline conditions [EPA, 1998]. Insoluble in water.	Organothiophosphates, such as TERBUFOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This compound decomposes in the presence of acids or bases (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0			(EPA, 1998)			190												(EPA, 1998)		-20.6	
812	FERROSILICON		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	DIETHYLENE GLYCOL METHYL ETHER ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		0	2	0	2		(USCG, 1999)		180																
813	FERROUS OXALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Slightly soluble in water.	(BLOB)	Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			less than 69																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
808	FERRIC AMMONIUM CITRATE																													(NIOSH, 2003)	; A potential human carcinogen.	25	mg/m3							Flammable Liquid|Poison	C12H8Cl6	Dirt/Earth	11.0	1.0	34.0	3.0	4.0
809	FERRIC AMMONIUM OXALATE														(USCG, 1999)		0.945		68		(NTP, 1992)	: 241Â° F at 200 mm Hg; 167Â° F at 35 mm Hg; 68Â° F at 3 mm Hg		321 to 324	760		(NTP, 1992)		134.18					(NTP, 1992)	Miscible				DGD	Flammable Liquid	C6H14O3		11.0	1.0	19.0	3.0	4.0
810	FERRIC NITRATE														(USCG, 1999)		1.0114		68		(USCG, 1999)			423.32		760		(USCG, 1999)		176									DGA		C8H16O4		15.0	1.0	36.0	3.0	4.0
811	FERROCENE	(EPA, 1998)		0.0003		77		mm Hg							(EPA, 1998)		1.105		75.2		(EPA, 1998)		156		0.01		(EPA, 1998)		288.45						(NTP, 1992)	Insoluble (<1 mg/ml)					Poison	C9H21O2PS3		11.0	1.0	23.0	3.0	4.0
812	FERROSILICON														(USCG, 1999)		1.04		68		(USCG, 1999)		408.4		760		(USCG, 1999)		162.18									DGR		C7H14O4		13.0	1.0	25.0	3.0	4.0
813	FERROUS OXALATE														(NTP, 1992)		0.9441				(NTP, 1992)			252 to 255	760		(NTP, 1992)		112.14						(NTP, 1992)	at 64Â° F		1 to 5	mg/mL		Poison|Flammable Liquid	C6H8O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
814	FLUOBORIC ACID	BOROFLUORIC ACID|FLUOBORIC ACID|FLUOBORIC ACID (HBF4)|FLUOROBORIC AC.|DIHYDROGEN TETRAFLUOROBORATE|HYDROGEN TETRAFLUOROBORATE(1-)|TETRAFLUOROBORIC ACID	16872-11-0	A colorless odorless poisonous liquid. Boiling point 130Â°C. Corrosive to metals and tissue. It is used in electroplating, metal cleaning and making diazo salts.	2.5	5.0	2.5	2013.0	212.0	664.0	319.0	257.0	358.0	41.0	120.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
815	FLUORENE	ALPHA-DIPHENYLENEMETHANE-9H-FLUORENE|2,3-BENZINDENE|DIPHENYLENEMETHANE|FLUORENE|METHANE, DIPHENYLENE-|2,2'-METHYLENEBIPHENYL|O-BIPHENYLENEMETHANE|O-BIPHENYLMETHANE	86-73-7	PHYSICAL DESCRIPTION: White leaflets. Sublimes easily under a vacuum. Fluorescent when impure. (NTP, 1992)	1.0	2.5	5.0	2013.0	212.0	664.0	319.0	257.0	358.0	41.0	120.0	62.0	45.0	SKIN CONTACT: wash affected skin area thoroughly with water. EYE CONTACT: immediately wash with water for at least 15 minutes and get medical attention. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Fire Extinguishing Agents: Water, alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
816	FLUORESCEIN	BENZOIC ACID, 2-(6-HYDROXY-3-OXO-3H-XANTHEN-9-YL)-|C.I. 45350|C.I. 45350:1|C.I. ACID YELLOW 73|C.I. SOLVENT YELLOW 94|D AND C YELLOW NO. 7|D&C YELLOW NO. 7|3',4'-DEHYDROXYFLUORAN|3',6'-DIHYDROXYFLUORAN|DIHYDROXYFLUORANE|3',6'-DIHYDROXYSPIRO(ISOBENZOFURAN-1(3H),9'(9H)-XANTHEN)-3-ONE|3,6-DIHYDROXYSPIRO(XANTHENE-9,3'-PHTHALIDE)|DIRESORCINOLPHTHALEIN|3',6'-FLUORANDIOL|3,6-FLUORANDIOL|FLUORESCEIN|FLUORESCEIN ACID|HIDACID FLUORESCEIN|JAPAN YELLOW 201|JAPAN YELLOW NO. 201|O-(6-HYDROXY-3-OXO-3H-XANTHEN-9-YL)BENZOIC ACID|9-(O-CARBOXYPHENYL)-6-HYDROXY-3H-XANTHEN-3-ONE	2321-07-5	PHYSICAL DESCRIPTION: Yellow amorphous solid or orange-red crystals. Latter have greenish-yellow fluorescence by reflected light. Insoluble in water. Soluble in dilute aqueous bases. Very dilute alkaline solutions exhibit intense, greenish-yellow fluorescence by reflected light. Low toxicity. May be sensitive to prolonged exposure to light.	1.0	2.5	5.0	2013.0	212.0	664.0	319.0	257.0	358.0	41.0	120.0	62.0	45.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
817	FLUORESCEIN, DISODIUM SALT	(BLOB)	518-47-8	PHYSICAL DESCRIPTION: Orange-red to dark red powder. Water-soluble form of fluorescein. Odorless and almost tasteless. pH (5% solution) 7.8. May be sensitive to prolonged exposure to light and to heat.	1.0	2.5	5.0	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	INHALATION: remove from exposure; if not breathing, give artificial respiration; if breathing is difficult, give oxygen; call physician. EYES: flush with water for at least 15 min. and call physician. SKIN: flush with water; get medical attention for skin irritation. INGESTION: do NOT induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen bromide and bromine gases formed in fire. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
818	FLUORINE	DIATOMIC FLUORINE|DIFLUORINE|FLUORINE|FLUORINE, COMPRESSED|FLUORINE-19|MOLECULAR FLUORINE	7782-41-4	Fluorine is a pale yellow gas with a pungent odor. It is commonly shipped as a cryogenic liquid. It is toxic by inhalation and skin absorption. Contact with skin in lower than lethal concentrations causes chemical burns. It reacts with water to form hydrofluoric acid and oxygen. It is corrosive to most common materials. It reacts with most combustible materials to the point that ignition occurs. Under prolonged exposure to fire or intense heat the containers may violently rupture and rocket.	5.0	1.0	1.0	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
814	FLUOBORIC ACID	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Reacts violently with water (NTP, 1992).	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE will detonate under high impact. It is sensitive to heat. A sample has exploded when melted in a sealed capillary tube. Incompatible with acids, bases, oxidizing agents and reducing agents. Reacts with bases to release highly toxic, irritating and explosive gases. Reacts slowly with acids to release nitrous acid. Reacts with various nucleophiles, especially amines and thiols. Reacts with aqueous potassium hydroxide to form a highly reactive compound. The crude product from aqueous nitrosation is pyrophoric but recrystallized material is stable (NTP, 1992).	Highly Flammable; Explosive; Water-Reactive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										(NTP, 1992)	(decomposes)	244	
815	FLUORENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Neoprene rubber gloves and safety goggles or face shield. (USCG, 1999)	Soluble in water.	Pure BUTYNEDIOL is non-explosive. Small amounts of certain impurities-alkali hydroxides, alkaline earth hydroxides, halides-may cause explosive decomposition upon distillation. Butynediol should not be treated with basic catalysts in the absence of a solvent at room temperature, and its stability is less with elevated temperatures. In strong acids, contamination with mercury salts can also result in violent decomposition. [NFPA 491M 1991].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		263																										
816	FLUORESCEIN		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		0	1	0	1																										
817	FLUORESCEIN, DISODIUM SALT	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles and face shield; protective clothing; self-contained breathing appartus for high vapor concentrations. (USCG, 1999)	Highly flammable. Slightly soluble in water.	ALLYL BROMIDE decomposes upon heating and exposure to light, forming HBr (a strong reducing agent). Reacts violently with oxidizing agents. Can react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable; Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(USCG, 1999)		28		(USCG, 1999)		4.4		%	(USCG, 1999)		7.3		%	(USCG, 1999)		563		(USCG, 1999)		-182	
818	FLUORINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. This chemical oxidizes in air to form hydroperoxides. Slightly soluble in water.	VINYLCYCLOHEXENE can react with oxidizing materials. It is also incompatible with peroxide catalysts. Prolonged exposure to oxygen-containing gases leads to discoloration and gum formation. (NTP, 1992).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		60		(USCG, 1999)		1		%	(USCG, 1999)		5.9		%	(USCG, 1999)		517		(NTP, 1992)		-150	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
814	FLUOBORIC ACID																									(NTP, 1992)		147.09						(NTP, 1992)	Reacts with water violently					Flammable Solid	C2H5N5O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	41.0	3.0	4.0
815	FLUORENE														(USCG, 1999)		1.07		68		(USCG, 1999)		460		760		(USCG, 1999)		36.09											BTD	Poison	C4H6O2	Cellulose-Based Absorbents	10.0	1.0	18.0	3.0	4.0
816	FLUORESCEIN														(USCG, 1999)		1.29				(USCG, 1999)						(USCG, 1999)		254.23											DGL		C12H14O6	Cellulose-Based Absorbents	12.0	1.0	30.0	3.0	4.0
817	FLUORESCEIN, DISODIUM SALT														(USCG, 1999)		1.4161		68		(USCG, 1999)		158		760		(USCG, 1999)		121											ABR	Flammable Liquid|Poison	C3H5Br	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	47.0	3.0	4.0
818	FLUORINE	(NTP, 1992)	; 25.8 mm Hg at 100Â° F	15		77		mm Hg	(NTP, 1992)		3.76				(USCG, 1999)		0.8303		68		(NTP, 1992)			259 to 261	760		(NTP, 1992)		108.2						(NTP, 1992)	at 67.1Â° F		1 to 10	mg/mL	VCH	Flammable Liquid	C8H12	Dirt/Earth	10.0	1.0	15.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
819	FLUOROURACIL	ADRUCIL|ARUMEL|CARZONAL|2,4-DIOXO-5-FLUOROPYRIMIDINE|EFFLUDERM (FREE BASE)|EFUDEX|EFUDIX|EFURIX|FLUORO URACIL|5-FLUORO- 2,4-PYRIMIDINEDIONE|5-FLUORO-2,4(1H,3H)-PYRIMIDINEDIONE|5-FLUORO-2,4-PYRIMIDINEDIONE|FLUOROBLASTIN|FLUOROPLEX|5-FLUOROPYRIMIDINE- 2,4-DIONE|5-FLUOROPYRIMIDINE-2,4-DIONE|FLUOROURACIL|5-FLUOROURACIL|FLURACIL|FLURACILUM|FLURI|FLURIL|FT-207|FTORURACIL|FU|5-FU|2,4(1H,3H)-PYRIMIDINEDIONE, 5-FLUORO-|NSC 19893|NSC-19893|QUEROPLEX|RO 2-9757|TIMAZIN|U-8953|ULUP|URACIL, 5-FLUORO-	51-21-8	White to nearly white crystalline powder; practically odorless. Used as an anti neoplastic drug, chemosterilant for insects. (EPA, 1998)	1.0	2.5	5.0	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
820	FORMAMIDE	CARBAMALDEHYDE|FORMAMIDE|FORMIC ACID, AMIDE|FORMIMIDIC ACID|METHANAMIDE|METHANOIC ACID, AMIDE	75-12-7	A colorless liquid with a faint odor of ammonia. Denser than water. Freezing point 36Â°F. (USCG, 1999)	2.5	5.0	2.5	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	A fire in your laboratory involving this chemical may produce dangerous vapors. Please evacuate the area immediately. As a firefighter, you should be equipped with full-body protective clothing and a self-contained breathing apparatus. You should extinguish this fire with a dry chemical, carbon dioxide or halon extinguisher. You should avoid using a water or foam extinguisher as they may cause spattering. (NTP, 1992)
821	FURFURAL	ALPHA-FUROLE|ARTIFICIAL ANT OIL|ARTIFICIAL OIL OF ANTS|2-FORMYLFURAN|FURAL|FURAL/PYROMUCIC ALDEHYDE|FURALDEHYDE|2-FURALDEHYDE|FURALE|2-FURANALDEHYDE|2-FURANCARBALDEHYDE|FURANCARBONAL|2-FURANCARBONAL|2-FURANCARBOXALDEHYDE|FURFURAL|2-FURFURAL|FURFURALDEHYDE|2-FURFURALDEHYDE|FURFURALDEHYDES|FURFUROL|FURFUROLE|FURFURYLALDEHYDE|FUROLE|2-FURYLALDEHYDE|2-FURYLCARBOXALDEHYDE|2-FURYLMETHANAL|NCI-C56177|PYROMUCIC ALDEHYDE|QUAKERAL|U1199	98-01-1	Colorless or reddish-brown mobile liquids with a penetrating odor. Flash points 140Â°F. Denser than water and soluble in water. Vapors heavier than air. May be toxic by ingestion, skin absorption or inhalation.	2.5	5.0	2.5	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
822	FURFURYL ALCOHOL	ALPHA-FURFURYL ALCOHOL|ALPHA-FURYLCARBINOL|CHEM-REZ 200|2-FURANCARBINOL|2-FURANMETHANOL|2-FURANYLMETHANOL|FURFURAL ALCOHOL|FURFURALCOHOL|FURFURANOL|FURFURYL ALCOHOL|2-FURFURYL ALCOHOL|FURYL ALCOHOL|FURYLCARBINOL|2-FURYLCARBINOL|2-FURYLMETHANOL|2-(HYDROXYMETHYL)FURAN|2-HYDROXYMETHYLFURAN|5-HYDROXYMETHYLFURAN|METHANOL, (2-FURYL)-|NCI-C56224	98-00-0	A clear colorless liquid. Flash point 167Â°F. Boiling point 171Â°F. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion and skin contact and moderately toxic by inhalation.	2.5	5.0	2.5	2017.0	212.0	668.0	319.0	257.0	359.0	41.0	121.0	62.0	45.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
823	GALLIC ACID	BENZOIC ACID, 3,4,5-TRIHYDROXY-(GALLIC ACID|GALLIC ACID MONOHYDRATE|3,4,5-TRIHYDROXYBENZOIC ACID	149-91-7	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2017.0	212.0	672.0	319.0	257.0	359.0	41.0	122.0	62.0	45.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
819	FLUOROURACIL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	DIETHYL-P-TERPHENYL-P,P'-CARBOXYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0																								
820	FORMAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	N-NITROSODI-N-PROPYLAMINE is a nitrated azo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
821	FURFURAL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-NONADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		greater than 212										(NTP, 1992)		446		(NTP, 1992)		89.8	
822	FURFURYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	NOCODAZOLE may be sensitive to heat. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)	570	
823	GALLIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Darkens on exposure to light and air liberating Iodine [Merck 11th ed. 1989]. Insoluble in water.	ALLYL IODIDE is moderately reactive. Incompatible with strong oxidizing and reducing agents. Also, incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
819	FLUOROURACIL																										(NTP, 1992)		374.45														C24H22O4		14.0	1.0	46.0	3.0	4.0
820	FORMAMIDE														(NTP, 1992)		0.9163		68		(NTP, 1992)		403		760		(NTP, 1992)		130.19												Class 9	C6H14N2O	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	12.0	1.0	32.0	3.0	4.0
821	FURFURAL														(NTP, 1992)		0.7774		90		(NTP, 1992)		625.5		760		(NTP, 1992)		268.53												Flammable Solid	C19H40		18.0	1.0	35.0	3.0	4.0
822	FURFURYL ALCOHOL																										(NTP, 1992)		301.33						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Poison	C14H11N3O3S	Mineral-Based & Clay-Based Absorbents	18.0	1.0	50.0	3.0	4.0
823	GALLIC ACID																																								Flammable Liquid	Corrosive	C3H5I	Dirt/Earth	13.0	1.0	40.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
824	GASOLINE BLENDING STOCKS: REFORMATES	GASOLINE BLENDING STOCKS: REFORMATES	8006-61-9	Physical State Shipped: Watery liquid Odor: Gasoline odor Color: Colorless Characteristics in Water: Floats on water. Flammable, irritating vapor is produced. (USCG, 1999)	2.5	5.0	2.5	2017.0	212.0	672.0	319.0	257.0	359.0	41.0	122.0	62.0	45.0	(BLOB)	Combustible. Containers may explode in fire. Containers may explode or rupture in a fire due to polymerization. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
825	GASOLINES: POLYMER	GASOLINES: POLYMER	8006-61-9	Colorless watery liquid with an odor of gasoline odor. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2021.0	212.0	672.0	319.0	257.0	360.0	41.0	122.0	62.0	45.0	Get medical attention following all exposures to this compound. INHALATION: remove victim from exposure; give artificial respiration if required. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give large amount of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic chlorine and phosgene gases may be formed in fires. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires produces irritating hydrogen chloride gas. (USCG, 1999)	Excerpt from GUIDE 155P [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
826	GENTAMYCIN SULFATE	ALCOMICIN|BRISTAGEN|CIDOMYCIN|GARAMYCIN|GARASOL|GENOPTIC|GENOPTIC S.O.P.|GENTACIN|GENTALIN|GENTALYN|GENTAMICIN SULFATE|GENTAMICIN SULPHATE|GENTAMYCIN SULFATE|GENTAMYCIN, SULFATE (SALT)|GENTIBIOPTAL|GENTICIN|GENTICYN|GENTOCIN|GENTOGRAM|GERAMYCIN|GETALLINE|GM SULFATE|NSC-82261|REFOBACIN|REFOBACIN 10|REFOBACIN L|SCH 9724|SEPTOPAL|SULMYCIN|UGENCIN|UROCYDIN	1405-41-0	PHYSICAL DESCRIPTION: Sulfate salt of an antibiotic complex produced by fermentation. Three closely related components that are chemically amino-saccharides. White to buff-colored powder. pH (4% solution) 3.5 to 5.5. Odorless. (NTP, 1992)	1.0	2.5	5.0	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
827	GERANIOL	BETA-GERANIOL|3,7-DIMETHYL-TRANS-2,6-OCTADIEN-1-OL|2,6-DIMETHYL-TRANS-2,6-OCTADIEN-8-OL|(E)-3,7-DIMETHYL-2,6-OCTADIEN-1-OL|(E)-GERANIOL|(E)-NEROL|GERANIOL|GERANIOL EXTRA|GERANYL ALCOHOL|GUANIOL|LEMONOL|2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, (E)-|2,6-OCTADIEN-1-OL,3,7-DIMETHYL-,(E)-|TRANS-3,7-DIMETHYL-2,6-OCTADIEN-1-OL|TRANS-GERANIOL	106-24-1	PHYSICAL DESCRIPTION: Colorless to pale yellow oily liquid with a sweet rose odor. (NTP, 1992)	2.5	5.0	2.5	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
828	GERANIOL-NEROL MIXTURE	GERANIOL-NEROL MIXTURE	106-24-1	A colorless to pale yellow liquid with a pleasant flowery odor. Less dense than water and insoluble in water. Vapors heavier than air. Used in perfumery and as a flavoring.	2.5	5.0	2.5	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
829	GERANYL ACETATE	ACETIC ACID GERANIOL ESTER|ACETIC ACID, GERANIOL ESTER|BAY PINE (OYSTER) OIL|BETA-GERANYL ACETATE|3,7-DIMETHYL-2-TRANS,6-OCTADIENYL ACETATE|(E)-3,7-DIMETHYL-2,6-OCTADIEN-1-OL ACETATE|GERANIOL ACETATE|GERANOIL ACETATE|GERANYL ACETATE|GERANYL ETHANOATE|NCI-C54728|2,6-OCTADIEN-1-OL, 3,7-DIMETHYL-, ACETATE, (E)-|2,6-OCTADIEN-1-OL,3,7-DIMETHYL-,ACETATE,(E)-|TRANS-2,6-DIMETHYL-2,6-OCTADIEN-8-YL ETHANOATE|TRANS-3,7-DIMETHYL-2,6-OCTADIEN-1-OL ACETATE|TRANS-3,7-DIMETHYL-2,6-OCTADIEN-1-YL ACETATE|TRANS-GERANYL ACETATE	105-87-3	PHYSICAL DESCRIPTION: Clear colorless liquid with an odor of lavender. (NTP, 1992)	2.5	5.0	2.5	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	Flush eyes and skin with water for at least 15 min. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
824	GASOLINE BLENDING STOCKS: REFORMATES	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	VINYLTOLUENE, INHIBITED polymerizes readily and exothermically [Handling Chemicals Safely 1980. p. 961].	Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	2	4		(NTP, 1992)		130		(NTP, 1992)		1.9		%	(NTP, 1992)		6.1		%	(USCG, 1999)		914		(NTP, 1992)		-103 to -94
825	GASOLINES: POLYMER	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment asnecessary to protect skin and eyes. (USCG, 1999)	Highly flammable. Fumes in air. Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases [Handling Chemicals Safely 1980. p. 924]. Vinyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.18 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DHS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as VINYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155P [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1305 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(NFPA, 2010)		70		(USCG, 1999)		3		%						(USCG, 1999)		505		(USCG, 1999)		-139	
826	GENTAMYCIN SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	ALLYL PROPYL DISULFIDE may react vigorously with strong oxidizing agents. Incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. May liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		133.3																(NTP, 1992)		5	
827	GERANIOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	NONAMETHYLENEIMINE is an imine. Imines are chemical bases and are more highly reactive than amines. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. Imines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																							
828	GERANIOL-NEROL MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminate surfaces with 70% ethanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air. Insoluble in water.	NONANAL is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. Polymerizes readily with sulfuric acid and oxidized to nonanoic acid. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		182																(NTP, 1992)		145	
829	GERANYL ACETATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	NONANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		165		(USCG, 1999)		0.8		%	(USCG, 1999)		6.1		%					(USCG, 1999)		23	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
824	GASOLINE BLENDING STOCKS: REFORMATES	(NTP, 1992)		1.1		68		mm Hg	(NTP, 1992)		4.08				(USCG, 1999)		0.897		68		(NTP, 1992)		338		760		(NTP, 1992)		118.18		(NIOSH, 2003)		400	ppm	(NTP, 1992)	at 76.1Â° F		less than 1	mg/mL	VNT	Flammable Liquid	C9H10	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	11.0	1.0	15.0	3.0	4.0
825	GASOLINES: POLYMER														(USCG, 1999)		1.26		68		(USCG, 1999)		195.1		760		(USCG, 1999)		161.5											VTS	Flammable Liquid|Corrosive	C2H3Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	11.0	1.0	15.0	3.0	4.0
826	GENTAMYCIN SULFATE														(NIOSH, 2003)		0.93		59								(NTP, 1992)		148.16						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Combustible Liquid	C6H12S2	Dirt/Earth	11.0	1.0	35.0	3.0	4.0
827	GERANIOL														(NTP, 1992)		0.898		70								(NTP, 1992)		141.26													C9H19N	Mineral-Based & Clay-Based Absorbents	13.0	1.0	37.0	3.0	4.0
828	GERANIOL-NEROL MIXTURE														(NTP, 1992)		0.8264		72		(NTP, 1992)			374 to 378	760		(NTP, 1992)		142.24						(NTP, 1992)	Insoluble (<1mg/ml)					Combustible Liquid	C9H18O	Cellulose-Based Absorbents	13.0	1.0	37.0	3.0	4.0
829	GERANYL ACETATE														(USCG, 1999)		0.827		68		(USCG, 1999)		415		760		(USCG, 1999)		144.26											NNN	Class 9	C9H20O	Cellulose-Based Absorbents	10.0	1.0	26.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
830	GIBBERELLIC ACID	4A,1-(EPOXYMETHANO)-7,9A-METHANOBENZ[A]AZULENE, GIBB-3-ENE-1,10-DIC/ARBOXYLIC ACID DERIV.|2,4A,7-TRIHYDROXY-1-METHYL-8-METHYLENEGIBB-3-ENE-1,10-CARBOXYLIC ACID 1,4-LACTONE|ACTIVOL|BRELEX|BRELLIN|CEKUGIB|GA|GA3|GIB-SOL|GIB-TABS|GIBBERELLIC ACID|GIBBERELLIC ACID GA3|GIBBERELLIN|GIBBERELLIN A3|(+)-GIBBERELLIN A3|GIBBERELLIN X|GIBBREL|GIBRESCOL|GIBRESKOL|GROCEL|PRO-GIBB|PRO-GIBB PLUS|RALEX|RELEASE LC|RYZUP|TU 64-3-103-75	77-06-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
831	GLUTARALDEHYDE SOLUTION	ALDESAN|BACTRON K 31|BANICIDE|BIOMATE 743|CIDEX|CIDEX 7|CIDEX-DIALYZER|CLEANCIDE 275|DIGLUTARIC ALDEHYDE|FLOPERM 665X1|GLUTACLEAN|GLUTARAL|GLUTARALDEHYDE|GLUTARALDEHYDE SOLUTION|GLUTARDIALDEHYDE|GLUTAREX 28|GLUTARIC ACID DIALDEHYDE|GLUTARIC DIALDEHYDE|GLUTOHYDE|HOSPEX|NCI-C55425|PANAVIROCIDE|1,5-PENTANEDIAL|1,5-PENTANEDIONE|POTENTIATED ACID GLUTARALDEHYDE|RELUGAN GT|RELUGAN GT 50|RELUGAN GTW|SONACIDE|SPORICIDIN|STERIHYDE|STERIHYDE L|TRET-O-LITE XC 102|UCARCIDE 250	111-30-8	Light yellow liquid. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	INHALATION: remove patient to fresh air; if breathing stops, apply artificial respiration and administer oxygen; call a physician. INGESTION: do NOT induce vomiting because of aspiration hazard. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
832	GLUTARIC ACID	GLUTARIC ACID|PENTANDIOIC ACID|PENTANEDIOIC ACID|1,5-PENTANEDIOIC ACID|1,3-PROPANEDICARBOXYLIC ACID	110-94-1	PHYSICAL DESCRIPTION: Colorless crystals or white solid. (NTP, 1992)	1.0	2.5	5.0	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
833	GLYCEROL ALPHA-MONOCHLOROHYDRIN	ALPHA-CHLORHYDRIN|ALPHA-CHLOROHYDRIN|ALPHA-MONOCHLOROHYDRIN|3-CHLORO-1,2-DIHYDROXYPROPANE|(.+-.)-3-CHLORO-1,2-PROPANEDIOL|3-CHLORO-1,2-PROPANEDIOL|3-CHLORO-1,2-PROPYLENE GLYCOL|1-CHLORO-1-DEOXYGLYCEROL|1-CHLORO-2,3-DIHYDROXYPROPANE|1-CHLORO-2,3-PROPANEDIOL|CHLORODEOXYGLYCEROL|CHLOROHYDRIN|3-CHLOROPROPANE-1,2-DIOL|1-CHLOROPROPANE-2,3-DIOL|CHLOROPROPANEDIOL|3-CHLOROPROPANEDIOL|3-CHLOROPROPYLENE GLYCOL|1,2-DIHYDROXY-3-CHLOROPROPANE|(.+-.)-2,3-DIHYDROXYCHLOROPROPANE|2,3-DIHYDROXYPROPYL CHLORIDE|DL-ALPHA-CHLOROHYDRIN|EKOROD	96-24-2	A colorless liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	2025.0	212.0	672.0	319.0	257.0	361.0	41.0	122.0	62.0	45.0	EYES: wash with water for 15 min. and get medical attention. SKIN: wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
834	GLYCERYL TRINITRATE SOLUTION	GLYCERYL TRINITRATE|GLYCERYL TRINITRATE SOLUTION|NG|NITROGLYCERIN|NITROGLYCERINE|1,2,3-PROPANETRIOL TRINITRATE|TRINITROGLYCERINE	55-63-0	Colorless to pale-yellow, viscous liquid or solid. Freezing point 56Â°F. An explosive ingredient in dynamite (20-40%) with ethylene glycol dinitrate (80-60%). (NIOSH, 1997)	2.5	5.0	2.5	2029.0	212.0	672.0	319.0	257.0	362.0	41.0	122.0	62.0	45.0	(BLOB)	Thermal decomposition is likely to take the form of vapors at the surface. Rapid decomposition will cause container to explode. Dangerous fire hazard when exposed to heat, flame, or oxidizers. Toxic gases are generated in fire. Avoid strong oxidizers such as sulfuryl chloride or potassium permanganate. Avoid fire, heat, physical damage, and strong oxidizers. Starts to decompose at about 212F. If confined, may explode or detonate at high temperatures. Hazardous polymerization may not occur. (EPA, 1998)	Use water to keep fire exposed containers cool. If leak or spill has not ignited, use water spray to disperse vapors or flush spill. For massive fire in cargo area, use unmanned hose holder or monitor nozzle; if this is impossible withdraw from area and let fire burn. On fires in which containers are not exposed, use water spray, dry chemical, foam or carbon dioxide. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
830	GIBBERELLIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Reacts with strong oxidizing and strong reducing agents (NTP, 1992).							0																			(NTP, 1992)			162 to 165
831	GLUTARALDEHYDE SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respiratory organic vapor canister or air-supplied mask; face splash shield. (USCG, 1999)	Highly flammable. Insoluble in water.	NONENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)		78		(USCG, 1999)	(est.)	0.7		%	(USCG, 1999)	(est.)	3.9		%								
832	GLUTARIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Forms soapy aqueous suspension (NTP, 1992).	DIGITONIN is incompatible with strong oxidizing agents and strong acids. (NTP, 1992							0																			(NTP, 1992)	(Decomposes)		446 to 464
833	GLYCEROL ALPHA-MONOCHLOROHYDRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves and splash-proof goggles. (USCG, 1999)	Insoluble in water.	NONYLPHENOL behaves as a very weak organic acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Likely to react exothermically with concentrated sulfuric acid and nitric acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(USCG, 1999)		285							(USCG, 1999)		1		%								
834	GLYCERYL TRINITRATE SOLUTION	Caution : Flammable liquid. Avoid sources of extreme heat or ignition including sparks or fire. When burned, toxic fumes of lead oxide will be emitted. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Highly flammable.	TETRAMETHYLLEAD is sensitive to heat. This compound can react with strong oxidizers. (NTP, 1992)	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6	No Water	(EPA, 1998)		100.4		(NTP, 1992)		1.8		%								(EPA, 1998)		-17.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
830	GIBBERELLIC ACID																									(NTP, 1992)		100.11						(NTP, 1992)	at 67.1Â° F		greater than or equal to 100	mg/mL			C4H8N2O	Dirt/Earth	11.0	1.0	42.0	3.0	4.0
831	GLUTARALDEHYDE SOLUTION	(USCG, 1999)		10.86				mm Hg							(USCG, 1999)		0.739		68		(USCG, 1999)			275 to 284	760		(USCG, 1999)		126.2											NON	Flammable Liquid	C9H18	Dirt/Earth	12.0	1.0	43.0	3.0	4.0
832	GLUTARIC ACID																									(NTP, 1992)		1229.48						(NTP, 1992)	Forms soapy suspension						C5H9O2O29	Cellulose-Based Absorbents	10.0	1.0	21.0	3.0	4.0
833	GLYCEROL ALPHA-MONOCHLOROHYDRIN														(USCG, 1999)		0.9494		77		(USCG, 1999)		579		760		(USCG, 1999)		220.36											NNP	Corrosive	C15H24O		12.0	1.0	33.0	3.0	4.0
834	GLYCERYL TRINITRATE SOLUTION	(EPA, 1998)		22		68		mm Hg	(EPA, 1998)		6.5				(EPA, 1998)		1.995				(EPA, 1998)	Decomposes above 212Â° F	230		10		(EPA, 1998)		267.33		(NIOSH, 2003)	(as Pb)	40	mg/m3	(NTP, 1992)	Insoluble				TML	Poison|Flammable Liquid	C4H12Pb		16.0	1.0	23.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
835	GLYOXAL	AEROTEX GLYOXAL 40|BIFORMAL|BIFORMYL|DAICEL GY 60|DIFORMAL|DIFORMYL|ETHANDIAL|ETHANEDIAL|ETHANEDIOL|ETHANEDIONE|1,2-ETHANEDIONE|GLYFIX CS 50|GLYOXAL|GLYOXAL ALDEHYDE|GLYOXAL, 40% SOLUTION|GLYOXYLALDEHYDE|GOHSEZAL P(OXAL|OXALALDEHYDE|OXALDEHYDE|PERMAFRESH 114	107-22-2	Yellow crystals melting at15Â°C. Hence often encountered as a light yellow liquid with a weak sour odor. Vapor has a green color and burns with a violet flame.	2.5	5.0	2.5	2033.0	212.0	676.0	319.0	257.0	363.0	41.0	123.0	62.0	45.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
836	GLYOXYLIC ACID (50% OR LESS)	FORMYL FORMIC ACID|GLYOXYLIC ACID (50% OR LESS)|OXACETIC ACID|OXOETHANOIC ACID	298-12-4	Supplied as a 50% aqueous solution. Colorless to straw yellow. (USCG, 1999)	2.5	5.0	2.5	2037.0	212.0	680.0	319.0	257.0	364.0	41.0	124.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
837	GUAR GUM	(BLOB)	9000-30-0	PHYSICAL DESCRIPTION: Off-white to yellowish-white powder. Five to eight times the thickening power of starch. Water solutions are tasteless, odorless, and nontoxic and have a pale translucent gray color with neutral pH. Water solutions converted to gel by small amounts of borax. (NTP, 1992)	1.0	2.5	5.0	2041.0	212.0	680.0	319.0	257.0	365.0	41.0	124.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
838	GUM ARABIC	ACACIA|ACACIA AMPLICEPS GUM|ACACIA DEALBATA GUM|ACACIA FRAGILIS GUM|ACACIA GUM|ACACIA LEPTOPETALA GUM|ACACIA LIGULATA GUM|ACACIA MEISNERI GUM|ACACIA PRUINOCARPA GUM|ACACIA SALICINA GUM|ACACIA SENEGAL GUM|ACACIA SYRUP|ACACIA VICTORIAE GUM|ARABIC COOL|ARABIC GUM|ARABICUM RUBBER|AUSTRALIAN GUM|GUM ACACIA|GUM ARABIC|GUM OVALINE|GUM SENEGAL|GUMS, ACACIA|GUNDAR GUM|INDIAN GUM|KHAIR GUM|MAKLAI GUM|N-LOK|NCI-C50748|SENEGAL GUM|STARSOL NO.1|TECHNOGUM IRX 602000|WATTLE GUM	9000-01-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	2041.0	212.0	680.0	319.0	257.0	365.0	41.0	124.0	62.0	45.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
839	HEMATOXYLIN	7,11B-DIHYDROBENZ[B]INDENO[1,2-D]PYRAN-3,4,6A,9,10(6H)-PENTOL|BENZ[B]INDENO[1,2-D]PYRAN-3,4,6A,9,10(6H)-PENTOL, 7,11B-DIHYDRO-|BENZ[B]INDENO[1,2-D]PYRAN-3,4,6A,9,10(6H)-PENTOL, 7,11B-DIHYDRO-, (6AS-CIS)-|CIS-(+)-7,11B-DIHYDROBENZ(B)INDENO(1,2-D)PYRAN-3,4,6A,9,10(6H)-PENTOL|HAEMATOXYLIN|HEMATOXILINE|HEMATOXYLIN|(+)-HEMATOXYLIN|HEMATOXYLINE|HYDROXYBRASILIN|HYDROXYBRAZILIN	517-28-2	PHYSICAL DESCRIPTION: White to yellowish crystals that redden on exposure to light. (NTP, 1992)	1.0	2.5	5.0	2045.0	212.0	684.0	319.0	257.0	366.0	41.0	125.0	62.0	45.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
835	GLYOXAL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TETRAMETHYLMETHYLENEDIAMINE may react vigorously when exposed to oxidizing agents. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Not easily ignited, but may burn when exposed to heat.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
836	GLYOXYLIC ACID (50% OR LESS)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as 1,4-DICHLOROBUTANE-D8, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
837	GUAR GUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as ALPHA,ALPHA,2,6-TETRACHLOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
838	GUM ARABIC	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store at or below ambient; protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as ALPHA-BHC, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		316	
839	HEMATOXYLIN	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	ALPHA-METHYLVALERALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4	No Water	(NFPA, 2010)		68																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
835	GLYOXAL																																									Flammable Liquid	(CH3)2NCH2N(CH3)2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	33.0	3.0	4.0
836	GLYOXYLIC ACID (50% OR LESS)																																									Flammable Liquid	C4Cl2D8		12.0	1.0	32.0	3.0	4.0
837	GUAR GUM																										(NTP, 1992)		193.89													Corrosive	C7H4Cl4		13.0	1.0	47.0	3.0	4.0
838	GUM ARABIC	(NTP, 1992)		0.0317		68		mm Hg							(NTP, 1992)		1.87		68		(NTP, 1992)		550		760	(NTP, 1992)		290.82							(NTP, 1992)	Insoluble (1 mg/100 ml)					Poison	C6H6Cl6		11.0	1.0	26.0	3.0	4.0
839	HEMATOXYLIN																																									Flammable Liquid	C6H12O	Cellulose-Based Absorbents	10.0	1.0	14.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
840	HEXADECYLTRIMETHYLAMMONIUM CHLORIDE	CETYLTRIMETHYLAMMONIUM CHLORIDE SOLUTION|HEXADECYLTRIMETHYLAMMONIUM CHLORIDE	112-02-7	Colorless to pale yellow liquid with an odor of rubbing alcohol. Floats or sinks in water. (USCG, 1999)	2.5	5.0	2.5	2049.0	212.0	688.0	319.0	257.0	367.0	41.0	126.0	62.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
841	HEXALDEHYDE	CAPROALDEHYDE|CAPROICALDEHYDE|CAPRONALDEHYDE|CAPRONICALDEHYDE|HEXALDEHYDE|HEXANAL|HEXANALDEHYDE|HEXYLALDEHYDE|N-CAPROALDEHYDE|N-CAPRONALDEHYDE|N-CAPROYLALDEHYDE|N-HEXALDEHYDE|N-HEXANAL|N-HEXYLALDEHYDE	66-25-1	A clear colorless liquid with a pungent odor. Flash point 90Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	2053.0	212.0	692.0	319.0	257.0	368.0	41.0	127.0	62.0	45.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
842	HEXAMETHYLENEDIAMINE, SOLID	ALPHA,OMEGA-HEXANEDIAMINE|1,6-DIAMINO-N-HEXANE|1,6-DIAMINOHEXANE|HEXAMETHYLENE DIAMINE, SOLID|HEXAMETHYLENEDIAMINE|HEXAMETHYLENEDIAMINE, SOLID|HEXAMETHYLENEDIAMINE, [SOLID]|1,6-HEXAMETHYLENEDIAMINE|1,6-HEXANEDIAMINE|HEXYLENEDIAMINE|1,6-HEXYLENEDIAMINE|HMDA|NCI-C61405|V 1	124-09-4	Hexamethylenediamine, solid is a colorless crystalline solid. It is soluble in water. It is corrosive to metals and tissue. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	2057.0	212.0	692.0	323.0	257.0	369.0	41.0	127.0	63.0	45.0	(BLOB)	Special Hazards of Combustion Products: May contain toxic NOx fumes. Behavior in Fire: Can react vigorously with oxidizing materials. Produces toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
843	HEXAMETHYLENEDIAMINE, SOLUTION	HEXAMETHYLENEDIAMINE, SOLUTION|HEXAMETHYLENEDIAMINE, [SOLUTION]	124-09-4	A clear colorless liquid. Burns although some effort is required to ignite. Soluble in water. Corrosive to metals and tissue. Produces toxic oxides of nitrogen during combustion. Used to make nylon.	2.5	5.0	2.5	2057.0	212.0	696.0	323.0	257.0	369.0	41.0	128.0	63.0	45.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic gases and vapors, such as oxides of nitrogen and carbon monoxide, may be released in a fire. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
844	HEXAMETHYL-PARA-ROSANILINE	HEXAMETHYL-PARA-ROSANILINE	548-62-9	PHYSICAL DESCRIPTION: Army green powder. (NTP, 1992)	1.0	2.5	5.0	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
840	HEXADECYLTRIMETHYLAMMONIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials and acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N-PHENYL-P-PHENYLENEDIAMINE is incompatible with strong oxidizers. It is also incompatible with strong acids. It may react with plastics. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		380														(NTP, 1992)			163 to 167
841	HEXALDEHYDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	PROPYL FORMATES are esters. React with acids to liberate heat along with propanols and formic acid. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NFPA, 2010)		27																			
842	HEXAMETHYLENEDIAMINE, SOLID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Highly flammable. Sensitive to heat and air. Insoluble in water.	DIISOBUTYLAMINE can react vigorously with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		85											(USCG, 1999)		554		(NTP, 1992)		-100.3	
843	HEXAMETHYLENEDIAMINE, SOLUTION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Organonitrates, such as N-PROPYL NITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Contact with either strong oxidizers or with combustibles may cause fires and explosions.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6	Oxidizer	(USCG, 1999)		68		(USCG, 1999)		2		%	(USCG, 1999)		100		%	(USCG, 1999)		347		(USCG, 1999)		less than -150
844	HEXAMETHYL-PARA-ROSANILINE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Reacts with water or moisture in the air to form corrosive aluminum hydroxide and flammable hydrogen gas. The heat created by the reaction may be sufficient to ignite the hydrogen generated.	ALUMINUM FERROSILICON POWDER is a reducing agent and therefore would be reasonably expected to be incompatible with strong oxidizers.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
840	HEXADECYLTRIMETHYLAMMONIUM CHLORIDE														(NTP, 1992)		1.15				(NTP, 1992)		669		760		(NTP, 1992)		184.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C12H12N2		16.0	1.0	45.0	3.0	4.0
841	HEXALDEHYDE																																									Flammable Liquid	C4H8O2		11.0	1.0	21.0	3.0	4.0
842	HEXAMETHYLENEDIAMINE, SOLID	(NTP, 1992)		10		97		mm Hg	(NTP, 1992)		4.46				(USCG, 1999)		0.745		68		(NTP, 1992)			282 to 284	760		(NTP, 1992)		129.28						(NTP, 1992)	Slightly soluble				DBU	Flammable Liquid|Corrosive	C8H19N	Mineral-Based & Clay-Based Absorbents	13.0	1.0	24.0	3.0	4.0
843	HEXAMETHYLENEDIAMINE, SOLUTION	(NIOSH, 2003)		18				mm Hg							(USCG, 1999)		1.06				(USCG, 1999)			231	760		(USCG, 1999)		105.1		(NIOSH, 2003)		500	ppm	(NIOSH, 2003)	Slight				PNI	Flammable Liquid	C3H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	24.0	3.0	4.0
844	HEXAMETHYL-PARA-ROSANILINE																																								Dangerous When Wet|Poison			10.0	1.0	42.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
845	HEXAMETHYL-P-ROSANILINE CHLORIDE	(BLOB)	548-62-9	PHYSICAL DESCRIPTION: Green to dark green powder. (NTP, 1992)	1.0	2.5	5.0	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	For acute poisoning, oral administration of limewater, intravenous infusion of glucose, and intravenous injections of calcium gluconates. (USCG, 1999)	Special Hazards of Combustion Products: When heated to sublimation condition, emits toxic fumes of fluoride (USCG, 1999)	
846	HEXANOIC ACID	BUTYLACETIC ACID|CAPROIC ACID|CAPRONIC ACID|HEXANOIC ACID|1-HEXANOIC ACID|HEXOIC ACID|HEXYLIC ACID|N-CAPROIC ACID|N-HEXANOIC ACID|N-HEXOIC ACID|N-HEXYLIC ACID|1-PENTANECARBOXYLIC ACID|PENTYLFORMIC ACID	142-62-1	Oily colorless to slightly yellow liquid with a very pungent odor "like limburger cheese".	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	EYES: Check for contact lenses and remove them at once if present. You should then immediately flush eyes with water from any source for 15 minutes. Do not use oil or ointment in eyes. Arrange immediate transportation to a medical facility. SKIN: You should remove all contaminated clothing and flood skin with water. Wash all affected skin areas thoroughly with soap and water. If symptoms persist or develop, seek medical attention. INHALATION: If any of your personnel should inhale this substance you should remove them immediately to open air. If symptoms develop, seek medical attention. INGESTION: If the exposed person is convulsing or unconscious, you should not attempt first aid. Transport immediately to a hospital emergency room or poison control		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
847	HEXYL ACETATE	ACETIC ACID, HEXYL ESTER|HEXYL ACETATE|HEXYL ACETATE, [COMBUSTIBLE LIQUID LABEL]|HEXYL ACETATE, [FLAMMABLE LIQUID LABEL]|1-HEXYL ACETATE|HEXYL ALCOHOL, ACETATE|HEXYL ETHANOATE|N-HEXYL ACETATE	142-92-7	A colorless liquid with a mild sweet odor. Flash point 113Â°F. A moderate fire risk. Inhalation may cause adverse effects. Insoluble in water and very soluble in alcohols and ethers. When heated to high temperatures emits acrid smoke and fumes. Used as a solvent and as a propellant in aerosols.	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	(BLOB)	Flash point data on this compound is not available, but it is probably combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
848	HEXYLENE GLYCOL	2,4-DIHYDROXY-2-METHYLPENTANE|HEXYLENE GLYCOL|2-METHYL-2,4-PENTANEDIOL|4-METHYL-2,4-PENTANEDIOL|2-METHYLPENTANE-2,4-DIOL	107-41-5	Oily colorless liquid with a mild sweet odor. Floats and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	(BLOB)		
849	HYDRAZINE HYDRATE	HYDRAZINE|HYDRAZINE HYDRATE|HYDRAZINE, AQUEOUS SOLUTION, [WITH <= 64% HYDRAZINE BY WEIGHT]|HYDRAZINE, AQUEOUS SOLUTIONS, WITH NOT MORE THAN 64% HYDRAZINE|LEVOXINE|NITROGEN HYDRIDE (N2H4)|OXYTREAT 35	7803-57-8	A colorless fuming liquid with a faint ammonia-like odor. Corresponds to a 64% aqueous solution of hydrazine in water. Combustible but may require some effort to ignite. Contact with oxidizing materials may cause spontaneous ignition. Toxic by inhalation and by skin absorption. Corrosive to tissue. Produces toxics oxides of nitrogen during combustion.	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
850	HYDRIODIC ACID	ANHYDROUS HYDRIODIC ACID|HYDRIODIC ACID|HYDRIODIC ACID, SOLUTION|HYDROGEN IODIDE|HYDROGEN IODIDE (HI)|HYDROGEN MONOIODIDE|HYDROIODIC ACID	10034-85-2	A colorless to yellow liquid with a pungent odor. Consists of a solution of hydrogen iodide in water. Fumes irritate the eyes and mucous membranes. Corrosive to metals and to tissue.	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
851	HYDROCYANIC ACID SOLUTION, [< 5% HYDROCYANIC ACID]	FORMONITRILE|HYDROCYANIC ACID|HYDROCYANIC ACID SOLUTION, [< 5% HYDROCYANIC ACID]|HYDROGEN CYANIDE|PRUSSIC ACID	74-90-8	Hydrocyanic acid solution is water containing up to 5% dissolved hydrocyanic acid with the faint odor of almonds. It is toxic by inhalation and skin absorption. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Its vapors are just barely lighter than air.	2.5	5.0	2.5	2061.0	212.0	696.0	323.0	257.0	370.0	41.0	128.0	63.0	45.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation
845	HEXAMETHYL-P-ROSANILINE CHLORIDE		Goggles to protect against airborne particles and possibly respirator for intermittent heavy dust exposures. (USCG, 1999)	Slightly soluble in water	ALUMINUM FLUORIDE when heated to sublimation condition, emits toxic fumes of fluoride (USCG, 1999).		
846	HEXANOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, you should wear a full-face cartridge respirator equipped with combination organic vapor and particulate cartridges. Alternately, you may wear splash goggles and a half-face respirator equipped with combination organic vapor and particulate cartridges. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-TETRADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		
847	HEXYL ACETATE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that latex gloves may provide protection from contact with this compound. Latex over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-TRIACONTANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		
848	HEXYLENE GLYCOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Water insoluble.	O-ACETOTOLUIDIDE is an amide. Amides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		
849	HYDRAZINE HYDRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear impervious coveralls, shoe covers and gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Protect from air and light. Insoluble in water.	O-AMINOPHENOL can react with oxidizing agents. (NTP, 1992) THF forms explosive products with 2-aminophenol [Lewis 3227].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)
850	HYDRIODIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. It should be stored under an inert atmosphere and under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	O-ANISIDINE HYDROCHLORIDE reacts as an acid to neutralize bases. These neutralizations generate some heat, Usually does not react as either oxidizing agents or reducing agents but such behavior is not impossible. May catalyze organic reactions.		
851	HYDROCYANIC ACID SOLUTION, [< 5% HYDROCYANIC ACID]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	1,5,9-CYCLODODECATRIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)

id	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
845						0																(USCG, 1999)	Not flammable						
846	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		212												(NTP, 1992)		396		(NTP, 1992)		42.6	
847						0																				(NTP, 1992)		150.4	
848						0																				(NTP, 1992)		230	
849						0																				(NTP, 1992)			342 to 343
850						0																				(NTP, 1992)			437 to 441
851	(NFPA, 2010)		2	2	1	3		(USCG, 1999)		160																(USCG, 1999)		-0.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
845	HEXAMETHYL-P-ROSANILINE CHLORIDE														(USCG, 1999)		2.88		77								(USCG, 1999)		83.98												ALF		AlF3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	10.0	1.0	42.0	3.0	4.0
846	HEXANOIC ACID	(NTP, 1992)		1		169.5		mm Hg	(NTP, 1992)		6.83				(NTP, 1992)		0.7628		68		(NTP, 1992)		488.7		760		(NTP, 1992)		198.4													C14H30		12.0	1.0	35.0	3.0	4.0
847	HEXYL ACETATE														(NTP, 1992)		0.775		172		(NTP, 1992)		841.5		760		(NTP, 1992)		422.83													C30H62		11.0	1.0	25.0	3.0	4.0
848	HEXYLENE GLYCOL														(NTP, 1992)		1.168				(NTP, 1992)		565		760		(NTP, 1992)		149.21						(NTP, 1992)	Insoluble						C9H11NO		12.0	1.0	23.0	3.0	4.0
849	HYDRAZINE HYDRATE														(NTP, 1992)		1.328				(NTP, 1992)	Sublimes at 307Â° F at 11 mm Hg					(NTP, 1992)		109.14						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C6H7NO		11.0	1.0	31.0	3.0	4.0
850	HYDRIODIC ACID																											(NTP, 1992)		159.63						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C7H9NO.ClH		13.0	1.0	28.0	3.0	4.0
851	HYDROCYANIC ACID SOLUTION, [< 5% HYDROCYANIC ACID]														(USCG, 1999)		0.8925				(USCG, 1999)		447.8		760		(USCG, 1999)		162.28											CYT	Poison	C12H18	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	13.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
852	HYDROCYANIC ACID, AQUEOUS SOLUTION, WITH NOT MORE THAN 20% HYDROGEN CYANIDE	CARBON HYDRIDE NITRIDE (CHN)|EVERCYN|FORMIC ANAMMONIDE|FORMONITRILE|HYDROCYANIC ACID|HYDROCYANIC ACID, AQUEOUS SOLUTION, WITH NOT MORE THAN 20% HYDROGEN CYANIDE|HYDROCYANIC ACID, [AQUEOUS SOLUTION < = 20% HYDROCYANIC ACID]|HYDROGEN CYANIDE|HYDROGEN CYANIDE, AQUEOUS SOLUTION, WITH NOT MORE THAN 20% HYDROGEN CYANIDE|PRUSSIC ACID	74-90-8	Clear colorless aqueous solution of a gas. Has a faint odor of almonds. Can evolve hydrogen cyanide gas, which is (barely) lighter than air. Flame can flash back to the source of a gas leak very easily. Lethal doses of gas may be inhaled. Lethal doses of cyanide can be absorbed from the solution through the skin.	5.0	1.0	1.0	2061.0	212.0	700.0	323.0	257.0	370.0	41.0	129.0	63.0	45.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
853	HYDROCYANIC ACID, AQUEOUS SOLUTIONS, WITH MORE THAN 20% HYDROGEN CYANIDE	HYDROCYANIC ACID, AQUEOUS SOLUTIONS, WITH MORE THAN 20% HYDROGEN CYANIDE	74-90-8	Clear colorless aqueous solution of a gas. Has an odor of almonds. Can evolve hydrogen cyanide gas, which is (barely) lighter than air. Flame can flash back to the source of a gas leak very easily. Lethal doses of gas may be inhaled. Lethal doses of cyanide can be absorbed from the solution through the skin.	5.0	1.0	1.0	2061.0	212.0	700.0	323.0	257.0	370.0	41.0	129.0	63.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
854	HYDROCYANIC ACID, LIQUEFIED	AERO LIQUID HCN|CARBON HYDRIDE NITRIDE (CHN)|CYCLON|CYCLONE B|EVERCYN|FORMIC ANAMMONIDE|FORMONITRILE|HYDROCYANIC ACID|HYDROCYANIC ACID, LIQUEFIED|HYDROCYANIC ACID, [LIQUEFIED]|HYDROGEN CYANIDE|HYDROGEN CYANIDE (HYDROCYANIC ACID)|PRUSSIC ACID|ZACLONDISCOIDS	74-90-8	A clear colorless liquid with a faint odor of bitter almonds. Boiling point 78Â°F. Density 5.7 lb / gal. Flash point 0Â°F. Evaporates easily (or boils) at room temperature. Vapors slightly lighter than air. Deadly poison by all routes (absorption through skin of liquid, inhalation of vapors, etc). Prolonged exposure of closed containers to heat may cause violent rupture and rocketing.	2.5	5.0	2.5	2061.0	212.0	700.0	323.0	257.0	370.0	41.0	129.0	63.0	45.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or a Halon extinguisher. (NTP, 1992)
855	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED	FORMONITRILE|HYDROCYANIC ACID|HYDROGEN CYANIDE|HYDROGEN CYANIDE, ANHYDROUS, STABILIZED|HYDROGEN CYANIDE, STABILIZED|HYDROGEN CYANIDE, [ANHYDROUS, STABILIZED]|PRUSSIC ACID	74-90-8	Very volatile colorless or pale-blue liquid or colorless gas smelling of bitter almonds. Boiling point 26Â°C (78Â°F). A deadly human poison by all routes. Often used as a 96% solution in water. (NIOSH, 1997)	2.5	5.0	2.5	2065.0	212.0	700.0	323.0	257.0	371.0	41.0	129.0	63.0	45.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
856	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED (ABSORBED)	CARBON HYDRIDE NITRIDE (CHN)|EVERCYN|FORMIC ANAMMONIDE|FORMONITRILE|HYDROCYANIC ACID|HYDROGEN CYANIDE|HYDROGEN CYANIDE (HYDROCYANIC ACID)|HYDROGEN CYANIDE, ANHYDROUS, STABILIZED (ABSORBED)|HYDROGEN CYANIDE, STABILIZED (ABSORBED)|HYDROGEN CYANIDE, [ABSORBED]|PRUSSIC ACID	74-90-8	A clear colorless liquid with a faint odor of bitter almonds that is absorbed in a porous inert material. Absorption slows evolution of vapors. Vapors slightly lighter than air. Deadly poison by all routes (absorption through skin of liquid, inhalation of vapors, etc). Prolonged exposure of closed containers to heat may cause violent rupture and rocketing. Rate of onset: Immediate Persistence: Minutes Odor threshold: 1-5 ppm Source/use/other hazard: War gas, pesticide, Herbicide; other industries; Weak acid except in water or mucous membranes - then corrosive/training.	2.5	5.0	2.5	2065.0	212.0	700.0	323.0	257.0	371.0	41.0	129.0	63.0	45.0			
857	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 45% HYDROGEN CYANIDE	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 45% HYDROGEN CYANIDE	74-90-8	A clear colorless liquid with a faint odor of bitter almonds. Less dense than water. Vapors are slightly lighter than air. Vapors are very toxic by inhalation or skin contact. Prolonged exposure to heat can cause a closed container to rupture violently and rocket.	2.5	5.0	2.5	2069.0	216.0	700.0	323.0	261.0	372.0	42.0	129.0	63.0	46.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon carbon dioxide, or dry chemical extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
852	HYDROCYANIC ACID, AQUEOUS SOLUTION, WITH NOT MORE THAN 20% HYDROGEN CYANIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly Flammable. Water soluble.	This is a metal alkoxide, which is a class of compounds that are strong bases. It will react with water to release hydroxide ions and isobutyl alcohol.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
853	HYDROCYANIC ACID, AQUEOUS SOLUTIONS, WITH MORE THAN 20% HYDROGEN CYANIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	TRIISOBUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		124.3																(NTP, 1992)		-7.2	
854	HYDROCYANIC ACID, LIQUEFIED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-BROMOTOLUENE reacts with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		174																(NTP, 1992)		-15	
855	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A coumarin derivative		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
856	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED (ABSORBED)			None	Water reacts with many substances, including but not limited to alkali metals, hydrides, strong halogenating agents, and chlorosilanes. These reactions can be hazardous and may result in flammable or toxic gas production, or generation of excessive heat that may cause pressurization to occur. Another reactive hazard is heat of mixing. Mixing substances such as sulfuric acid or sodium hydroxide with water may generate significant heat. Additionally, water is a good solvent for polar molecules, so it can form aqueous solutions if it comes into contact with such molecules.						0																							32	
857	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 45% HYDROGEN CYANIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	O-CHLOROSTYRENE may be sensitive to heat or prolonged exposure to light. This compound may polymerize. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		138																(NTP, 1992)		-81.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
852	HYDROCYANIC ACID, AQUEOUS SOLUTION, WITH NOT MORE THAN 20% HYDROGEN CYANIDE																																							Flammable Liquid|Corrosive	C12H27O4V		10.0	1.0	13.0	3.0	4.0
853	HYDROCYANIC ACID, AQUEOUS SOLUTIONS, WITH MORE THAN 20% HYDROGEN CYANIDE														(NTP, 1992)		0.7864		68		(NTP, 1992)		376.7		760		(NTP, 1992)		185.36						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Corrosive|Flammable Liquid	C12H27N	Mineral-Based & Clay-Based Absorbents	10.0	1.0	13.0	3.0	4.0
854	HYDROCYANIC ACID, LIQUEFIED	(NTP, 1992)		1		75.9		mm Hg							(NTP, 1992)		1.431		59		(NTP, 1992)		358		760		(NTP, 1992)		171.05						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Corrosive	C7H7Br		10.0	1.0	13.0	3.0	4.0
855	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED																															(NIOSH, 2003)	(as warfarin)	100	mg/m3							Poison	C19H16O4	Cellulose-Based Absorbents	10.0	1.0	13.0	3.0	4.0
856	HYDROGEN CYANIDE, ANHYDROUS, STABILIZED (ABSORBED)																1						212		760																		H2O		10.0	1.0	13.0	3.0	4.0
857	HYDROGEN CYANIDE, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 45% HYDROGEN CYANIDE	(NIOSH, 2003)		0.96		77		mm Hg							(NTP, 1992)		1.1		68		(NTP, 1992)		371.7		760		(NTP, 1992)		138.6						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C8H7Cl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	13.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
858	HYDROGEN IODIDE, ANHYDROUS	ANHYDROUS HYDRIODIC ACID|HYDROGEN IODIDE|HYDROGEN IODIDE (HI)|HYDROGEN IODIDE, ANHYDROUS|HYDROGEN IODIDE, [ANHYDROUS]|HYDROGEN MONOIODIDE|HYDROIODIC ACID	10034-85-2	A colorless to yellow/brown gas with an acrid odor. Nonflammable. Toxic by inhalation. Strongly irritates skin, eyes and mucous membranes. Long-term inhalation of low concentrations or short-term inhalation of high concentrations may result in adverse health effects. Prolonged exposure to fire or intense heat may cause the container to rupture and rocket.	5.0	1.0	1.0	2069.0	216.0	700.0	323.0	261.0	372.0	42.0	129.0	63.0	46.0	(BLOB)	Combustible (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
859	HYDROGEN SULFIDE	DIHYDROGEN MONOSULFIDE|DIHYDROGEN SULFIDE|HYDROGEN SULFIDE|HYDROGEN SULPHIDE, LIQUEFIED|HYDROGEN SULPHIDE|HYDROGEN SULPHIDE, LIQUEFIED|HYDROSULFURIC ACID|SEWER GAS|STINK DAMP|SULFUR DIHYDRIDE|SULFUR HYDRIDE|SULFUR HYDRIDE (SH2)|SULFURETED HYDROGEN|SULFURETTED HYDROGEN|SULPHURETTED HYDROGEN	7783-06-4	A colorless gas having a strong odor of rotten eggs. Boiling point -60.2Â°C. Shipped as a liquid confined under its own vapor pressure. Density (liquid) 8.3 lb / gal. Contact with the unconfined liquid can cause frostbite by evaporative cooling. Gas is very toxic by inhalation. Fatigues the sense of smell which cannot be counted on to warn of the continued presence of the gas. Prolonged exposure of closed containers to heat may result in their violent rupturing and rocketing. Rate of onset: Immediate & Delayed Persistence: Minutes to hours Odor threshold: 0.1 ppm Source/use/other hazard: Disinfectant lubricant/oils; interm for HC manufacture; deadens sense of smell.	5.0	1.0	1.0	2069.0	216.0	700.0	323.0	261.0	372.0	42.0	129.0	63.0	46.0	SKIN OR EYE CONTACT: remove solidified wax from skin, wash with soap and water; if in eyes, or if skin is burned, call a doctor. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Water, foam, dry chemical, or carbon dioxide (USCG, 1999)
860	HYDROQUINONE MONOMETHYL ETHER	HQMME|HYDROQUINONE METHYL ETHER|HYDROQUINONE MONOMETHYL ETHER|1-HYDROXY-4-METHOXYBENZENE|HYDROXYANISOLE|4-HYDROXYANISOLE|LEUCOBASAL|LEUCODINE B|MECHINOLUMMEHQ|MEQUINOL|4-METHOXYPHENOL|MONO METHYL ETHER HYDROQUINONE|MONOMETHYL ETHER HYDROQUINONE|NOVO-DERMOQUINONA|P-GUAIACOL|P-HYDROXYANISOLE|P-HYDROXYMETHOXYBENZENE|P-METHOXYPHENOL|PARA-HYDROXYANISOLE|PHENOL, P-METHOXY-|PMF (ANTIOXIDANT)|USAF AN-7	150-76-5	PHYSICAL DESCRIPTION: Pink crystals or white waxy solid. (NTP, 1992)	1.0	2.5	5.0	2069.0	216.0	700.0	323.0	261.0	372.0	42.0	129.0	63.0	46.0	Leave contaminated area; wash skin with soap and water; flush eyes with water. (USCG, 1999)	Special Hazards of Combustion Products: None (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: Dry chemical, carbon dioxide. (USCG, 1999)
861	HYDROXYLAMINE HYDROCHLORIDE	HYDROXYAMINE HYDROCHLORIDE|HYDROXYAMMONIUM CHLORIDE|HYDROXYLAMMONIUM CHLORIDE|HYDROXYLAMINE CHLORIDE|HYDROXYLAMINE CHLOROHYDRATE|HYDROXYLAMINE HYDROCHLORIDE|HYDROXYLAMINE, HYDROCHLORIDE|HYDROXYLAMMONIUM CHLORIDE|OXAMMONIUM HYDROCHLORIDE	5470-11-1	PHYSICAL DESCRIPTION: Colorless or off-white crystalline solid. pH (0.1 molar aqueous solution) 3.4. pH (0.2 molar aqueous solution) 3.2. (NTP, 1992)	1.0	2.5	5.0	2073.0	216.0	704.0	323.0	261.0	373.0	42.0	130.0	63.0	46.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. Containers may explode when heated. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
862	HYDROXYLAMINE SULFATE	BIS(HYDROXYLAMINE) SULFATE|DI(HYDROXYLAMINE) SULFATE|HYDROXYLAMMONIUM SULFATE|HYDROXYLAMMONIUM SULFATE ((HONH3)2SO4)|HYDROXYLAMINE NEUTRAL SULFATE|HYDROXYLAMINE SULFATE|HYDROXYLAMINE SULPHATE|HYDROXYLAMINE, SULFATE|HYDROXYLAMMONIUM SULFATE|OXAMMONIUM SULFATE	10039-54-0	Colorless crystalline solid. Contact may cause severe irritation to skin, eyes, and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	2073.0	216.0	704.0	323.0	261.0	373.0	42.0	130.0	63.0	46.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
858	HYDROGEN IODIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	May hydrolyze under alkaline conditions. (NTP, 1992). Insoluble in water.	Organophosphates, such as TRI-M-CRESYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		410															(NTP, 1992)			77 to 79
859	HYDROGEN SULFIDE		Goggles or face shield; protective gloves and clothing for hot liquid wax. (USCG, 1999)	Insoluble in water.	WAXES: CARNAUBA react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		540													(USCG, 1999)		187	
860	HYDROQUINONE MONOMETHYL ETHER		Not required (USCG, 1999)	Insoluble in water.	DI-ISOOCTYL PHTHALATE reacts exothermically with acids to generate isooctyl alcohol and phthalic acid. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely, 1980. p. 250].			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		450																
861	HYDROXYLAMINE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water. Form explosive peroxide in storage. A flask of diisopropyl ether was heated on a steam bath with gentle shaking when an explosion occurred. In a second instance, an explosion occurred after practically all the ether had been distilled, [MCA Guide for Safety(1972)].	Ethers, such as DIISOPROPYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert. Mixing diisopropyl ether in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid, [NFPA 1991].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(USCG, 1999)		-18		(USCG, 1999)		1.4		%	(USCG, 1999)		7.9		%	(USCG, 1999)		830		(USCG, 1999)		-123	
862	HYDROXYLAMINE SULFATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIISOPROPYL NAPHTHALENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. Friedel-Crafts acylation of naphthalene using benzoyl chloride, catalyzed by AlCl3, must be conducted above the melting point of the mixture, or the reaction may be violent [Clar, E. et al., Tetrahedron, 1974, 30, 3296].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		284																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
858	HYDROGEN IODIDE, ANHYDROUS														(NTP, 1992)		1.15				(NTP, 1992)		500		15		(NTP, 1992)		368.37						(NTP, 1992)	Insoluble					Poison	C21H21O4P		13.0	1.0	28.0	3.0	4.0
859	HYDROGEN SULFIDE														(USCG, 1999)		0.998		77		(USCG, 1999)	Very high																		WCA				13.0	1.0	21.0	3.0	4.0
860	HYDROQUINONE MONOMETHYL ETHER														(USCG, 1999)		1288				(USCG, 1999)		760				(USCG, 1999)		390.62											DIO		C24H38O4		15.0	1.0	33.0	3.0	4.0
861	HYDROXYLAMINE HYDROCHLORIDE	(NIOSH, 2003)		119				mm Hg							(USCG, 1999)		0.724		68		(USCG, 1999)		156		760		(USCG, 1999)		102.2		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1400	ppm	(NIOSH, 2003)		0.2		%	IPE	Flammable Liquid	C6H14O		12.0	1.0	41.0	3.0	4.0
862	HYDROXYLAMINE SULFATE														(USCG, 1999)		0.95		86		(USCG, 1999)			554 to 563	760		(USCG, 1999)		212.34											DII	Class 9	C16H20		13.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
863	HYDROXYUREA	BIOSUPPRESSIN|BIOSUPRESSIN|CARBAMOHYDROXAMIC ACID|CARBAMOHYDROXIMIC ACID|CARBAMOHYDROXYAMIC ACID|CARBAMOYL OXIME|CARBAMYL HYDROXAMATE|HIDRIX|HU|HYDREA|HYDREIA|HYDROXY UREA (D4)HYDROXYCARBAMIDE|HYDROXYCARBAMINE|HYDROXYLAMINE, N-(AMINOCARBONYL)-|HYDROXYLUREA|HYDROXYUREA|1-HYDROXYUREA|HYDURA|HYDUREA|LITALER|LITALIR|N-(AMINOCARBONYL)HYDROXYLAMINE|N-CARBAMOYLHYDROXYLAMINE|N-HYDROXYUREA|NCI-C04831|NSC 32065|ONCO-CARBIDE|OXYUREA|SK 22591|SQ 1089|WR 83799	127-07-1	PHYSICAL DESCRIPTION: Odorless or almost odorless white to off-white crystalline solid. Tasteless. (NTP, 1992)	1.0	2.5	5.0	2077.0	216.0	704.0	327.0	261.0	374.0	42.0	130.0	64.0	46.0	INHALATION: move to uncontaminated atmosphere; if breathing is difficult, give oxygen. EYES: flush with copious amounts of water. SKIN: wash off with isopropyl alcohol and water; call a physician. (USCG, 1999)	Special Hazards of Combustion Products: Flammable and/or toxic gases formed in fires include acetone, isopropyl alcohol, acetaldehyde, and ethane. Behavior in Fire: Undergoes auto-accelerative decomposition and may self-ignite. Confinement may lead to detonation. Fires very difficult to extinguish because air not needed (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: All extinguishing agents may be ineffective. Fire Extinguishing Agents: Water (USCG, 1999)
864	INDIGO CARMINE	(BLOB)	860-22-0	PHYSICAL DESCRIPTION: Indigo to dark blue powder. (NTP, 1992)	1.0	2.5	5.0	2081.0	216.0	704.0	327.0	261.0	375.0	42.0	130.0	64.0	46.0	INHALATION: rinse nose and mouth with water. INGESTION: give large amounts of water. EYES: flush with water for at least 15 min. SKIN: flush with water, wash with soap and water. (USCG, 1999)		
865	INDIUM	INDIUM|INDIUM ELEMENT|INDIUM METAL|INE 07PB	7440-74-6	Soft, ductile, shiny, silver-white metal. Mp: 155.6Â°C; bp: 2080Â°C. Density 7.31 g cm-3.	1.0	2.5	5.0	2085.0	216.0	704.0	331.0	261.0	376.0	42.0	130.0	65.0	46.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
866	INDOMETHACIN	ALPHA-(1-(P-CHLOROBENZOYL)-2-METHYL-5-METHOXY-3-INDOLYL)ACETIC ACID|AMUNO|ARTRINOVO|ARTRIVIA|BONIDON GEL|1-(4-CHLOROBENZOYL)-5-METHOXY-2-METHYL-1H-INDOLE-3-ACETIC ACID|1-(4-CHLOROBENZOYL)-5-METHOXY-2-METHYLINDOLE-3-ACETIC ACID|CHRONO-INDOCID 75|CONFORTID|DOLCIDIUM PL|DOLOVIN|DOMETHINE|INACID|INDACIN|INDMETHACINE|INDO-RECTOLMIN|INDOCID|INDOCIN|INDOLE-3-ACETIC ACID, 1-(P-CHLOROBENZOYL)-5-METHOXY-2-METHYL-|INDOMECOL|INDOMED|INDOMEE|INDOMETACIN|INDOMETACINE|INDOMETHACIN|INDOMETHACINE|INDREN|INFROCIN|INTEBAN|INTEBAN SP|METACEN|METARTRIL|METHAZINE|METINDOL|MEZO	53-86-1	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	2085.0	216.0	704.0	331.0	261.0	376.0	42.0	130.0	65.0	46.0	INHALATION: only fumes from fire need be considered; metal-fume fever is not critical, lasting less than 36 hrs. EYES: flush gently with copious quantities of water for 15 min. with lids held open; treat burns if fire occurred; get medical attention. SKIN: wash with water; treat burns caused by fire; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Intense smoke may cause metal-fume fever. Behavior in Fire: Dense smoke of aluminum oxide forms. Contact with water applied to adjacent fires causes violent reaction producing toxic and flammable gases. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water, foam, halogenated extinguishing agents. Fire Extinguishing Agents: Inert powders (sand, limestone), dry chemical (USCG, 1999)
867	IODOFORM	CARBON TRIIODIDE|DEZINFEKTV|IODOFORM|METHANE, TRIIODO-|NCI-C04568|TRI-IODOMETHANE|TRIIODOMETHANE|TRIIODOMETHANE	75-47-8	PHYSICAL DESCRIPTION: Bright yellow or yellow powder or crystals. Penetrating odor. Unctuous feel. Odor threshold 0.4 ppb. (NTP, 1992)	1.0	2.5	5.0	2085.0	216.0	704.0	331.0	261.0	376.0	42.0	130.0	65.0	46.0			
868	ISOBUTANE	A 31|A 31 (HYDROCARBON)|1,1-DIMETHYLETHANE|ISO-BUTANE|ISOBUTANE|ISOBUTANE MIXTURE|2-METHYLPROPANE|PROPANE, 2-METHYL|R 600A|TRIMETHYLMETHANE	75-28-5	Isobutane is a colorless gas with a faint petroleum-like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. The vapors are heavier than air. Any leak can either be liquid or vapor. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	2085.0	216.0	704.0	331.0	261.0	376.0	42.0	130.0	65.0	46.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
863	HYDROXYUREA	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Rubber gloves and shoes; hard hat; chemical splash goggles; plastic apron; respirator (depending on solvent used) (USCG, 1999)	Highly flammable. Insoluble in water. Spontaneous decomposition at room temperature releases flammable toxic products.	ISOPROPYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat, or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156]. Spontaneous decomposition possible at room temperature to release flammable and corrosive products (presence of stabilizer reduces this possibility). A strong oxidizing agent. May ignite organic compounds on contact, hence a fire risk. Strongly reduced material such as sulfides, nitrides, and hydrides can react explosively. Reacts at least to produce heat when mixed with members of most chemical classes. These reactions often generate gases (toxic and nontoxic). Subject to decomposition, buildup of heat and even an explosion if contaminated with a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium or a salt of a transition metal).	Highly Flammable; Explosive; Strong Oxidizing Agent; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	4	8	Oxidizer																		(USCG, 1999)		50	
864	INDIGO CARMINE		Dust respirator; goggles or face shield; rubber gloves (USCG, 1999)	Dissolves in water with evolution of some heat. Creates acidic solutions.	Aqueous solutions of ALUMINUM SULFATE are acidic. The solid may corrode metals in presence of moisture.	Water-Reactive							0																						
865	INDIUM	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 1,5-NAPHTHALENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		311														(NIOSH, 2003)		261	
866	INDOMETHACIN	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full protective clothing, preferably of aluminized glass cloth; goggles; face shield; gloves. In case of fire, all-purpose canister or self-contained breathing apparatus. (USCG, 1999)	Pyrophoric, ignites in moist air [Merck 11th ed. 1989]. Reacts violently with water.	ALUMINUM TRIETHYL reacts violently with water, alcohols, phenols, amines, carbon dioxide, sulfur oxides, nitrogen oxides, halogens, and halogenated hydrocarbons, causing fire and explosion hazards. [Handling Chemicals Safely 1980 p. 929]. A mixture of dimethylformamide and triethyl aluminum exploded when heated [Bretherick 1995].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7	No Water	(NFPA, 2010)		-63														(USCG, 1999)		-51	
867	IODOFORM			No rapid reaction with air. No rapid reaction with water.	DIISOTRIDECYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent						0																				
868	ISOBUTANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Viton North F-091 0.41 mm 480 min Butyl rubber North B-174 0.89 mm 480 min PVC Edmont 34-100 0.18 mm 3 min Latex Ackwell 5-109 0.15 mm 2 min (NTP, 1992)	Water soluble.	WITCH HAZEL can react with oxidizing materials. (NTP, 1992).		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
863	HYDROXYUREA														(USCG, 1999)		1.08		59								(USCG, 1999)		206.2												IPC	Organic Peroxide|Explosive	C8H14O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	30.0	3.0	4.0
864	INDIGO CARMINE														(USCG, 1999)	1.7 at 20Â°C	2.71		68								(USCG, 1999)		666.4												ALM		Al2(SO4)3		13.0	1.0	37.0	3.0	4.0
865	INDIUM	(NIOSH, 2003)		0.003		75		mm Hg													(NIOSH, 2003)		505		760		(NIOSH, 2003)		210.2												Poison	C12H6N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	30.0	3.0	4.0
866	INDOMETHACIN														(USCG, 1999)		0.836		68		(USCG, 1999)		367.9		760		(USCG, 1999)		114.2												TAL	Spontaneously Combustible|Dangerous When Wet	(C2H5)3Al		10.0	1.0	31.0	3.0	4.0
867	IODOFORM																																										C28-H54-O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	25.0	3.0	4.0
868	ISOBUTANE	(NTP, 1992)	; 88.2 mm Hg at 108Â° F	30.6		77		mm Hg							(NTP, 1992)		0.978		81																(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Flammable Liquid		Cellulose-Based Absorbents	16.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
869	ISOBUTYLENE	1,1-DIMETHYLETHENE|1,1-DIMETHYLETHYLENE|GAMMA-BUTYLENE|I-BUTENE|ISO-BUTENE|ISOBUTENE|ISOBUTYLENE|ISOPROPYLIDENEMETHYLENE|LIQUEFIED PETROLEUM GAS|2-METHYL-1-PROPENE|2-METHYL-2-PROPENE|2-METHYLPROPENE|2-METHYLPROPYLENE|PROPENE, 2-METHYL-|1-PROPENE, 2-METHYL-|UNSYM. DIMETHYLETHYLENE	115-11-7	Isobutylene is a colorless gas with a faint petroleum-like odor. For transportation it may be stenched. It is shipped as a liquefied gas under its own vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can flash back to the source of leak very easily. The leak can either be a liquid or vapor leak. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. It is used in the production of isooctane, a high octane aviation gasoline.	5.0	1.0	1.0	2089.0	216.0	704.0	331.0	261.0	377.0	42.0	130.0	65.0	46.0	(BLOB)	Flash point data for this compound are not available; however, it is probably nonflammable. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
870	ISOHEXANE	ISOHEXANE|2-METHYLPENTANE	107-83-5	Watery liquid with a gasoline-like odor, Floats on water. Produces an irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2089.0	216.0	708.0	331.0	261.0	377.0	42.0	131.0	65.0	46.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
871	ISONIAZID	(BLOB)	54-85-3	PHYSICAL DESCRIPTION: Odorless colorless or white crystals or white crystalline powder. Taste is slightly sweet at first and then bitter. pH (1% aqueous solution) 5.5-6.5. pH (5% aqueous solution) 6-8. (NTP, 1992)	1.0	2.5	5.0	2089.0	216.0	708.0	331.0	261.0	377.0	42.0	131.0	65.0	46.0	(BLOB)	(Non-Specific -- Insecticide, Liquid, Poisonous, n.o.s.) Highly toxic fumes are given off upon decomposition with heat. Container may explode in heat of fire. Decomposes rapidly in the presence of chlorine. Oxidizes slowly in strong oxidizing agents. (EPA, 1998)	(Non-Specific -- Insecticide, Liquid, Poisonous, n.o.s.) Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Ventilate closed spaces before entering them. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
872	ISOOCTANE	ISO-OCTANE|ISOBUTYLTRIMETHYLMETHANE|ISOOCTANE|2,2,4-TRIMETHYLPENTANE|2,4,4-TRIMETHYLPENTANE	540-84-1	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	2089.0	216.0	708.0	331.0	261.0	377.0	42.0	131.0	65.0	46.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
873	ISOPENTANE	BUTANE, 2-METHYL-|ETHYLDIMETHYLMETHANE|ISO-PENTANE|ISOAMYLHYDRIDE|ISOPENTANE|METHYLBUTANE|2-METHYLBUTANE|1,1,2 TRIMETHYLETHANE	78-78-4	Watery colorless liquid with a gasoline-like odor. Floats on water. Flammable, irritating vapor is produced. Boiling point is 82Â°F. (USCG, 1999)	2.5	5.0	2.5	2089.0	216.0	712.0	331.0	261.0	377.0	42.0	132.0	65.0	46.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
874	ISOPHORONE	ALPHA-ISOPHORON|ALPHA-ISOPHORONE|CYCLOHEXANE-1-ONE|ISOACETOPHORONE|ISOFORON|ISOPHORON|ISOPHORONE|NCI-C55618|3,5,5-TRIMETHYL-2-|3,5,5-TRIMETHYL-2-CYCLO-HEXEN-1-ONE|3,5,5-TRIMETHYL-2-CYCLOHEXENE-1-ONE|3,5,5-TRIMETHYL-2-CYCLOHEXENONE|1,1,3-TRIMETHYL-3-CYCLOHEXENE-5-ONE|1,5,5-TRIMETHYL-3-OXOCYCLOHEXENE|3,5,5-TRIMETHYL-5-CYCLOHEXEN-1-ONE	78-59-1	A clear colorless liquid, with a camphor-like odor. Less dense than water and insoluble in water. Boiling point 420Â°F. Flash point near 200Â°F. Contact irritates skin and eyes. Toxic by ingestion. Used as a solvent and in pesticides.	2.5	5.0	2.5	2089.0	216.0	712.0	331.0	261.0	377.0	42.0	132.0	65.0	46.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
869	ISOBUTYLENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions. These materials may be nontoxic.								0																				(NIOSH, 2003)		2804	
		Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions. These materials may be nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
870	ISOHEXANE																																			
871	ISONIAZID	(Non-Specific -- Insecticide, Liquid, Poisonous, n.o.s.) Avoid inhalation. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Highly toxic fumes are given off upon decomposition of DIMEFOX with heat. Container may explode in heat of fire. Decomposes rapidly in the presence of chlorine. Oxidizes slowly in strong oxidizing agents. [EPA, 1998]. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
872	ISOOCTANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		220																(USCG, 1999)		62.6	
873	ISOPENTANE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
874	ISOPHORONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air. Insoluble in water.	OLIVETOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)							0		(NTP, 1992)		greater than 230														(NTP, 1992)		120	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
869	ISOBUTYLENE	(NIOSH, 2003)	(approx)	0				mm Hg							(NTP, 1992)		2.1		77								(NTP, 1992)		118.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			Ca.H2O3Si		16.0	1.0	37.0	3.0	4.0
870	ISOHEXANE																																								Non-Flammable Gas	Xe		11.0	1.0	18.0	3.0	4.0
871	ISONIAZID	(EPA, 1998)		0.36		77		mm Hg							(EPA, 1998)		1.115		68		(EPA, 1998)		187		15		(EPA, 1998)		154.13												Poison	C4H12FN2OP	Mineral-Based & Clay-Based Absorbents	11.0	1.0	25.0	3.0	4.0
872	ISOOCTANE														(USCG, 1999)		0.995		68		(USCG, 1999)		417.2		760		(USCG, 1999)		136.21											ISP	Corrosive	C9H12O		17.0	1.0	32.0	3.0	4.0
873	ISOPENTANE																																							Non-Flammable Gas	Xe		12.0	1.0	19.0	3.0	4.0
874	ISOPHORONE														(NTP, 1992)		327		5		(NTP, 1992)		180.25				(NTP, 1992)		at 66Â° F		less than 1	mg/mL				C11H16O2		10.0	1.0	18.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
875	ISOPHTHALIC ACID	BENZENE-1,3-DICARBOXYLIC ACID|ISOPHTHALIC ACID|M-PHTHALIC ACID	121-91-5	White solid with a slight unpleasant odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2093.0	216.0	712.0	331.0	261.0	378.0	42.0	132.0	65.0	46.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
876	ISOPRENE	ISOPRENE AND PENTENE	78-79-5	A water-white liquid solution of two compounds. Has a faint hydrocarbon odor. Insoluble in water and much less dense than water. Vapors are much heavier than air. May irritate eyes, skin and mucous membranes.	2.5	5.0	2.5	2093.0	216.0	712.0	331.0	261.0	378.0	42.0	132.0	65.0	46.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
877	ISOPRENE, INHIBITED	BETA-METHYLBIVINYL|1,3-BUTADIENE, 2-METHYL-|HEMITERPENE|ISOPENTADIENE|ISOPRENE|ISOPRENE, INHIBITED|METHYL BIVINYL|2-METHYL-1, 3-BUTADIENE|2-METHYL-1,3-BUTADIENE|3-METHYL-1,3-BUTADIENE|2-METHYLBUTA-1,3-DIENE|2-METHYLBUTADIENE	78-79-5	A clear colorless liquid with a petroleum-like odor. Density 5.7 lb / gal. Flash point -65Â°F. Boiling point 93Â°F. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a closed container, the container may rupture violently. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	2093.0	216.0	712.0	331.0	261.0	378.0	42.0	132.0	65.0	46.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
878	ISOPROPENYLBENZENE	ALPHA-METHYL STYRENE|ALPHA-METHYLSTYRENE|ALPHA-METHYLSTYROL|AS-METHYLPHENYLETHYLENE|BENZENE, (1-METHYLETHENYL)-|BENZENE, ISOPROPENYL-|BETA-PHENYLPROPENE|BETA-PHENYLPROPYLENE|ISOPROPENYL BENZENE|ISOPROPENYLBENZENE|1-METHYL-1-PHENYLETHENE|(1-METHYLETHENYL)BENZENE|METHYLSTYRENE|1-METHYLVINYL BENZENE|2-PHENYL PROPYLENE|1-PHENYL-1-METHYLETHYLENE|2-PHENYL-1-PROPENE|2-PHENYL-2-PROPENE|2-PHENYLPROPENE|PHENYLPROPYLENE|2-PHENYLPROPYLENE|1-PROPENE, 2-PHENYL-|STYRENE, ALPHA-METHYL-	98-83-9	A colorless liquid. Insoluble in water and less dense than water. Flash point 115Â°F. May be mildly toxic by ingestion, inhalation and skin absorption. Vapors may be narcotic by inhalation. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2093.0	216.0	712.0	331.0	261.0	378.0	42.0	132.0	65.0	46.0	(BLOB)	Flash point data is not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide, or Halon extinquishers. (NTP, 1992)
879	ISOPROPYL ACETATE	ACETIC ACID, 1-METHYLETHYL ESTER|ACETIC ACID, ISOPROPYL ESTER|2-ACETOXYPROPANE|ISOPROPYL ACETATE|ISOPROPYL ESTER OF ACETIC ACID|ISOPROPYL ETHANOATE|2-METHYLETHANOATE|1-METHYLETHYL ACETATE|1-METHYLETHYL ESTER OF ACETIC ACID|2-PROPYL ACETATE|2-PROPYLACETATE	108-21-4	A clear colorless liquid. Flash point 40Â°F. Vapors are heavier than air. Contact with the material may irritate skin, eyes or mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used as a solvent.	2.5	5.0	2.5	2097.0	216.0	712.0	331.0	261.0	379.0	42.0	132.0	65.0	46.0	(BLOB)	Special Hazards of Combustion Products: Ignites at high temperatures with evolution of nitrogen oxide and chloride fumes. Behavior in Fire: Volatile solid which gives off flammable vapors when heated; may form explosive mixtures with air. (USCG, 1999)	Fire Extinguishing Agents: Water spray, foam, carbon dioxide, dry chemical (Water or foam may cause frothing). (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
875	ISOPHTHALIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	AMINOPROPYLDIETHANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
876	ISOPRENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Slightly soluble in water.	Contact with strong oxidizers may cause fires and explosions (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		118														(USCG, 1999)		-6.8	
877	ISOPRENE, INHIBITED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.					0		(NTP, 1992)		greater than 235														(NTP, 1992)		82 to 84	
878	ISOPROPENYLBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water. Decomposes in water.	O-NITROBENZOYL CHLORIDE is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react with reducing agents. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Explosive; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		77	
879	ISOPROPYL ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Rubber gloves, self-contained respirator, goggles, protective clothing, and safety shoes. (USCG, 1999)	This chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	O-NITROCHLOROBENZENE is incompatible with strong bases and strong oxidizing agents. It will react with ammonia. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		261														(NTP, 1992)		90 to 91	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
875	ISOPHTHALIC ACID																																									Corrosive	C7H18N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	12.0	1.0	23.0	3.0	4.0
876	ISOPRENE	(NIOSH, 2003)		1				mm Hg							(USCG, 1999)		0.93				(USCG, 1999)		329		760		(USCG, 1999)		112.2		(NIOSH, 2003)		600	ppm	(NIOSH, 2003)	Insoluble				MCX	Flammable Liquid	C7H12O		10.0	1.0	19.0	3.0	4.0
877	ISOPRENE, INHIBITED																				(NTP, 1992)		316		16		(NTP, 1992)		165.15						(NTP, 1992)	Insoluble						C8H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0
878	ISOPROPENYLBENZENE																				(NTP, 1992)	; 306-309Â° F at 18 mm Hg		527 to 532	760		(NTP, 1992)		185.57						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Corrosive	C7H4ClNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	14.0	1.0	32.0	3.0	4.0
879	ISOPROPYL ACETATE	(NTP, 1992)		0.4		77		mm Hg	(NTP, 1992)		5.44				(USCG, 1999)		1.368		71.6		(NTP, 1992)		475		760		(NTP, 1992)		157.56						(NTP, 1992)	at 67.8Â° F		less than 0.1	mg/mL	CNO	Poison	C6H4ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	41.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
880	ISOPROPYLAMINE	2-AMINOPROPANE|ISO-PROPYLAMINE|ISOPROPYLAMINE|1-METHYLETHYLAMINE|MONOISOPROPYLAMINE|2-PROPANAMINE|PROPANE, 2-AMINO|2-PROPYLAMINE|SEC-PROPYLAMINE	75-31-0	A clear colorless liquid with an ammonia-like odor. Flash point -35Â°F. Boiling point 90Â°F. Less dense than water Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2101.0	216.0	712.0	331.0	261.0	380.0	42.0	132.0	65.0	46.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
881	ISOPROPYLAMINE SOLUTION (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	2-AMINOPROPANE|ISOPROPYLAMINE SOLUTION (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	75-31-0	A clear colorless liquid with an ammonia-like odor. Flash point below 141Â°F. Contact with the liquid can cause burns. Eye contact can cause irreversible damage. Ingestion irritates or burns the mouth, throat, esophagus, and stomach. Vapors irritate the respiratory tract. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2105.0	220.0	712.0	331.0	265.0	381.0	43.0	132.0	65.0	47.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
882	ISOSORBIDE DINITRATE MIXTURE	CARDIS|CARVANIL|CARVASIN|CEDOCARD|CLAODICAL|COROSORBIDE|D-ISOSORBIDE DINITRATE|1,4:3,6-DIANHYDRO-D-GLUCITOL 2,5-DINITRATE|1,4:3,6-DIANHYDRO-D-SORBITOL 2,5-DINITRATE|1,4:3,6-DIANHYDROSORBITOL 2,5-DINITRATE|DINITROISOSORBIDE|DINITROSORBIDE|FLINDIX|FRANDOL|FURO[3,2-B]FURAN, D-GLUCITOL DERIV.|GLUCITOL, 1,4:3,6-DIANHYDRO-, DINITRATE|GLUCITOL, 1,4:3,6-DIANHYDRO-, DINITRATE, D-|HARRICAL|ISDN|ISODINIT|ISOKET|ISOKET RETARD 40|ISORBID|ISORDIL|ISORDIL TEMBIDS|ISOSORBIDE 2,5-DINITRATE|ISOSORBIDE DINITRATE|ISOSORBIDE DINITRATE MIXTURE|ISOSORBIDE NITRATE|KORODIL|MAYCOR|NITROSORBID|NITROSORB	87-33-2	A crystalline solid. May be toxic by ingestion. Used to make pharmaceuticals. Used as a heart drug.	1.0	2.5	5.0	2105.0	220.0	712.0	331.0	265.0	381.0	43.0	132.0	65.0	47.0	(BLOB)	As with other organophosphorus pesticides, container may explode in heat of fire. The temperature of storage should not exceed 70-80F. Keep away from sources of heat, flames, or spark-generating equipment. Unstable in alkaline solution. Hydrolyzed by aqueous alkali. Stable in aqueous solutions. The compound is stable for 2 years under environmental conditions if stored in undamaged, original containers. (EPA, 1998)	Procedures for organophosphorus pesticides are as follows. Dike fire control water for later disposal, do not scatter the material. Wear positive pressure breathing apparatus and protective clothing. Fight fire from maximum distance. This material is an organophosphate insecticide. Methods for organophosphorus pesticides are as follows. Small fires: dry chemical, carbon dioxide, water spray, and foam. Large fires: water spray, fog, or foam. (EPA, 1998)
883	ISOSORBIDE-5-MONONITRATE	AHR 4698|BM 22-145|1,4:3,6-DIANHYDRO-D-GLUCITOL 5-NITRATE|FURO[3,2-B]FURAN, D-GLUCITOL DERIV.|GLUCITOL, 1,4:3,6-DIANHYDRO-, 5-NITRATE, D-|IS 5MN|ISOSORBIDE 5-MONONITRATE|ISOSORBIDE 5-NITRATE|ISOSORBIDE MONONITRATE|ISOSORBIDE 5-MONONITRATE|MONIZID	16051-77-7	Isosorbide-5-mononitrate is a crystalline solid. It is very flammable and may be toxic by ingestion.	1.0	2.5	5.0	2105.0	220.0	712.0	331.0	265.0	381.0	43.0	132.0	65.0	47.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
884	LACTOSE	AHL|ALETOBIOSE|4-(BETA-D-GALACTOSIDO)-D-GLUCOSE|(+)-BETA-D-LACTOSE|D-(+)-LACTOSE|D-LACTOSE|FAST-FLO|FAST-FLO LACTOSE|GALACTINUM|LACTIN|LACTIN (CARBOHYDRATE)|LACTOBIOSE|LACTOSE|LACTOSE ANHYDROUS|LACTOSE FAST-FLO|(+)-LACTOSE|MILK SUGAR|4-O-BETA-D-GALACTOPYRANOSYL-D-GLUCOSE|OSMOLACTAN|PHARMATOSE 21|SACCHARUM LACTIN|TABLETTOSE|ZEPAROX EP	63-42-3	PHYSICAL DESCRIPTION: White hard crystalline powder. (NTP, 1992)	1.0	2.5	5.0	2109.0	220.0	716.0	331.0	265.0	382.0	43.0	133.0	65.0	47.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
880	ISOPROPYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Soluble in water.	OSMIUM TETROXIDE is incompatible with hydrochloric acid andeasily oxidized organic materials. Contact with other materials may cause fire. (NIOSH, 1997). Reacted explosively with 1-methylimidazole [J. Chem. Soc., Dalton Trans., 1979, 1084].	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NIOSH, 2003)		105	
881	ISOPROPYLAMINE SOLUTION (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)		(BLOB)	No rapid reaction with air No rapid reaction with water	O-TERPHENYL is non-flammable but combustible (flash point 339Â°F). Extremely stable thermally. Incompatible with strong oxidizing agents but not very reactive at room conditions.			(NFPA, 2010)		1	1	0	1		(NIOSH, 2003)		325																	(NIOSH, 2003)		136	
882	ISOSORBIDE DINITRATE MIXTURE	Dimethoate is an organophosphate insecticide. Precautions for organophosphorus pesticides include the following. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	It is stable in aqueous solution but is hydrolyzed by aqueous alkali.	DIMETHOATE is incompatible with alkaline preparations. It is slightly corrosive to iron. It is incompatible with sulfur based formulations. (NTP, 1992). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)		124																	(EPA, 1998)		113 to 117Â° F for technical product.	125	
883	ISOSORBIDE-5-MONONITRATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slowly hydrolyzes upon exposure to moisture. Water soluble.	DIMETHOXANE is incompatible with strong acids and strong bases. (NTP, 1992)						0		(NTP, 1992)		142																	(NTP, 1992)		less than -13	
884	LACTOSE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	DIMETHYL CARBONATE reacts with acids to liberate heat along with methanol and carbon dioxide. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NFPA, 2010)		31																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
880	ISOPROPYLAMINE	(NIOSH, 2003)		7				mm Hg													(NIOSH, 2003)		266		760		(NIOSH, 2003)		254.2		(NIOSH, 2003)		1	mg/m3	(NIOSH, 2003)	at 77Â° F	6		%		Poison	O4Os	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	33.0	3.0	4.0
881	ISOPROPYLAMINE SOLUTION (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	(NIOSH, 2003)		0.09		200		mm Hg							(NIOSH, 2003)		1.1				(NIOSH, 2003)		630		760		(NIOSH, 2003)		230.3		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	Insoluble						C6H5C6H4C6H5		12.0	1.0	33.0	3.0	4.0
882	ISOSORBIDE DINITRATE MIXTURE	(EPA, 1998)		8.50E-06		77		mm Hg							(EPA, 1998)		1.277		149		(NTP, 1992)		243		0.1		(EPA, 1998)		229.28						(NTP, 1992)	at 75Â° F		1 to 10	mg/mL		Poison	C5H12N2O3PS2		11.0	1.0	22.0	3.0	4.0
883	ISOSORBIDE-5-MONONITRATE														(NTP, 1992)		1.0655		68		(NTP, 1992)		367		760		(NTP, 1992)		174.22						(NTP, 1992)	Miscible						C8H14O4		11.0	1.0	36.0	3.0	4.0
884	LACTOSE																																									Flammable Liquid	C3H6O3		14.0	1.0	50.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
885	LANTHANUM CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	LANTHANIUM CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)|LANTHANUM CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	10099-58-8	White crystalline solid. Gives an amber aqueous solution that can cause destruction or irreversible alterations in human skin tissue at the site of contact. Has a severe corrosion rate on steel.	1.0	2.5	5.0	2109.0	220.0	716.0	331.0	265.0	382.0	43.0	133.0	65.0	47.0	(BLOB)	This material may burn but does not ignite readily. This material may ignite combustibles (wood, paper, oil, etc.). When heated it emits very toxic fumes of chlorine containing compounds, phosphorus oxides, and sulfur oxides. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. May react violently with water. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
886	LANTHANUM NITRATE HEXAHYDRATE	LANTHANUM NITRATE (LA(NO3)3), HEXAHYDRATE|LANTHANUM NITRATE HEXAHYDRATE|LANTHANUM TRINITRATE HEXAHYDRATE|LANTHANUM(3+) NITRATE HEXAHYDRATE|LANTHANUM(3+) SALT NITRIC ACID HEXAHYDRATE|LANTHANUM(III) NITRATE, HEXAHYDRATE|LANTHANUM(III) NITRATE, HEXAHYDRATE (1:3:6)	10277-43-7	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2109.0	220.0	716.0	331.0	265.0	382.0	43.0	133.0	65.0	47.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
887	LAURIC ACID	ABL|ALIPHAT NO. 4|C-1297|DODECANOIC ACID|DODECOIC ACID|DODECYLIC ACID|DUODECYCLIC ACID|DUODECYLIC ACID|EMERY 651|HYDROFOL ACID 1255|HYDROFOL ACID 1255 OR 1295|HYDROFOL ACID 1295|HYSTRENE 9512|KORTACID 1299|LAURIC ACID|LAUROSTEARIC ACID|LUNAC L 70|LUNAC L 98|N-DODECANOIC ACID|NAA 122|NAA 312|NEO-FAT 12|NEO-FAT 12-43|NINOL AA62 EXTRA|PHILACID 1200|PRIFAC 2920|UNDECANE-1-CARBOXYLIC ACID|1-UNDECANECARBOXYLIC ACID|UNIVOL U 314|VULVIC ACID|WECOLINE 1295	143-07-7	White solid with a slight odor of bay oil. (USCG, 1999)	1.0	2.5	5.0	2113.0	220.0	716.0	331.0	265.0	383.0	43.0	133.0	65.0	47.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
888	LAURIC ACID DIETHANOLAMINE CONDENSATE (1/1)	(BLOB)	120-40-1	PHYSICAL DESCRIPTION: Off-white waxy solid. (NTP, 1992)	1.0	2.5	5.0	2117.0	220.0	720.0	331.0	265.0	384.0	43.0	134.0	65.0	47.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
889	LAUROYL PEROXIDE	ALPEROX C|ALPEROX F|DIDODECANOYL PEROXIDE|DILAUROYL PEROXIDE|DODECANOYL PEROXIDE|LAUROX Q|LAUROX W 40|LAUROX W 40GD4|LAUROYL PEROXIDE|LAURYDOL|LYP 97|LYP 97F|PEROYL L	105-74-8	A white solid with a faint soapy odor. Less dense than water and insoluble in water. Hence floats on water. Melting point 49Â°C. Toxic by ingestion and inhalation. Strong skin irritant. Used as bleaching agent, drying agent for fats, oils and waxes, and as a polymerization catalyst.	1.0	2.5	5.0	2121.0	220.0	720.0	331.0	265.0	385.0	43.0	134.0	65.0	47.0	INHALATION: remove victim to fresh air; rinse nose and mouth with water. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: induce vomiting immediately. Give large amounts of water. EYES: flush with water for at least 15 min. SKIN: flush with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors of ammonia acetic acid, and nitrogen oxides may form in fires. (USCG, 1999)	
890	LEAD ACETATE	ACETIC ACID LEAD SALT (2:1)|ACETIC ACID, LEAD(2+) SALT|DIBASIC LEAD ACETATE|LEAD (2+) ACETATE|LEAD (II) ACETATE|LEAD ACETATE|LEAD ACETATE (ANHYDROUS)|LEAD ACETATE (PB(AC)2)|LEAD ACETATE (PB(O2C2H3)2)|LEAD ACETATE TRIHYDRATE|LEAD ACETATE [PB(OAC)2]|LEAD BIS(ACETATE)|LEAD DIACETATE|LEAD DIBASIC ACETATE|LEAD(2+) ACETATE|LEAD(II) ACETATE|LEAD(II)|SALT ACETIC ACID|NCI-C01489|NEUTRAL LEAD ACETATE|NORMAL LEAD ACETATE|PLUMBOUS ACETATE|SALT OF SATURN|SUGAR OF LEAD	301-04-2	A white to gray crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by inhalation, ingestion, and skin absorption. Used in dyes, waterproofing, insecticides, antifouling paints, hair dyes and many other processes.	1.0	2.5	5.0	2125.0	220.0	720.0	331.0	265.0	386.0	43.0	134.0	65.0	47.0	(BLOB)	Behavior in Fire: Containers may explode. Vapors are heavier than air and may travel long distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
885	LANTHANUM CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	Caution : Avoid sources of heat including fire. Dimethyl phosphorochlorido- thioate will liberate toxic phosphorus and sulfur oxides when heated to decomposition. Avoid inhalation. Apply powdered limestone, slaked lime, soda ash, or sodium bicarbonate. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as DIMETHYL CHLOROTHIOPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
886	LANTHANUM NITRATE HEXAHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Reacts with water to form cyanide gas	Nitriles, such as DIMETHYL CYANAMIDE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids. This compound reacts with oxidizers, water, or steam. (NTP, 1992)	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NTP, 1992)		160													(NTP, 1992)		-42	
887	LAURIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	AMMONIA SOLUTION is basic. Reacts exothermically with acids to produce water and ammonium salts, which, being generally water-soluble, stay in the solution. The heat can cause evolution of quantities of unreacted ammonia as a corrosive, irritating gas. Heating ammonia solutions or treating them with strong bases also causes evolution of gaseous ammonia. Salts with oxidizing acids (such as ammonium chlorate) may explode if obtained in dry or nearly dry form [Kirk-Othmer, 3rd ed., Vol. 2, 1978, p. 470]. Intense sources of ignition can cause air/ammonia mixtures to burn or explode, but the conditions are so specialized that ammonia is generally regarded as nonflammable. Mixing of bleaching powder (hypochlorite solution) with ammonia solutions produces toxic/explosive ammonia trichloride vapors.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																							
888	LAURIC ACID DIETHANOLAMINE CONDENSATE (1/1)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	AMMONIA, ZINC CHLORIDE, ZINC SULFATE LIQUID reacts as a base. Neutralizes acids exothermically to produce water and ammonium salts, which, being generally water-soluble, stay in the solution. The heat can cause evolution of quantities of unreacted ammonia as a corrosive, irritating gas. Heating ammonia solutions or treating them with strong bases also causes evolution of gaseous ammonia. Forms salts with oxidizing acids (such as ammonium chlorate) that may explode if obtained in dry or nearly dry form [Kirk-Othmer, 3rd ed., Vol. 2, 1978, p. 470]. Reacts with fluorine, chlorine, bromine and iodine and some of the interhalogen compounds (bromine pentafluoride, chlorine trifluoride). Mixing of bleaching powder (hypochlorite solution) with ammonia solutions produces toxic/explosive ammonia trichloride vapors.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for anhydrous ammonia, CAS number 7664-41-7	3	1	0	1																							
889	LAUROYL PEROXIDE		Dust mask; goggles or face shield (do not wear contact lenses); rubber gloves; impervious protectiveclothing. (USCG, 1999)	Water soluble.	AMMONIUM ACETATE causes the decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].					0																			(USCG, 1999)		237.2	
890	LEAD ACETATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Mask for organic vapors; plastic or rubber gloves; safety glasses. (USCG, 1999)	Highly flammable. Upon standing and exposure to air (oxygen) tendency to form explosive peroxides. When ethers containing peroxides are heated (distilled) they can detonate [Lewis, 3rd ed., 1993, p. 854].	DIMETHYL ETHER is a colorless, highly flammable gas (b. p. -24Â° C), slightly toxic. Very dangerous fire and explosion hazard when exposed to flame, sparks, heat or strong oxidizers. Violent reaction with aluminum hydride, lithium aluminum hydride. Upon standing and exposure to air (oxygen) tendency to form explosive peroxides. When ethers containing peroxides are heated (distilled) they can detonate [Lewis, 3rd ed., 1993, p. 854].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(NTP, 1992)		25		(USCG, 1999)		2		%	(USCG, 1999)		50		%	(USCG, 1999)		662		(NTP, 1992)		-217.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
885	LANTHANUM CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)														(EPA, 1998)		1.32		77		(EPA, 1998)			151 to 153		16	(EPA, 1998)		160.56												Poison|Corrosive	C2H6ClO2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	22.0	3.0	4.0
886	LANTHANUM NITRATE HEXAHYDRATE								(NTP, 1992)		2.55				(NTP, 1992)		0.88				(NTP, 1992)		326.3		760		(NTP, 1992)		70.11						(NTP, 1992)	Decomposes					Poison	C3H6N2	Mineral-Based & Clay-Based Absorbents	10.0	1.0	21.0	3.0	4.0
887	LAURIC ACID																														(NIOSH, 2003)		300	ppm							Corrosive	H3N (aqueous)		17.0	1.0	39.0	3.0	4.0
888	LAURIC ACID DIETHANOLAMINE CONDENSATE (1/1)																																							Class 9	NH3 (ammonia)|ZnCl2 (zinc chloride)|ZnSO4.7H2O (zinc sulfate heptahydrate)		16.0	1.0	34.0	3.0	4.0
889	LAUROYL PEROXIDE														(USCG, 1999)		1.17		68								(USCG, 1999)		77.08											AAT		C2H4O2.H3N		12.0	1.0	21.0	3.0	4.0
890	LEAD ACETATE	(NTP, 1992)		2.128				mm Hg	(NTP, 1992)		1.617				(USCG, 1999)		0.724		-12.46		(NTP, 1992)		-8		760		(NTP, 1992)		46.07											DIM	Flammable Gas	C2H6O		16.0	1.0	46.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
891	LEAD ACETATE TRIHYDRATE	ACETIC ACID, LEAD(+2)SALT TRIHYDRATE|BIS(ACETATO) TRIHYDROXYTRILEAD|LEAD ACETATE (II) TRIHYDRATE|LEAD ACETATE TRIHYDRATE|LEAD ACETATE TRIHYDRATE (PB(OAC)2.3H2O)|LEAD DIACETATE TRIHYDRATE|LEAD(II) ACETATE TRIHYDRATE|PLUMBOUS ACETATE	6080-56-4	PHYSICAL DESCRIPTION: White powder or white chunky solid. Slight odor. pH (5% aqueous solution at 77Â°F) 5.5-6.5. (NTP, 1992)	1.0	2.5	5.0	2129.0	220.0	720.0	331.0	265.0	387.0	43.0	134.0	65.0	47.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. EYES: Flush immediately with copious amounts of water for at least 15 minutes. SKIN: Wash immediately with soap and copious amounts of water for at least 15 minutes. (USCG, 1999)		Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
892	LEAD CHLORIDE	LEAD (II) CHLORIDE|LEAD CHLORIDE|LEAD DICHLORIDE|LEAD(2+) CHLORIDE|LEAD(II) CHLORIDE|PLUMBOUS CHLORIDE	7758-95-4	A white solid.	1.0	2.5	5.0	2133.0	220.0	720.0	331.0	265.0	388.0	43.0	134.0	65.0	47.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
893	LEAD FLUOBORATE	BORATE(1-), TETRAFLUORO-, LEAD(2+)|LEAD BORON FLUORIDE|LEAD FLUOBORATE|LEAD FLUOBORATE (PB(BF4)2)|LEAD FLUOROBORATE|LEAD FLUOROBORATE (PB(BF4)2)|LEAD FLUOROBORATE SOLUTION|LEAD TETRAFLUOROBORATE (PB(BF4)2)|LEAD(II) TETRAFLUOROBORATE	13814-96-5	Odorless colorless liquid. An aqueous solution. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	2137.0	220.0	724.0	331.0	265.0	389.0	43.0	135.0	65.0	47.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
894	LEAD PHOSPHITE, DIBASIC	C.I. 77620|DIBASIC LEAD METAPHOSPHATE|DIBASIC LEAD PHOSPHITE|LEAD DIBASIC PHOSPHITE|LEAD OXIDE PHOSPHONATE (PB3O2(HPO3)), HEMIHYDRATE|LEAD PHOSPHITE, DIBASIC|LEAD PHOSPHITE, [DIBASIC]	1344-40-7	Lead phosphite, dibasic is a finely ground white crystalline solid. It is not soluble in water. It may be toxic by ingestion or skin absorption. The material can be readily ignited from exposure to heat or external sparks. When so ignited it burns vigorously and persistently.	1.0	2.5	5.0	2137.0	220.0	724.0	331.0	265.0	389.0	43.0	135.0	65.0	47.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
895	LEAD STEARATE	LEAD STEARATE|NEUTRAL LEAD STEARATE|STEARIC ACID, LEAD SALT	1072-35-1	Powdery white solid with a slight fatty odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2141.0	220.0	724.0	331.0	265.0	390.0	43.0	135.0	65.0	47.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
896	LEAD SULFATE	ANGLISLITE|C.I. 77630|C.I. PIGMENT WHITE 3|FAST WHITE|FREEMANS WHITE LEAD|HB 2000|LANARKITE|LEAD BOTTOMS|LEAD MONOSULFATE|LEAD SULFATE|LEAD SULFATE (1:1)|LEAD SULFATE (PBSO4)|LEAD(2+) SULFATE|LEAD(II) SULFATE|MILK WHITE|MULHOUSE WHITE|PBSO4|PIGMENT WHITE 3|TS 100|TS 100 (SULFATE)	7446-14-2	A white crystalline solid. Insoluble in water and sinks in water. Contact may irritate skin, eyes, and mucous membranes. May be mildly toxic by ingestion, inhalation and skin absorption. Used to make other chemicals. Use: in lithography, battery acid solution treated fabrics, used in varnishes.	1.0	2.5	5.0	2141.0	220.0	724.0	331.0	265.0	390.0	43.0	135.0	65.0	47.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
891	LEAD ACETATE TRIHYDRATE		Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Flammable. Hydrolyzed by strong mineral acids and strong alkalis.	DIMETHYL GLUTARATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0		(USCG, 1999)		218																	
892	LEAD CHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dissolves in water and forms a weak solution of hydrofluoric acid.	AMMONIUM BIFLUORIDE reacts violently with bases. In presence of moisture will corrode glass, cement, and most metals. Flammable hydrogen gas may collect in enclosed spaces. Do not use steel, nickel, or aluminum containers (USCG, 1999).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																					
893	LEAD FLUOBORATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	OXYDIAZON is a diazo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																					
894	LEAD PHOSPHITE, DIBASIC	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to prolonged exposure to air. Water soluble. Slowly hydrolyzes upon exposure to moisture.	Water soluble. Hydrolysis occurs rapidly on exposure to acids. (NTP, 1992)							0		(NTP, 1992)			greater than 200														
895	LEAD STEARATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Organophosphates, such as DIMETHYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)			greater than 200																
896	LEAD SULFATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	DIMETHYL PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges by swirling or pouring [Handling Chemicals Safely, 1980. p. 250].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		295		(USCG, 1999)		0.9		%	(USCG, 1999)		8		%	(USCG, 1999)		915		(NTP, 1992)		32	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
891	LEAD ACETATE TRIHYDRATE														(USCG, 1999)		1.087				(USCG, 1999)			199.4 to 203	13		(USCG, 1999)		160.17											DGT		C7H12O4		16.0	1.0	46.0	3.0	4.0
892	LEAD CHLORIDE																																								Corrosive|Poison	NH4HF2 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	11.0	1.0	18.0	3.0	4.0
893	LEAD FLUOBORATE																																								Class 9	C15H18Cl2N2O3		10.0	1.0	18.0	3.0	4.0
894	LEAD PHOSPHITE, DIBASIC	(NTP, 1992)	; 2.0 mm Hg at 104Â° F; 7.1 mm Hg at 164.3Â° F	1.4		73		mm Hg							(NTP, 1992)		1.2237		77		(NTP, 1992)	(decomposes)	401		768		(NTP, 1992)		195.18						(NTP, 1992)	at 64Â° F		greater than or eqaal to 100	mg/mL			C6H14NO4P	Mineral-Based & Clay-Based Absorbents	10.0	1.0	26.0	3.0	4.0
895	LEAD STEARATE														(NTP, 1992)		1.335		77		(NTP, 1992)	(decomposes)		342 to 349	760		(NTP, 1992)		126.05						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Corrosive	C2H7O4P		15.0	1.0	36.0	3.0	4.0
896	LEAD SULFATE	(NTP, 1992)	; 5 mm Hg at 269.2Â° F; 10 mm Hg at 297.7Â° F	1		212.5		mm Hg	(NTP, 1992)		6.69				(USCG, 1999)		1.1905		68		(NTP, 1992)		542.7		760		(NTP, 1992)		194.18		(NIOSH, 2003)		2000	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	DTL	Class 9	C10H10O4		10.0	1.0	17.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
897	LEAD SULFATE, WITH MORE THAN 3% FREE ACID	ANGLISLITE|C.I. 77630|C.I. PIGMENT WHITE 3|FAST WHITE|FREEMANS WHITE LEAD|HB 2000|LEAD BOTTOMS|LEAD MONOSULFATE|LEAD SULFATE|LEAD SULFATE (1:1)|LEAD SULFATE (PBSO4)|LEAD SULFATE, WITH MORE THAN 3% FREE ACID|LEAD SULFATE, [SOLID, WITH > 3% FREE ACID]|LEAD SULPHATE, WITH MORE THAN 3% FREE ACID|LEAD(2+) SULFATE|LEAD(II) SULFATE|MILK WHITE|MULHOUSE WHITE|PBSO4|PIGMENT WHITE 3|TS 100|TS 100 (SULFATE)	7446-14-2	Lead sulfate, solid (containing more than 3% free acid) is a white wet-looking solid. The lead sulfate itself is insoluble in water. The sulfuric acid is soluble in water. The material is corrosive to metals and tissue.	1.0	2.5	5.0	2145.0	220.0	724.0	331.0	265.0	391.0	43.0	135.0	65.0	47.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
898	LIMESTONE	(BLOB)	1317-65-3	Odorless, white to tan powder.	1.0	2.5	5.0	2149.0	220.0	724.0	331.0	265.0	392.0	43.0	135.0	65.0	47.0	INHALATION: remove to fresh air. INGESTION: give large amounts of water; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating ammonia and formic acid gases may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam (USCG, 1999)
899	LINOLEIC ACID	ALL-CIS-9,12-OCTADECADIENOIC ACID|ALPHA-LINOLEIC ACID|D9-CIS,12-CIS-LINOLEIC ACID|CIS,CIS-9,12-OCTADECADIENOIC ACID|CIS,CIS-LINOLEIC ACID|CIS-9,CIS-12-OCTADECADIENOIC ACID|CIS-DELTA9,12-OCTADECADIENOIC ACID|EMERSOL 310|EMERSOL 315|EXTRA LINOLEIC 90|LEINOLEIC ACID|LINOLEIC ACID|9,12-LINOLEIC ACID|LINOLIC ACID|9,12-OCTADECADIENOIC ACID (Z,Z)-9,12-OCTADECADIENOIC ACID, (Z,Z)-|9,12-OCTADECADIENOIC ACID|POLYIN NO.515|POLYLIN 515|TELFAIRIC ACID|UNIFAC 6550|(Z)-9,12-OCTADECADIENOIC ACID|9Z,12Z-LINOLEIC ACID|(Z,Z)-9,12-	60-33-3	PHYSICAL DESCRIPTION: Colorless to straw colored liquid. A polyunsaturated fatty acid essential to human diet.	2.5	5.0	2.5	2153.0	220.0	728.0	331.0	265.0	393.0	43.0	136.0	65.0	47.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
900	LIQUEFIED NATURAL GAS (CRYOGENIC LIQUID)	LIQUEFIED NATURAL GAS|LIQUEFIED NATURAL GAS (CRYOGENIC LIQUID)|LIQUEFIED NATURAL GAS {NATURAL GAS, LIQUIFIED}|LNG|LNG (CRYOGENIC LIQUID)	74-82-8	Methane is a colorless odorless gas. It is also known as marsh gas or methyl hydride. It is easily ignited. The vapors are lighter than air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used in making other chemicals and as a constituent of the fuel, natural gas.	5.0	1.0	1.0	2153.0	220.0	732.0	331.0	265.0	393.0	43.0	137.0	65.0	47.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
901	LITHIUM	LITHIUM|LITHIUM ATOM|LITHIUM ELEMENT|LITHIUM METAL|LITHIUM, METAL	7439-93-2	A soft silvery metal that is normally grayish white due to oxide formation. Spontaneous ignition is likely if heated to melting point.	1.0	2.5	5.0	2153.0	220.0	732.0	331.0	265.0	393.0	43.0	137.0	65.0	47.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
902	LITHIUM HYDROXIDE, MONOHYDRATE	LITHIUM HYDROXIDE HYDRATE|LITHIUM HYDROXIDE MONOHYDRATE|LITHIUM HYDROXIDE, MONOHYDRATE|LITHIUM HYDROXIDE, SOLID	1310-66-3	Small colorless crystals. Denser than water. Contact may cause severe irritation to skin, eyes, and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make electric storage batteries, soaps, and lubricants.	1.0	2.5	5.0	2157.0	220.0	732.0	331.0	265.0	394.0	43.0	137.0	65.0	47.0	INHALATION: remove to fresh air. INGESTION: if significant amount has been ingested, get medical attention. EYES: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating fumes of hydrogen iodide, iodine, and oxides of nitrogen may form in fire. Behavior in Fire: Compound may sublime in fire and condense on cold surfaces. (USCG, 1999)	
903	LITHIUM HYDROXIDE, SOLUTION	LITHIUM HYDROXIDE|LITHIUM HYDROXIDE SOLUTION|LITHIUM HYDROXIDE, SOLUTION	1310-65-2	A clear to water-white liquid which may have a pungent odor. Contact may cause severe irritation to skin, eyes, and mucous membranes. It may be toxic by ingestion, inhalation and skin absorption. It is used to make other chemicals.	2.5	5.0	2.5	2157.0	220.0	736.0	331.0	265.0	394.0	43.0	138.0	65.0	47.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
897	LEAD SULFATE, WITH MORE THAN 3% FREE ACID	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A basic organic salt.		Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
898	LIMESTONE		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM FORMATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																		(USCG, 1999)		241	
899	LINOLEIC ACID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A trifluoromethyl diphenyl ether derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
900	LIQUEFIED NATURAL GAS (CRYOGENIC LIQUID)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	TRIMETHOXYSILANE may accumulate static electricity; hazardous polymerization may occur.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9269 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5																							
901	LITHIUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	1,8-CINEOL will react with acids and bases. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		34.7	
902	LITHIUM HYDROXIDE, MONOHYDRATE		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	AMMONIUM IODIDE is light sensitive, becomes yellow or brown on exposure to air and light because of liberation of Iodine [Merck 11th ed. 1989]. Bromine trifluoride reacts explosively with the following ammonium bromide, ammonium chloride, ammonium iodide [Mellor 2 Supp. 1:165 1956].						0																							
903	LITHIUM HYDROXIDE, SOLUTION	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Pure oxygen is a potent oxidizer. The rare gases are inert, so much of the reactivity of this mixture is connected to the % content of each component. The higher the % content rare gas the less reactive in terms of it being an oxidizing agent.	Strong Oxidizing Agent	Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
897	LEAD SULFATE, WITH MORE THAN 3% FREE ACID																																								Poison	C7H6N2O5.H3N	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	17.0	3.0	4.0
898	LIMESTONE														(USCG, 1999)		1.28		77								(USCG, 1999)		63.06											AFM		CH5NO2		19.0	1.0	47.0	3.0	4.0
899	LINOLEIC ACID																																							Class 9	C15H11CIF3NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	27.0	3.0	4.0
900	LIQUEFIED NATURAL GAS (CRYOGENIC LIQUID)																																							Poison Inhalation Hazard|Flammable Liquid	C3H10O3Si		18.0	1.0	32.0	3.0	4.0
901	LITHIUM														(NTP, 1992)		0.921 to 0.923		(NTP, 1992)				349 to 351	760		(NTP, 1992)		154.28						(NTP, 1992)	Insoluble (<1 mg/ml at 68Â° F)					Flammable Liquid	C10H18O		12.0	1.0	21.0	3.0	4.0
902	LITHIUM HYDROXIDE, MONOHYDRATE														(USCG, 1999)		2.56		68								(USCG, 1999)		144.94											AID		H4IN		13.0	1.0	41.0	3.0	4.0
903	LITHIUM HYDROXIDE, SOLUTION																																							Non-Flammable Gas	O2|unspecified rare gas	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	41.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
904	LUTIDENE	2,6-DIMETHYLPYRIDINE|LUTIDENE|LUTIDINE	108-48-5	A colorless liquid with a peppermint odor. Less dense than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used to make other chemicals.	2.5	5.0	2.5	2157.0	220.0	736.0	331.0	265.0	394.0	43.0	138.0	65.0	47.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
905	MAGNESIUM POWDER	ANHYDRONE|DEHYDRITE|JIS I|MAGNESIUM|MAGNESIUM (INCLUDING ALLOYS)|MAGNESIUM ALLOY, [WITH > 50% MAGNESIUM, PELLETS, TURNINGS]|MAGNESIUM ALLOYS, WITH MORE THAN 50% MAGNESIUM, IN PELLETS, TURNINGS OR RIBBONS|MAGNESIUM ELEMENT|MAGNESIUM GRANULES COATED, [PARTICLE SIZE >= 149 MICRONS]|MAGNESIUM GRANULES, COATED|MAGNESIUM POWDER|MAGNESIUM SCRAP|PK 310|PK 31 (MAGNESIUM)|RIEKE'S ACTIVE MAGNESIUM	7439-95-4	A light silvery metal. The more finely divided material reacts with water to liberate hydrogen, a flammable gas, though this reaction is not as vigorous as that of sodium or lithium with water. In finely divided forms is easily ignited. Burns with an intense white flame. Can be wax coated to render magnesium as nonreactive.	5.0	1.0	1.0	2161.0	220.0	740.0	331.0	265.0	395.0	43.0	139.0	65.0	47.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
906	MALATHION	(BLOB)	121-75-5	Yellow to dark-brown liquid with a skunk-like odor. Sinks in water. Freezing point is 37Â°F. (USCG, 1999)	2.5	5.0	2.5	2161.0	220.0	744.0	331.0	265.0	395.0	43.0	140.0	65.0	47.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
907	MALEIC ACID	2-BUTENEDIOIC ACID (Z)-|BUTENEDIOIC ACID, (Z)-|2-BUTENEDIOIC ACID, (Z)-|CIS-1,2-ETHYLENEDICARBOXYLIC ACID|CIS-2-BUTENEDIOIC ACID|CIS-BUTENEDIOIC ACID|CIS-ETHYLENE-1,2-DICARBOXYLIC ACID|CIS-MALEIC ACID|1,2-ETHYLENEDICARBOXYLIC ACID, (Z)-|MALEIC ACID|MALEINIC ACID|MALENIC ACID|SCOTCHBOND MULTIPURPOSE ETCHANT|TOXILIC ACID|(Z)-1,2-ETHYLENEDICARBOXYLIC ACID|(Z)-2-BUTENEDIOIC ACID|(Z)-BUT-2-ENE-1,4-DIOIC ACID|(Z)-BUTENEDIOIC ACID	110-16-7	Maleic acid is a colorless crystalline solid having a faint odor. It is combustible though it may take some effort to ignite. It is soluble in water. It is used to make other chemicals and for dyeing and finishing naturally occurring fibers.	1.0	2.5	5.0	2161.0	220.0	744.0	331.0	265.0	395.0	43.0	140.0	65.0	47.0	Except for eye contact, exposures generally do not require treatment. EYES: flush with water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide. (USCG, 1999)
908	MALEIC HYDRAZIDE	ANTERGAN|ANTERGON|ANTYROST|BURTOLIN|CHEMFORM|DE-CUT|DE-SPROUT|1,2-DIHYDRO-3,6-PYRADIZINEDIONE|1,2-DIHYDRO-3,6-PYRIDAZINEDIONE|1,2-DIHYDROPYRIDAZINE-3,6-DIONE|(+/-)-3,6-DIHYDROXYPYRIDAZINE|3,6-DIHYDROXYPYRIDAZINE|3,6-DIOXOPYRIDAZINE|DREXEL-SUPER P|ENT 18,870|FAIR 30|FAIR PLUS|FAIR PS|3(2H)-PYRIDAZINONE, 6-HYDROXY-|HYDRAZIDE MALEIQUE|6-HYDROXY-2H-PYRIDAZIN-3-ONE|6-HYDROXY-3(2H)-PYRIDAZINONE|6-HYDROXY-3-(2H)-PYRIDAZINONE|KMH|MAH|MAINTAIN 3|MALAZIDE|MALEIC ACID CYCLIC HYDRAZIDE|MALEIC ACID HYDRAZIDE|MALEIC CYCLIC HYDRAZIDE|MALEIC	123-33-1	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2165.0	220.0	744.0	331.0	265.0	396.0	43.0	140.0	65.0	47.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
904	LUTIDENE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Violent explosions resulted when a spark was discharged in a 25-70% mixture of oxygen difluoride with oxygen over water [Mellor 2, Supp. 1:191. 1956]. Can explode on contact with water.	(BLOB)	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2190 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		-371	
905	MAGNESIUM POWDER	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Rapidly decomposes in water.	Borates, such as TRIMETHYL BORATE, behave similarly to esters in that they react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters/borates with alkali metals and hydrides.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)			less than 80																	
906	MALATHION	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Pure oxygen is a potent oxidizer. The N2 is inert, so much of the reactivity of this mixture is connected to the % content of each component. The higher the % content N2 the less reactive in terms of it being an oxidizing agent.	Strong Oxidizing Agent	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for oxygen, CAS number 7782-44-7	3	0	0	0	Oxidizer																						
907	MALEIC ACID		Safety goggles. (USCG, 1999)	Insoluble in water.	DIMETHYLPOLYSILOXANE is a weak reducing agent.								0		(USCG, 1999)			275 to 635																		
908	MALEIC HYDRAZIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	AMMONIUM NITRATE FERTILIZER is an oxidizing agent. Does not itself readily burn, but accelerates the burning of combustible material with which it may be contaminated. Produces toxic oxides of nitrogen during such reactions. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Mixtures with aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony) can be used as explosives. A number of explosions in which ammonium nitrate and aluminum were mixed with carbon or hydrocarbons, with or without oxidizing agents have occurred [Mellor 5:219 1946-47]. Mixtures with acetic acid ignite when warmed, especially if concentrated [Von Schwartz p. 322 1918]. Causes the decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
904	LUTIDENE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-230		760		(NIOSH, 2003)		54		(NIOSH, 2003)		0.5	ppm	(NIOSH, 2003)		0.02		%		Poison Gas(Oxidizer(Corrosive	F2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	23.0	3.0	4.0
905	MAGNESIUM POWDER																																								Flammable Liquid	C3H9BO3		17.0	1.0	45.0	3.0	4.0
906	MALATHION																																								Non-Flammable Gas	O2 (oxygen)|N2 (nitrogen)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	34.0	3.0	4.0
907	MALEIC ACID															(USCG, 1999)		0.98		68	(USCG, 1999)		greater than 300	760															DMP		(C2H6OSi)n		12.0	1.0	42.0	3.0	4.0
908	MALEIC HYDRAZIDE																																								Class 9	H4N.NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	21.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
909	MANGANESE	MANGANESE|MANGANESE METAL: COLLOIDAL MANGANESE|MANGANESE-55	7439-96-5	A lustrous brittle silvery solid. (NIOSH, 1997)	1.0	2.5	5.0	2169.0	220.0	744.0	331.0	265.0	397.0	43.0	140.0	65.0	47.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
910	MANGANESE NITRATE	MANGANESE DINITRATE|MANGANESE NITRATE|MANGANESE NITRATE (MN(NO3)2)|MANGANESE(2+) NITRATE|MANGANESE(II) NITRATE|MANGANOUS DINITRATE|MANGANOUS NITRATE	10377-66-9	A white crystalline solid. Denser than water. May ignite on contact with organic matter. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	2173.0	220.0	744.0	331.0	265.0	398.0	43.0	140.0	65.0	47.0	(BLOB)	Special Hazards of Combustion Products: Smoke contains zinc oxide, which can irritate lungs and cause metal fume fever. Behavior in Fire: Reacts spontaneously with air or oxygen and violently with water, evolving methane. Contact with water applied to adjacent fires will intensify fire. (USCG, 1999)	(BLOB)
911	M-CHLOROBENZOIC ACID	BENZOIC ACID, 3-CHLORO-|BENZOIC ACID, M-CHLORO-|3-CHLOROBENZOIC ACID|M-CHLOROBENZOIC ACID	535-80-8	PHYSICAL DESCRIPTION: Crystals or fluffy white powder. (NTP, 1992)	1.0	2.5	5.0	2177.0	220.0	748.0	331.0	265.0	399.0	43.0	141.0	65.0	47.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
912	M-CRESOL	CRESOL (META)|3-CRESOL|1-HYDROXY-3-METHYLBENZENE|3-HYDROXYTOLUENE|M-CRESOL|M-CRESOLE|M-CRESYLIC ACID|M-HYDROXYTOLUENE|M-KRESOL|M-METHYLPHENOL|M-OXYTOLUENE|M-TOLUOL|META-CRESOL|3-METHYL PHENOL|3-METHYLPHENOL	108-39-4	Colorless liquid with a sweet tarry odor. Sinks and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	2177.0	220.0	748.0	331.0	265.0	399.0	43.0	141.0	65.0	47.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
913	MEBENDAZOLE	2-BENZIMIDAZOLECARBAMIC ACID, 5-BENZOYL-, METHYL ESTER|(5-BENZOYL-1H-BENZIMIDAZOL-2-YL)-CARBAMIC METHYL ESTER|(5-BENZOYL-1H-BENZIMIDAZOL-2-YL)CARBAMIC ACID METHYL ESTER|5-BENZOYL-2-BENZIMIDAZOLE CARBAMIC ACID METHYL ESTER|5-BENZOYL-2-BENZIMIDAZOLECARBAMIC ACID METHYL ESTER|BESANTIN|MEBENDAZOLE|MEBENVET|MEBEX|METHYL 5-BENZOYL BENZIMIDAZOLE-2-CARBAMATE|METHYL 5-BENZOYL-2-BENZIMIDAZOLECARBAMATE|METHYL 5-BENZOYL-2-BENZIMIDAZOLYLCARBAMATE|NSC 184849|OVITELMIN|PANTELMIN|R 17635|TELMIN|VERMIRAX|VERMOX|VERPANYL	31431-39-7	PHYSICAL DESCRIPTION: White to slightly yellow powder. Pleasant taste. Practically water insoluble. (NTP, 1992)	1.0	2.5	5.0	2181.0	220.0	748.0	331.0	265.0	400.0	43.0	141.0	65.0	47.0	INHALATION: move from contaminated atmosphere; if respiratory discomfort persists, see a physician. INGESTION: give large amounts of water or warm salty water to induce vomiting and continue until vomitus is clear; obtain medical attention if abdominal discomfort persists. EYES: flush with large quantities of running water for a minimum of 15 min.; obtain medical help if irritation persists. SKIN: immediately flush affected areas with water; obtain medical help if irritation persists. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
909	MANGANESE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Hot aqueous solutions of the nitrate above 50% conc., under confinement may decompose explosively. This process is aided catalytically with such substances as nitric acid and chloride ion, [Chem. Abs., 1982, 97, 78074].	The decomposition, fire, and explosion hazards of AMMONIUM NITRATE have been well studied. This is in part due to several extremely severe explosion incidents that have occurred that have had significant loss of life and property [Chem. Eng., 1962, 70, 91]; [Bretherick, 5th Ed., 1995]. A mixture of ammonium nitrate and aluminum powder can be used as an explosive. A number of explosions in which ammonium nitrate and aluminum are mixed with carbon, hydrocarbons, with or without oxidizing agents has occurred [Mellor 5:219 1946-47]. A mixture of ammonium nitrate and acetic acid ignites when warmed, especially if concentrated [Von Schwartz, p. 322 1918]. Decomposition of sodium hypochlorite takes place within a few seconds with the following salts: ammonium acetate, ammonium carbonate, ammonium nitrate, ammonium oxalate, and ammonium phosphate [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																							
910	MANGANESE NITRATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Cartridge-type or fresh air mask for fumes or smoke; PVC fire- retardant or asbestos gloves; full face shield, safety glasses, or goggles; fire-retardant coveralls as standard wear; for special cases, use asbestos coat or rain suit. (USCG, 1999)	Highly flammable. Ignites in air and burns with a blue flame giving off a peculiar garlicky odor. Explodes in oxygen or ozone. Reacts violently with water to generate methane [Merck, 11th ed., 1989; Brauer(1965)]. Very slow oxidation with traces of air to give methylzinc methylate.	DIMETHYLZINC is very reactive, acts as a strong reducing agent. Combines with acids, with alcohols (methanol, ethanol), and 2-2-dichloropropane as well as with water with explosive violence. When heated to decomposition emits toxic fumes of zinc oxide [Bretherick, 5th ed., 1995, p. 354]. Oxidants may yield peroxide formation, which is explosive.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0														(USCG, 1999)		0		(USCG, 1999)		-44	
911	M-CHLOROBENZOIC ACID	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Sensitive to air and heat. Slightly soluble in water.	DI-N-AMYLAMINE neutralizes acids to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		124														(NTP, 1992)		-47	
912	M-CRESOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Water soluble.	PALLADIUM CHLORIDE is a weak oxidizing agent. It is reduced in solution by hydrogen or carbon monoxide to metallic palladium. (NTP, 1992). Decomposed at high temperatures to metallic palladium and chlorine.	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)	(DECOMP)	934	
913	MEBENDAZOLE		Disposable-type respirator; side-shield safety spectacles; full-brimmed hard hat; goggles; ammonia gas mask (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM PENTABORATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
909	MANGANESE																																									Oxidizer	NH4NO3 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	37.0	3.0	4.0
910	MANGANESE NITRATE														(USCG, 1999)		1.39		50.9		(USCG, 1999)		113		760		(USCG, 1999)		95.4											DMZ	Spontaneously Combustible|Dangerous When Wet	C2H6Zn		15.0	1.0	38.0	3.0	4.0
911	M-CHLOROBENZOIC ACID														(NTP, 1992)		0.7771		68		(NTP, 1992)			396 to 397	760		(NTP, 1992)		157.34						(NTP, 1992)	Slightly soluble (1-10 mg/ml)					Flammable Liquid|Poison	C10H23N	Mineral-Based & Clay-Based Absorbents	10.0	1.0	22.0	3.0	4.0
912	M-CRESOL														(NTP, 1992)		4		64								(NTP, 1992)		177.3						(NTP, 1992)	Soluble					Poison|Corrosive	Cl2Pd		10.0	1.0	29.0	3.0	4.0
913	MEBENDAZOLE														(USCG, 1999)		1.58		59								(USCG, 1999)		272.2											APB		(NH4)2B10O16.8H2O		11.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
914	MERCURIC CHLORIDE	ABAVIT B|BICHLORIDE OF MERCURY|CALOCHLOR|CORROSIVE MERCURY CHLORIDE|CORROSIVE SUBLIMATE|CRC|DICHLORO MERCURY|FUNGCHEX|MC|MERCURIC BICHLORIDE|MERCURIC CHLORIDE|MERCURIC CHLORIDE, [SOLID]|MERCURY (II) CHLORIDE|MERCURY BICHLORIDE|MERCURY CHLORIDE|MERCURY CHLOROMERCURATE(II) (HGCL2)|MERCURY DICHLORIDE|MERCURY DICHLORIDE (HGCL2)|MERCURY PERCHLORIDE|MERCURY(2+) CHLORIDE|MERCURY(II) CHLORIDE|NCI-C60173|PERCHLORIDE OF MERCURY|SUBLIMATE|SUBLIM|TL 898	7487-94-7	An odorless white crystalline solid. Density 5.4 g / cm3. Melting point 277Â°C. Slightly volatile at ordinary temperatures. Can be sublimed unchanged. Corrosive to the mucous membranes. Toxic by inhalation (dusts, etc.), ingestion, and skin absorption. Used in photography, disinfectants, wood preservatives, fungicides.	1.0	2.5	5.0	2185.0	220.0	748.0	331.0	269.0	401.0	43.0	141.0	65.0	48.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
915	MERCURIC OXIDE, [SOLID]	C.I. 77760|CI 77760|HYDRARGYRUM OXID FLAV|MERCURIC OXIDE|MERCURIC OXIDE (HGO)|MERCURIC OXIDE, RED|MERCURIC OXIDE, YELLOW|MERCURIC OXIDE, [SOLID]|MERCURIC OXIDES, RED AND YELLOW|MERCURY MONOXIDE|MERCURY OXIDE|MERCURY OXIDE(HGO)|MERCURY(2+) OXIDE|MERCURY(II) OXIDE|NATURAL MONTROYDITE|RED MERCURIC OXIDE|RED OXIDE OF MERCURY|RED PRECIPITATE|SANTAR|SANTAR M|YELLOW MERCURIC OXIDE|YELLOW OXIDE OF MERCURY|YELLOW PRECIPITATE	21908-53-2	Red or orange-red odorless, dense crystalline powder or scales, yellow when finely powdered. Used as a chemical intermediate for mercury salts, organic mercury compounds, and chlorine monoxide; antiseptic in pharmaceuticals; component of dry cell batteries; pigment and glass modifier; fungicide; preservative in cosmetics; analytical reagent; formerly used in antifouling paints. (EPA, 1998)	1.0	2.5	5.0	2189.0	220.0	748.0	331.0	269.0	402.0	43.0	141.0	65.0	48.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
916	MERCUROUS CHLORIDE	CALOMEL|MERCUROUS CHLORIDE|MERCURY MONOCHLORIDE|MERCURY PROTOCHLORIDE|MERCURY SUBCHLORIDE|MILD MERCURY CHLORIDE	10112-91-1	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2193.0	220.0	748.0	331.0	269.0	403.0	43.0	141.0	65.0	48.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. (USCG, 1999)	
917	MERCURY	MERCURY|MERCURY ELEMENT|MERCURY METAL|MERCURY METAL: COLLOIDAL MERCURY|MERCURY, METALLIC|MERCURY, [METALLIC]|METALLIC MERCURY|QUECKSILBER|QUICKSILVER	7439-97-6	An odorless, silvery metallic liquid. Insoluble in water. Toxic by ingestion, absorption and inhalation of the fumes. Corrosive to aluminum. Used as a catalyst in instruments, boilers, mirror coatings.	2.5	5.0	2.5	2193.0	220.0	748.0	331.0	269.0	403.0	43.0	141.0	65.0	48.0	(BLOB)	Flash point data are not available for this chemical. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
918	MERCURY IODIDE (RED)	DIIODOMERCURY|MERCURIC DIIODIDE|MERCURIC IODIDE|MERCURIC IODIDE RED|MERCURIC IODIDE, RED|MERCURIC IODIDE, [SOLID]|MERCURY BINIODIDE|MERCURY DIIODIDE|MERCURY IODIDE|MERCURY(2+) DIIODIDE|MERCURY(2+) IODIDE|MERCURY(II) IODIDE|RED MERCURIC IODIDE	7774-29-0	A scarlet-red odorless tasteless powder. Sensitive to light. Insoluble in water and sinks in water. At elevated temperatures turns yellow but turns back to red upon cooling. Poison.	1.0	2.5	5.0	2197.0	220.0	752.0	331.0	269.0	404.0	43.0	142.0	65.0	48.0	INHALATION: move to fresh air. INGESTION: give large amount of water; get medical attention. EYES OR SKIN: wash with water; consult physician. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes to form ammonia, hydrogen sulfide, and hydrogen cyanide. Oxides of nitrogen may also form. All of these products are toxic. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
914	MERCURIC CHLORIDE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	DINITOLMIDE reacts as an oxidizing agent. Has been known on at least one occasion to explode destructively. Incompatible with easily oxidized materials. Emits toxic NOx fumes if heated to decomposition.								0																	(NIOSH, 2003)		351	
915	MERCURIC OXIDE, [SOLID]	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	All three isomers of DINITROBENZENE have similar properties and may react vigorously with oxidizing materials. Their reaction with nitric acid (nitration) will lead to a mixture of trinitrobenzenes possessing high-explosive properties [Urbanski, 1967, vol. 3, p. 290]. If heat and reaction conditions of the nitration are not controlled, detonation comparable to TNT may occur [Anon., J. R. Inst. Chem., 1960, 84, p. 451]. Mixture of 1,3-dinitrobenzene with tetranitromethane was found highly explosive [Urbanski, 1964, vol. 1, 592]. 1,2-dinitrobenzene is a severe explosion hazard when shocked or exposed to heat or flame. When heated to decomposition all trinitrobenzenes emit toxic fumes of nitrogen oxides [Sax, 9th ed., 1996, p. 1374].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1,2-dinitrobenzene, CAS number 528-29-0.	3	1	4	5																								
916	MERCUROUS CHLORIDE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water soluble. Hot water [Note: Elevated temperatures cause a highly exothermic reaction with water (in the presence of acid)] (NIOSH, 1997).	AMMONIUM SULFAMATE is incompatible with the following: Acids, hot water [Note: Elevated temperatures cause a highly exothermic reaction with water (in the presence of acid).] (NIOSH, 1997).								0																	(USCG, 1999)		268	
917	MERCURY	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Heat (decomposition forming HCN, nitrous vapors, CO); water (CO_2); reacts violently with acids, bases, alcohols and amines causing fire and explosion hazards [Handling Chemicals Safely 1980 p. 647].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																	(NTP, 1992)		367 to 369	
918	MERCURY IODIDE (RED)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Rubber or plastic gloves; rubber or plastic apron; standard goggles (USCG, 1999)	Water soluble.	AMMONIUM THIOCYANATE can release ammonia vapors if mixed with a chemical base or with an acid. Violent or explosive reactions have occurred when thiocyanates are mixed with oxidizing agents (such as chlorates(potassium chlorate), nitrates, nitric acid, and peroxides). Nitric acid violently oxidized a thiocyanate solution [Bretherick 1979 p. 121]. An explosion of guanidine nitrate demolished an autoclave built to withstand 50 atmospheres, in which it was being made from ammonium thiocyanate and lead nitrate [C. Angew. Chem. 49:23 1936].	Strong Reducing Agent	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																	(USCG, 1999)		320	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
914	MERCURIC CHLORIDE																									(NIOSH, 2003)		225.2						(NIOSH, 2003)	Slight						(NO2)2C6H2(CH3)CONH2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	27.0	3.0	4.0
915	MERCURIC OXIDE, [SOLID]																																									Poison	C6H4N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	30.0	3.0	4.0
916	MERCUROUS CHLORIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)			greater than 1	68		(USCG, 1999)	Decomposes above 392.0Â° F					(USCG, 1999)		114.13		(NIOSH, 2003)		1500	mg/m3	(NIOSH, 2003)		200		%	ASM		H3NO3S.H3N		10.0	1.0	16.0	3.0	4.0
917	MERCURY																				(NTP, 1992)	(Decomposes)	543		760		(NTP, 1992)		109.13						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C6H7NO		12.0	1.0	19.0	3.0	4.0
918	MERCURY IODIDE (RED)														(USCG, 1999)	1.1-1.15 at 20Â°C (solution)		greater than 1.1	68		(USCG, 1999)	Solid decomposes					(USCG, 1999)		76.12											AMT	Class 9	CHNS.H3N		10.0	1.0	27.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
919	METHACRYLIC ACID	ALPHA-METHACRYLIC ACID|ALPHA-METHYLACRYLIC ACID|GE 110|METHACRYLIC ACID|METHACRYLIC ACID (GLACIAL)|METHACRYLIC ACID (INHIBITED)|METHACRYLIC ACID, INHIBITED|2-METHYL PROPENIC ACID|2-METHYL-2-PROPENOIC ACID|METHYLACRYLIC ACID|2-METHYLACRYLIC ACID|2-METHYLENEPROPIONIC ACID|2-METHYLPROPENOIC ACID|PROPENIONIC ACID, 2-METHYLENE	79-41-4	A clear colorless liquid (or low-melting solid) with a pungent odor. Corrosive to metals and tissue. Flash point 170Â°F. Melting point 61Â°F. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Less dense than water. Vapors heavier than air. Used to make plastics.	2.5	5.0	2.5	2197.0	220.0	752.0	331.0	269.0	404.0	43.0	142.0	65.0	48.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
920	METHACRYLIC ACID, INHIBITED	METHACRYLIC ACID, INHIBITED|METHACRYLIC ACID, [INHIBITED]|METHYACRYLIC ACID	79-41-4	A clear colorless liquid with a pungent odor. Corrosive to metals and tissue. Combustible. Flash point 170Â°F. Melting point 61Â°F. May polymerize if contaminated or heated. If polymerization takes place inside a closed container, the container may violently rupture. Less dense than water and is soluble in water. Vapors heavier than air. Used to make plastics.	2.5	5.0	2.5	2197.0	220.0	752.0	331.0	269.0	404.0	43.0	142.0	65.0	48.0	INGESTION: give milk or white of egg beaten with water; call a doctor. SKIN OR EYES: rinse with copious amounts of water. (USCG, 1999)	Behavior in Fire: Changes to formaldehyde gas, which is highly flammable. (USCG, 1999)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
921	METHACRYLOYL CHLORIDE	ALPHA-METHYLACRYLOYL CHLORIDE|METHACRYL CHLORIDE|METHACRYLIC ACID CHLORIDE|METHACRYLIC CHLORIDE|METHACRYLOYL CHLORIDE|METHACRYLYL CHLORIDE|2-METHYL-2-PROPENOYL CHLORIDE|METHYLACRYLOYL CHLORIDE|2-METHYLPROPENOIC ACID CHLORIDE|2-PROPENOYL CHLORIDE, 2-METHYL-	920-46-7	A liquid of density 1.07 g / cm3, boiling point 95-96Â°C, and flash point 55Â°F. Highly toxic. Supplied in technical grades of varying purity.	2.5	5.0	2.5	2197.0	224.0	752.0	335.0	273.0	404.0	44.0	142.0	66.0	49.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of sulfur oxides and nitrogen oxides. Avoid strong oxidizers. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Not combustible. (Non-Specific -- Pesticide, Solid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
922	METHANE	BIOGAS|FIRE DAMP|MARSH GAS|METHANE|METHANE, COMPRESSED|METHANE, REFRIGERATED LIQUID|METHYL HYDRIDE|NATURAL GAS|R 50|R 50 (REFRIGERANT)	74-82-8	Methane is a colorless odorless gas. It is also known as marsh gas or methyl hydride. It is easily ignited. The vapors are lighter than air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used in making other chemicals and as a constituent of the fuel, natural gas.	5.0	1.0	1.0	2197.0	224.0	752.0	335.0	273.0	404.0	44.0	142.0	66.0	49.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
923	METHANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	METHANE|METHANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)|METHANE, [REFRIGERATED LIQUID]	74-82-8	Colorless odorless liquid. Flammable. Water insoluble.	2.5	5.0	2.5	2197.0	224.0	752.0	335.0	273.0	404.0	44.0	142.0	66.0	49.0	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
919	METHACRYLIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Aqueous solutions are weakly acidic.	TETRAPROPYLAMMONIUM BROMIDE is hygroscopic. This chemical is incompatible with strong oxidizing agents. (NTP, 1992).							0																					(NTP, 1992)		486	
920	METHACRYLIC ACID, INHIBITED	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; protective clothing. (USCG, 1999)	Flammable. Forms aqueous solution of formaldehyde, often quite slowly.	PARAFORMALDEHYDE may react violently with strong oxidizing agents (hydrogen peroxide, performic acid, perchloric acid in the presence of aniline, potassium permanganate, nitromethane). May react with bases (sodium hydroxide, potassium hydroxide, ammonia), and with nitrogen dioxide (explosive reaction around 180Â°C). Reacts with hydrochloric acid to form highly toxic bis(chloromethyl) ether. Polymerization reaction with phenol may develop sudden destructive pressure [Bretherick, 5th ed., 1995, p.168]. May generate flammable and/or toxic gases in combination with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Generates toxic formaldehyde gas when heated. Can react with air to give first peroxo acids, and ultimately formic acid. These reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). Incompatible with liquid oxygen.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(USCG, 1999)	(approx.)	160		(USCG, 1999)	(formaldehyde gas)	7		%	(USCG, 1999)	(formaldehyde gas)	73		%	(USCG, 1999)		572		(USCG, 1999)		342	
921	METHACRYLOYL CHLORIDE	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When PARAQUAT METHOSULFATE is heated to decomposition, it emits very toxic fumes of sulfur oxides and nitrogen oxides. Avoid strong oxidizers. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
922	METHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as TRIMETHYL ISOCYANURATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Polyurethanes are formed by the condensation reaction of diisocyanates with, for example, ethyl glycol.						0																						(NTP, 1992)		349 to 351	
923	METHANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	PARATHION is a light-yellow liquid mixed with a carrier gas, it turns solid at 6Â° C, a deadly poison by all routes. Organic phosphate insecticide, acts as an inhibitor of cholinesterase. Violent reaction when used as solvent to dissolve endrin. When heated to decomposition it emits very toxic fumes of oxides of sulfur, phosphorus and nitrogen [Lewis, 3rd ed., 1993, p. 984].		Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1967 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
919	METHACRYLIC ACID																									(NTP, 1992)		266.27						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL			C12H28N.Br		10.0	1.0	34.0	3.0	4.0
920	METHACRYLIC ACID, INHIBITED														(USCG, 1999)		1.46		59								(USCG, 1999)	(approx.)	600												PFA	Flammable Solid	HO(CH2O)xH	Cellulose-Based Absorbents	10.0	1.0	34.0	3.0	4.0
921	METHACRYLOYL CHLORIDE	(EPA, 1998)	Approximately 0																		(EPA, 1998)	Decomposes at 347-356Â° F					(EPA, 1998)		408.48												Poison	C12H14N2.2CH3O4S		11.0	1.0	20.0	3.0	4.0
922	METHANE																				(NTP, 1992)		525		760		(NTP, 1992)		171.16													C6H9N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	18.0	1.0	32.0	3.0	4.0
923	METHANE, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																														(NIOSH, 2003)	(as parathion)	10	mg/m3						Poison Gas	C10H14NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
924	METHANESULFONYL CHLORIDE	CHLORO METHYL SULFONE|MESYL CHLORIDE|METHANE SULPHONYL CHLORIDE|METHANESULFONIC ACID CHLORIDE|METHANESULFONYL CHLORIDE|METHANESULPHONYL CHLORIDE|METHYL SULFOCHLORIDE|METHYLSULFONYL CHLORIDE	124-63-0	A pale yellow corrosive liquid. More dense than water and insoluble in water. Very toxic by ingestion, inhalation, or skin absorption.	2.5	5.0	2.5	2201.0	224.0	752.0	335.0	273.0	405.0	44.0	142.0	66.0	49.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
925	METHOTREXATE	(BLOB)	59-05-2	PHYSICAL DESCRIPTION: Odorless yellow to orange-brown crystalline powder. (NTP, 1992) It is a chemotherapy drug that interferes with DNA and RNA synthesis.	1.0	2.5	5.0	2205.0	224.0	756.0	335.0	273.0	406.0	44.0	143.0	66.0	49.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
926	METHOXONE	(4-CHLORO-2-METHYLPHENOXY) ACETIC ACID|MCPA|METHOXONE	94-74-6	Colorless plates. Corrosive. Practically insoluble in water. Used as an herbicide.	1.0	2.5	5.0	2205.0	224.0	756.0	335.0	273.0	406.0	44.0	143.0	66.0	49.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
927	METHYL ACETATE	ACETIC ACID, METHYL ESTER|DEVOTON|METHYL ACETATE|METHYL ESTER ACETIC ACID|METHYL ESTER OF ACETIC ACID|METHYL ETHANOATE|TERETON	79-20-9	A clear colorless liquid with a fragrant odor. Moderately toxic. Flash point 14Â°F. Vapors heavier than air.	2.5	5.0	2.5	2205.0	224.0	756.0	335.0	273.0	406.0	44.0	143.0	66.0	49.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
928	METHYL ACRYLATE, INHIBITED	ACRYLIC ACID METHYL ESTER|ACRYLIC ACID, METHYL ESTER|CURITHANE 103|METHOXYCARBONYLETHYLENE|METHYL 2-PROPENOATE|METHYL ACRYLATE|METHYL ACRYLATE, INHIBITED|METHYL ACRYLATE, [INHIBITED]|METHYL ACRYLIC ESTER|METHYL ESTER 2-PROPENOIC ACID|METHYL ESTER ACRYLIC ACID|METHYL ESTER OF ACRYLIC ACID|METHYL PROP-2-ENOATE|METHYL PROPENATE|METHYL PROPENOATE|METHYL-2-PROPENOATE|PROPENOIC ACID METHYL ESTER|2-PROPENOIC ACID METHYL ESTER	96-33-3	Colorless volatile liquid with an acrid odor. Flash point 27Â°F. Vapors may irritate the eyes and respiratory system. Highly toxic by inhalation, ingestion and skin absorption. Less dense than water (0.957 gm / cm3) and slightly soluble in water, hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	2205.0	224.0	756.0	335.0	273.0	406.0	44.0	143.0	66.0	49.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fires involving this chemical should be extinguished with water, foam, carbon dioxide and/or dry chemical. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
924	METHANESULFONYL CHLORIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is slightly soluble in water.	Light-yellow liquid, it turns solid at 6Â° C and is a deadly poison by all routes. It is an organic phosphate insecticide, and acts as an inhibitor of cholinesterase. A violent reaction occurs when used as solvent to dissolve endrin. When heated to decomposition it emits very toxic fumes of oxides of sulfur, phosphorus and nitrogen [Lewis, 3rd ed., 1993, p. 984].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
925	METHOTREXATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Slightly soluble in water.	Ethers, such as DIPROPYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)		70																			
926	METHOXONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Suggested Glove Type(s): Butyl rubber (to 70 minutes) (NTP, 1992)	Water insoluble.	1-ACETYL-2-PHENYLHYDRAZIDE is an amide and an amine. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			264 to 270
927	METHYL ACETATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		286																			
928	METHYL ACRYLATE, INHIBITED	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		383																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
924	METHANESULFONYL CHLORIDE																													(NIOSH, 2003)	(as parathion)	10	mg/m3							Poison	C10H14NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	43.0	3.0	4.0
925	METHOTREXATE																																								Flammable Liquid	C6H14O		11.0	1.0	38.0	3.0	4.0
926	METHOXONE																											(NTP, 1992)		150.18						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C8H10N2O	Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
927	METHYL ACETATE														(NTP, 1992)		1.4				(NTP, 1992)			725 to 788	760															Class 9			13.0	1.0	32.0	3.0	4.0
928	METHYL ACRYLATE, INHIBITED														(NTP, 1992)		1.44		86		(NTP, 1992)			644 to 707	760															Class 9			15.0	1.0	38.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
929	METHYL ANTHRANILATE	2-AMINOBENZOIC ACID METHYL ESTER|ANTHRANILIC ACID, METHYL ESTER|BIRD SHIELD|2-CARBOMETHOXYANILINE|2-(METHOXYCARBONYL)ANILINE|METHY ORTHO-AMINOBENZOATE|METHYL 2-AMINOBENZOATE|METHYL ANTHRANILATE|METHYL O-AMINOBENZOATE|NEROLI OIL, ARTIFICIAL|O-AMINOBENZOIC ACID METHYL ESTER|O-CARBOMETHOXYANILINE|REJEX-IT|REJEX-IT AP 50|REJEX-IT TP 40	134-20-3	PHYSICAL DESCRIPTION: Clear colorless to tan liquid with an odor of grapes. Has light blue fluorescence. (NTP, 1992)	2.5	5.0	2.5	2209.0	224.0	756.0	335.0	273.0	407.0	44.0	143.0	66.0	49.0	(BLOB)	Special Hazards of Combustion Products: Irritating and toxic hydrogen chloride and oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
930	METHYL BROMIDE	BROM-O-GAS|BROMOMETHANE|1-BROMOMETHANE|CURAFUME|DOWFUME MC-2 SOIL FUMIGANT|DOWFUME MC-33|EDCO|EMBAFUME|HALON 1001|HALTOX|ISCOBROME|KAYAFUME|M-B-C FUMIGANT|MB|MBX|MEBR|METAFUME|METHANE, BROMO-|METHOGAS|METHYL BROMIDE|METHYL BROMIDE, LIQUID, [WITH < 2% CHLOROPICRIN]|MONOBROMOMETHANE|PESTMASTER|PROFUME|R 40B1|ROTOX|TERABOL|TERR-O-GAS 100	74-83-9	Colorless highly toxic volatile liquid or a gas. Boiling point 3.56Â°C (38.41Â°F). Usually odorless, but has a sweetish chloroform-like odor at high concentrations. Used as an insecticide, a rodenticide, a fumigant, a nematocide, a chemical intermediate and as a fire extinguishing agent. (EPA, 1998)	2.5	5.0	2.5	2213.0	224.0	756.0	335.0	277.0	408.0	44.0	143.0	66.0	50.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
931	METHYL BROMIDE AND NONFLAMMABLE, NONLIQUEFIED COMPRESSED GAS MIXTURE	BROM-O-GAS|BROMOMETHANE|1-BROMOMETHANE|CURAFUME|DOWFUME MC-2|DOWFUME MC-33|EDCO|EMBAFUME|HALON 1001|HALTOX|ISCOBROME|MB|MBX|MEBR|METAFUME|METHOGAS|METHYL BROMIDE|METHYL BROMIDE AND NONFLAMMABLE, NONLIQUEFIED COMPRESSED GAS MIXTURE|METHYL BROMIDE-NONFLAMMABLE, NONLIQUIFIED COMPRESSED GAS MIXTURE, [LIQUID]|MONOBROMOMETHANE|PESTMASTER|PROFUMER 40B1|ROTOX|TERABOL|TERR-O-GAS 100|ZYTOX	74-83-9	A colorless odorless gas at room temperature and pressure. Readily liquefied by moderate pressure or by cooling to 4.5oC. A poison that causes respiratory distress and neurotoxic effects from which recovery may be slow. Often "stenched" with chloropicrin in use, which adds an irritating chloroform-like odor. Prolonged or repeated skin contact may cause severe burns and possible absorption of toxic quantities. Mixed with a non-reactive, nonflammable gas to dilute and carry for use as a fumigant. This mixture is then handled as a gas. Under prolonged exposure to fire or intense heat the container may rupture violently and rocket.	5.0	1.0	1.0	2213.0	224.0	756.0	335.0	277.0	408.0	44.0	143.0	66.0	50.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Special Hazards of Combustion Products: Toxic fumes of P0 x (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
932	METHYL BROMOACETATE	BROMOACETIC ACID METHYL ESTER|CARBOMETHOXYMETHYL BROMIDE|METHYL 2-BROMOACETATE|METHYL ALPHA-BROMOACETATE|METHYL BROMOACETATE|METHYL MONOBROMOACETATE	96-32-2	A colorless to straw-colored liquid with a sharp penetrating odor. Denser than water and soluble in water. Severly irritates skin and eyes. Toxic by ingestion and inhalation. Used to make vitamins and pharmaceuticals.	2.5	5.0	2.5	2213.0	224.0	756.0	339.0	277.0	408.0	44.0	143.0	67.0	50.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
933	METHYL CELLULOSE	(BLOB)	9004-67-5	PHYSICAL DESCRIPTION: Odorless white or creamy white fibrous powder. Tasteless. (NTP, 1992)	1.0	2.5	5.0	2217.0	224.0	756.0	339.0	277.0	409.0	44.0	143.0	67.0	50.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air; indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
929	METHYL ANTHRANILATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; chemical goggles; protective clothing; dust respirator. (USCG, 1999)	Insoluble in cold water. Soluble in hot water [Hawley].	P-CHLOROANILINE is incompatible with oxidizing agents. Also incompatible with acids, acid chlorides, acid anhydrides and chloroformates. Subject to exothermic decomposition during high-temperature distillation. Incompatible with nitrous acid. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		235		(NTP, 1992)		2.2		%									(NTP, 1992)		162.5	
930	METHYL BROMIDE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Light sensitive Moisture sensitive Air sensitive	YTTRIUM in bulk is stable in air due to the formation of oxide films. Powder or dust is light-sensitive and air-sensitive and flammable in the air and (Hazardous Chemicals Desk Reference, p. 861 (1987)). Reacts with water to form gaseous hydrogen (H2). Reacts with strong oxidizing agents, strong acids, strong bases, and halogens. The products of these reactions are irritating and toxic.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NIOSH, 2003)		2732	
931	METHYL BROMIDE AND NONFLAMMABLE, NONLIQUEFIED COMPRESSED GAS MIXTURE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water and denser than water. Slowly reacts with water to form phosphoric acid and corresponding organic alcohol.	As soon as TRIMETHYL PHOSPHITE contacted a small amount of magnesium perchlorate in a flask, there was a flash and an explosion that shattered the flask (Allison 1968).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)		82														(USCG, 1999)		-108	
932	METHYL BROMOACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Highly flammable. Insoluble in water.	P-CHLOROBENZOTRIFLUORIDE is sensitive to heat and light. This chemical reacts vigorously with oxidizing materials such as permanganates and dichromates. It is incompatible with strong bases. It is also incompatible with sodium dimethyl sulfonate. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		117														(NTP, 1992)		-33	
933	METHYL CELLULOSE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	AMYL ACID PHOSPHATE is an organophosphate. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
929	METHYL ANTHRANILATE	(NTP, 1992)	; 0.05 mm Hg at 86Â° F	0.015		68		mm Hg	(NTP, 1992)		4.41				(USCG, 1999)		1.43		66.2		(NTP, 1992)		450		760		(NTP, 1992)		127.57						(NTP, 1992)	at 74.3Â° F		less than 1	mg/mL	CAP	Poison	C6H6ClN			10.0	1.0	38.0	3.0	4.0
930	METHYL BROMIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		4.47				(NIOSH, 2003)		5301		760		(NIOSH, 2003)		88.9		(NIOSH, 2003)	(as Y)	500	mg/m3	(NIOSH, 2003)	Soluble in hot H2O					Flammable Solid	Y		11.0	1.0	18.0	3.0	4.0
931	METHYL BROMIDE AND NONFLAMMABLE, NONLIQUEFIED COMPRESSED GAS MIXTURE	(NIOSH, 2003)		24		77		mm Hg							(USCG, 1999)		1.046		68		(USCG, 1999)		232		760		(USCG, 1999)		124.08						(NIOSH, 2003)	Reacts with water				TPP	Flammable Liquid	C3H9O3P		11.0	1.0	18.0	3.0	4.0
932	METHYL BROMOACETATE	(NTP, 1992)	; 5 mm Hg at 76.5Â° F	1		32		mm Hg	(NTP, 1992)		6.24				(NTP, 1992)		1.34				(NTP, 1992)		277 to 280		760		(NTP, 1992)		180.56						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid	C7H4ClF3			10.0	1.0	35.0	3.0	4.0
933	METHYL CELLULOSE																																								Corrosive	C5H12O.xH3O4P			14.0	1.0	35.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
934	METHYL CHLORIDE	ARTIC|CHLOROMETHANE|HCC 40|METHANE, CHLORO-|METHYL CHLORIDE|MONOCHLOROMETHANE|R 40|R 40 (REFRIGERANT)|REFRIGERANT GAS R-40	74-87-3	A colorless gas with a faint sweet odor. Shipped as a liquid under its vapor pressure. A leak may either be liquid or vapor. Contact with the liquid may cause frostbite by evaporative cooling. Easily ignited. Vapors heavier than air. Can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Used to make other chemicals and as a herbicide.	5.0	1.0	1.0	2217.0	224.0	756.0	339.0	277.0	409.0	44.0	143.0	67.0	50.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
935	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE|METHYL CHLORIDE-METHYLENE CHLORIDE MIXTURE|METHYLENE CHLORIDE AND METHYL CHLORIDE MIXTURE	74-87-3	Methyl chloride-methylene chloride is a colorless gas with a faint sweet odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. The vapors are heavier than air. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	2217.0	224.0	756.0	339.0	277.0	409.0	44.0	143.0	67.0	50.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
936	METHYL DOPA	(BLOB)	555-30-6	PHYSICAL DESCRIPTION: Colorless or almost colorless crystals or white to yellowish-white fine powder. Almost tasteless. In the sesquihydrate form. pH (saturated aqueous solution) about 5.0. (NTP, 1992)	1.0	2.5	5.0	2217.0	224.0	756.0	339.0	277.0	409.0	44.0	143.0	67.0	50.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
937	METHYL ETHYL KETONE PEROXIDE	2-BUTANONE PEROXIDE|2-BUTANONE, PEROXIDE|BUTANOX LPT|BUTANOX M 105|BUTANOX M 50|BUTANOX M50, M105, LPT|CHALOXYD MEKP-HA 1|CHALOXYD MEKP-HA 1, -LA 1|CHALOXYD MEKP-LA 1|COMPONENT 1: 2-BUTANONE PEROXIDE (45%)|COMPONENT 2: DIMETHYL PHTHALATE|DELTA X 9|DIPROMETIL LA 50R|ETHYL METHYL KETONE PEROXIDE|ETHYLMETHYLKETONE PEROXIDE|FR 222|HI-POINT 180|KAYAMEK A|KAYAMEK M|KETONOX|LUCIDOL DDM 9|LUCIDOL DELTA X|LUPERSOL DDA 30|LUPERSOL DDM|LUPERSOL DDM 9|LUPERSOL DELTA X|LUPERSOL DELTA X 9|LUPERSOL DHD	1338-23-4	Colorless liquid. Strong irritant to skin and tissue. Used as an initiator for room temperature cure of unsaturated polyester resins.	2.5	5.0	2.5	2221.0	228.0	756.0	339.0	281.0	410.0	45.0	143.0	67.0	51.0	(BLOB)	Special Hazards of Combustion Products: Vapors are irritating. Toxic chlorine, hydrogen chloride, and phosgene gases may be generated in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
938	METHYL ETHYL KETOXIME	ARON M 1|BUTANONE OXIME|2-BUTANONE, OXIME|2-BUTOXIME|ETHYL METHYL KETONE OXIME|ETHYL METHYL KETOXIME|EXKIN 2|EXKIN II|MEK-OXIME|MEKOR 70|METHYL ETHYL KETONE OXIME|METHYL ETHYL KETOXIME|SKINO #2|TROYKYD ANTI-SKIN B|USAF AM-3|USAF DO-44|USAF EK-906	96-29-7	PHYSICAL DESCRIPTION: Clear colorless liquid with a musty odor. (NTP, 1992)	2.5	5.0	2.5	2225.0	228.0	760.0	339.0	281.0	411.0	45.0	144.0	67.0	51.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
934	METHYL CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	ZEARALANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.							0																						(NTP, 1992)			352 to 356
935	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	ZEARALENONE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical may be incompatible with alkalis.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						(NTP, 1992)			327 to 329
936	METHYL DOPA	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DI-N-PROPYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C. owing to self-accelerating exothermic decomposition: Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																													
937	METHYL ETHYL KETONE PEROXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Insoluble in water.	P-DICHLOROBENZENE is incompatible with oxidizing agents. It is also incompatible with aluminum and its alloys. It liquefies when mixed with camphor, phenol and salol. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		150		(NTP, 1992)		2.5		%									(NTP, 1992)		127	
938	METHYL ETHYL KETOXIME	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	PEBULATE is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																													

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
934	METHYL CHLORIDE																										(NTP, 1992)		322.44						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C18H26O5		18.0	1.0	43.0	3.0	4.0
935	METHYL CHLORIDE AND METHYLENE CHLORIDE MIXTURE	(NTP, 1992)		0		68		mm Hg																			(NTP, 1992)		318.4						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Corrosive	C18H22O5	Dirt/Earth	18.0	1.0	43.0	3.0	4.0
936	METHYL DOPA																																								Organic Peroxide	C8H14O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	38.0	3.0	4.0
937	METHYL ETHYL KETONE PEROXIDE	(NTP, 1992)	; 1.8 mm Hg at 86Â° F	0.6		68		mm Hg	(NTP, 1992)		5.08				(USCG, 1999)		1.458		68		(NTP, 1992)		345		760		(NTP, 1992)		147		(NIOSH, 2003)	; A potential human carcinogen.	150	ppm	(NTP, 1992)	at 73Â° F		less than 1	mg/mL	DBP	Class 9	C6H4Cl2		18.0	1.0	30.0	3.0	4.0
938	METHYL ETHYL KETOXIME																																								Class 9	C10H21NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
939	METHYL FORMATE	FORMIC ACID, METHYL ESTER|METHANOIC ACID METHYL ESTER|METHYL ESTER OF FORMIC ACID|METHYL FORMATE|METHYL METHANOATE|R 611	107-31-3	A clear colorless liquid with an agreeable odor. Flash point -27Â°F. Less dense than water Vapors heavier than air.	2.5	5.0	2.5	2225.0	228.0	760.0	339.0	281.0	411.0	45.0	144.0	67.0	51.0			
940	METHYL ISOBUTYL CARBINOL	1,3-DIMETHYL-1-BUTANOL|DL-METHYLISOBUTYLCARBINOL|ISOBUTYL METHYLMETHANOL|ISOBUTYLMETHYLCARBINOL|ISOBUTYLMETHYLMETHANOL|M.I.B.C.|MAAJMAOH|METHYL AMYL ALCOHOL|METHYL ISOBUTYL CARBINOL|4-METHYL-2-AMYL ALCOHOL|(+-)-4-METHYL-2-PENTANOL|4-METHYL-2-PENTANOL|4-METHYL-2-PENTYL ALCOHOL|2-METHYL-4-PENTANOL|METHYLAMYL ALCOHOL|METHYLISOBUTYLCARBINOL|MIBC|MIC|3-MIC	108-11-2	A clear colorless liquid. Flash point 120Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	2225.0	228.0	760.0	339.0	281.0	411.0	45.0	144.0	67.0	51.0	(BLOB)	Ignites spontaneously in air. Reacts violently with halogenated extinguishing agents. Boron hydrides present considerable fire and explosion hazard. They undergo explosive reaction with most oxidizing agents, including halogenated hydrocarbons. Fires tend to reignite. On decomposition, it emits toxic fumes and can react vigorously with oxidizing materials. Avoid dimethyl sulfoxide, water, most oxidizing agents (including halogenated hydrocarbons). Avoid direct sunlight and sources of ignition, decomposes very slowly at 302. Hazardous polymerization may not occur. (EPA, 1998)	Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Wear positive pressure breathing apparatus and full protective clothing. Evacuation: if fire becomes uncontrollable or container is exposed to direct flame -- evacuate for a radius of 1,500 feet. If material is leaking (not on fire), downwind evacuation must be considered. If material is on fire or involved in fire, do not extinguish unless flow can be stopped. Do not use water. Extinguish small fires with dry chemical or carbon dioxide. For large fires withdraw and let burn. (EPA, 1998)
941	METHYL ISOBUTYL KETONE PEROXIDE	ISOBUTYL METHYL KETONE PEROXIDE|KAYAMEKB|METHYL ISOBUTYL KETONE PEROXIDE|TRIGONOX HM 80	37206-20-5	A colorless liquid shipped with not more than 62% peroxide in solution of methyl isobutyl ketone. Crystallizes when dry. May explode from heat, shock or friction when dry.	2.5	5.0	2.5	2229.0	228.0	760.0	339.0	281.0	412.0	45.0	144.0	67.0	51.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
942	METHYL OCTANOATE	CAPRYLIC ACID METHYL ESTER|METHYL CAPRYLATE|METHYL N-OCTANOATE|METHYL OCTANOATE|PASTELL M 08|UNIPHAT A 20	111-11-5	A colorless liquid. Insoluble in water and about the same density as water. Used to make other chemicals.	2.5	5.0	2.5	2229.0	228.0	760.0	339.0	281.0	412.0	45.0	144.0	67.0	51.0	(BLOB)	Special Hazards of Combustion Products: Generates toxic and irritating vapors. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
943	METHYL STEARATE	KEMESTER 9718|METHYL N-OCTADECANOATE|METHYL OCTADECANOATE|METHYL STEARATE|N-OCTADECANOIC ACID METHYL ESTER|OCTADECANOIC ACID, METHYL ESTER|PASTELL M 180|STEARIC ACID METHYL ESTER|STEARIC ACID, METHYL ESTER	112-61-8	PHYSICAL DESCRIPTION: White crystals or chunky solid. (NTP, 1992)	1.0	2.5	5.0	2229.0	228.0	760.0	339.0	281.0	412.0	45.0	144.0	67.0	51.0	EYES: irrigate with copious volumes of water for at least 15 min.; call physician. SKIN: rinse off with water. INGESTION: drink large amounts of water. (USCG, 1999)	Behavior in Fire: Causes foaming and spreading of water. Assists in putting out fires by water. (USCG, 1999)	
944	METHYLAL	ANESTHENYL|BIS(METHOXY)METHANE|DIMETHOXYMETHANE|DIMETHYL FORMAL|2,4-DIOXAPENTANE|FORMAL|FORMALDEHYDE DIMETHYL ACETAL|FORMALDEHYDE DIMETHYLACETAL|FORMALDEHYDE DIMETHYLACETOL|FORMALDEHYDE METHYL KETAL|METHOXYMETHYL METHYL ETHER|METHYL FORMAL|METHYLAL|METHYLENE DIMETHYL ETHER	109-87-5	A clear colorless liquid with a chloroform-like odor. Flash point 0Â°F. Boiling point 42.3Â°C. Density 0.864 g / cm3 at 68Â°F (20Â°C). Vapors heavier than air.	2.5	5.0	2.5	2229.0	228.0	760.0	339.0	281.0	412.0	45.0	144.0	67.0	51.0	(BLOB)	Decomposes violently at 230F. When heated to decomposition, this compound emits acrid smoke and fumes. Runoff to sewer may create a fire or explosion hazard. Powerful oxidizer. Isolate from other stored material, particularly accelerators, oxidizers, and organic or flammable materials. Avoid shock and heat. Hazardous polymerization may not occur. (EPA, 1998)	If fire occurs in the vicinity of this compound, water should be used to keep containers cool. Cleanup and salvage operations should not be attempted until all of the peroxyacetic acid solution has cooled completely. Keep unnecessary people away; wear self-contained breathing apparatus and full protective clothing. Fight fires from an explosion-resistant location. In advanced or massive fires, area should be evacuated. For small fires: use dry chemical, carbon dioxide, water spray, or foam. For large fires: flood area with water. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
939	METHYL FORMATE			No rapid reaction with air. No rapid reaction with water.	Peroxides, such as PELARGONYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises.	Explosive; Strong Oxidizing Agent							0																							
940	METHYL ISOBUTYL CARBINOL	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Highly flammable. May ignite spontaneously in air [Merck 11th ed. 1989]. Slowly decomposes in water.	PENTABORANE is an extremely reactive reducing agent. Can ignite spontaneously in contact with air and many other materials. Reactions with oxygen are often violently explosive. Reacts with ammonia to form a diammoniate. Is stabilized by the formation of complexes with N, O, P, or S. Is stable in hydrocarbon solvents, but forms shock sensitive solutions in most carbonyl containing solvents.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1380 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6		(EPA, 1998)		86		(EPA, 1998)		0.42		%	(EPA, 1998)		98		%	(USCG, 1999)	Spontaneously flammable if impure. Approx. 35Â°C when pure.			(EPA, 1998)		-51.9	
941	METHYL ISOBUTYL KETONE PEROXIDE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided (when chemical is in solution) in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TETRASODIUM PYROPHOSPHATE is basic. Reacts exothermically with acids. Incompatible with strong oxidizing agents. Decomposes in ethyl alcohol.					0																							
942	METHYL OCTANOATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water.	PENTACHLOROPHENOL may react with strong oxidizing agents. Incompatible with strong bases, acid chlorides and acid anhydrides. Forms salts with alkaline metals. Solutions in oil cause natural rubber to deteriorate, but synthetic rubber may be used in equipment and for protective clothing (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																(USCG, 1999)	Not flammable			(NTP, 1992)		376	
943	METHYL STEARATE		Chemical goggles; rubber gloves; dust respirator. (USCG, 1999)	Mixes slowly with water.	DIOCTYL SODIUM SULFOSUCCINATE causes foaming and spreading of water. Assists in putting out fires by water. (USCG, 1999).							0																		(USCG, 1999)		311	
944	METHYLAL	Caution : Peracetic acid is a strong oxidizer. Fire or other violent reactions may occur upon contact with combustible organic material. Avoid breathing vapors. Do not touch the spilled material; shut off all ignition sources and stop the leak if this can be done without risk. The spilled material should be absorbed with a noncombustible absorbent such as vermiculite. Sweep up and place in a metal container for immediate disposal. Do not use spark-generating metals or organic materials for sweeping up or handling spilled material. Dispose of the absorbed peroxyacetic acid solution, in small quantities at a time, by placing it on the ground in a remote outdoor area and igniting with a long torch. Empty containers should be washed with a 10% sodium hydroxide solution. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water	Self-reactive. Peracids should be handled only in small quantities and with extreme care when pure or very concentrated. Organic peracids, such as peracetic acid, are so unstable that they may explode during distillation, even under reduced pressure [NFPA 1991].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	4	6	Oxidizer	(EPA, 1998)	Peracetic Acid, 60% Acetic Acid Solution	105												(USCG, 1999)		392		(EPA, 1998)			-22 to 32

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
939	METHYL FORMATE																																									C18H34O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	18.0	3.0	4.0
940	METHYL ISOBUTYL CARBINOL	(EPA, 1998)		171		68		mm Hg							(EPA, 1998)		0.61		32		(EPA, 1998)		140		760		(EPA, 1998)		63.17		(NIOSH, 2003)		1	ppm	(NIOSH, 2003)	Reacts with water			PTB		Spontaneously Combustible|Poison Inhalation Hazard	B5H9		12.0	1.0	25.0	3.0	4.0
941	METHYL ISOBUTYL KETONE PEROXIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.45				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		265.9						(NIOSH, 2003)	at 77Â° F	7		%			Na4P2O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	13.0	3.0	4.0
942	METHYL OCTANOATE	(NTP, 1992)	; 40 mm Hg at 412.2Â° F	0.00011		68		mm Hg	(NTP, 1992)		9.2				(USCG, 1999)		1.98		59		(NTP, 1992)	(with decomposition)		588 to 590	760		(NTP, 1992)		266.34		(NIOSH, 2003)		2.5	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	PCP	Poison	C6HCl5O		10.0	1.0	19.0	3.0	4.0
943	METHYL STEARATE														(USCG, 1999)	(solid or liquid)	1.1		68								(USCG, 1999)		444											DSS		C20H38O7S.Na		12.0	1.0	28.0	3.0	4.0
944	METHYLAL														(EPA, 1998)		1.226		59		(EPA, 1998)		221		760		(EPA, 1998)		76.05											PAA	Organic Peroxide	C2H4O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	20.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
945	METHYLAMINE, ANHYDROUS	AMINOMETHANE|CARBINAMINE|MERCURIALIN|METHANAMINE|METHYLAMINE|METHYLAMINE (ANHYDROUS)|METHYLAMINE (AQUEOUS)|METHYLAMINE, ANHYDROUS|METHYLAMINE, [ANHYDROUS]|METHYLAMINES (MONO-, DI-, AND TRIMETHYLAMINE)|MONOMETHYLAMINE	74-89-5	A colorless gas or a liquid. Pungent fishy odor resembling odor of ammonia. The liquid boils at 20.3Â°F hence vaporizes rapidly when unconfined. Vapors are heavier than air and may collect in low-lying areas. Easily ignited under most conditions. Under prolonged exposure to intense heat the containers may rupture violently and rocket. Used for making pharmaceuticals, insecticides, paint removers, surfactants, rubber chemicals.	5.0	1.0	1.0	2233.0	228.0	760.0	339.0	281.0	413.0	45.0	144.0	67.0	51.0	EYES: flush with water to remove dust. INGESTION: immediately induce evacuation of intestinal tract by inducing vomiting and giving gastric lavage and saline cathartic; see physician at once; consider development of arsenic poisoning. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
946	METHYLAMINE, AQUEOUS SOLUTION	AMINOMETHANE|CARBINAMINE|MERCURIALIN|METHANAMINE|METHYLAMINE|METHYLAMINE (AQUEOUS)|METHYLAMINE SOLUTION|METHYLAMINE, AQUEOUS SOLUTION|METHYLAMINE, [AQUEOUS SOLUTION]|METHYLAMINES (MONO-, DI-, AND TRIMETHYLAMINE)|MMA|MONOMETHYLAMINE	74-89-5	A colorless to yellow aqueous solution of a gas. Odor ranges from fishlike to ammonia-like as the vapor concentration increases. Flash point (of 30% solution) 34Â°F. Corrosive to skin and eyes. Less dense than water; vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	5.0	1.0	1.0	2233.0	228.0	764.0	339.0	281.0	413.0	45.0	145.0	67.0	51.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
947	METHYLCYCLOHEXANE	CYCLOHEXYLMETHANE|HEXAHYDROTOLUENE|MCH|METHYLCYCLOHEXANE|1-METHYLCYCLOHEXANE|SEXTONE B|TOLUENE HEXAHYDRIDE|TOLUENE, HEXAHYDRO	108-87-2	A clear colorless liquid with a petroleum-like odor. Flash point 25Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	2233.0	228.0	764.0	339.0	281.0	413.0	45.0	145.0	67.0	51.0	(BLOB)	Special Hazards of Combustion Products: Toxic, irritating gases may be generated in fires. (USCG, 1999)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
948	METHYL-P-FORMYLBENZOATE	4-CARBOMETHOXYBENZALDEHYDE|4-CARBOXYBENZALDEHYDE METHYL ESTER|4-FORMYLBENZOIC ACID, METHYL ESTER|4-FORMYLBENZOIC ACID METHYL ESTER|4-(METHOXYCARBONYL)BENZALDEHYDE|2-METHOXYCARBONYLBENZALDEHYDE|METHYL 4-FORMYLBENZOATE|METHYL BENZALDEHYDE-4-CARBOXYLATE|METHYL P-FORMYLBENZOATE|METHYL TEREPHTHALALDEHYDATE|METHYL TEREPHTHALDEHYDATE|METHYL-P-FORMYLBENZOATE|P-(METHOXYCARBONYL)BENZALDEHYDE|P-CARBOMETHOXYBENZALDEHYDE|P-FORMYLBENZOIC ACID METHYL ESTER|PARA(METHOXYCARBONYL)BENZALDEHYDE|TE	1571-08-0	PHYSICAL DESCRIPTION: Needles (in water) or white powder. (NTP, 1992)	1.0	2.5	5.0	2237.0	228.0	764.0	339.0	281.0	414.0	45.0	145.0	67.0	51.0	Get medical attention immediately after exposure to this compound. INHALATION: remove from exposure; support respiration. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride and toxic phosgene may be formed. Behavior in Fire: Difficult to extinguish. Re-ignition may occur. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
949	METHYLPHENIDATE HYDROCHLORIDE	ALPHA-PHENYL-2-PIPERIDINEACETIC ACID METHYL ESTER HYDROCHLORIDE|CENTEDRIN|CENTEDRINE|MERIDIL|METHYL ALPHA-PHENYL-2-PIPERIDINEACETATE HYDROCHLORIDE|METHYLPHENIDATE HYDROCHLORIDE|METHYLPHENIDATE HYDROCHLORIDE|METHYLPHENIDYLACETATE HYDROCHLORIDE|RITALIN|RITALIN HYDROCHLORIDE	298-59-9	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Metallic taste. Solutions are acid to litmus. Absence of general acid/base catalysis. (NTP, 1992)	1.0	2.5	5.0	2241.0	228.0	768.0	339.0	281.0	415.0	45.0	146.0	67.0	51.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
945	METHYLAMINE, ANHYDROUS	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; rubber gloves (USCG, 1999)	Insoluble in water.	ZINC ARSENATE is soluble in acids and alkalis.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
946	METHYLAMINE, AQUEOUS SOLUTION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Fumes in air. The liquid reacts vigorously and exothermically with water to form trimethylacetic acid and corrosive hydrochloric acid; both acids corrode metals and tissue.	TRIMETHYLACETYL CHLORIDE is acidic. Incompatible with bases (including amines), strong oxidizing agents, and alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2438 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
947	METHYLCYCLOHEXANE	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Insoluble in water.	PERCHLOROETHYLENE decomposes upon heating and exposure to UV light to give phosgene and HCl. Reacts violently with finely dispersed light metals (aluminum) and zinc. [Handling Chemicals Safely 1980 p. 887]. Mixtures with finely divided barium or lithium metal can detonate [ASESB Pot. Incid. 39. 1968; Chem. Eng. News 46(9):38. 1968]. Decomposes very slowly in water to form trichloroacetic acid and hydrochloric acid		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	0	0																	(USCG, 1999)	Not flammable			(NTP, 1992)		-2	
948	METHYL-P-FORMYLBENZOATE	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles. (USCG, 1999)	Reacts with water to form hydrogen chloride (hydrochloric acid). Amyltrichlorosilane reacts with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 3.2 minutes. After mixing particular chemicals into water, there may be a delay of <1-10 minutes before gas generation may be observed. For this chemical, a 27 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as AMYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1728 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(USCG, 1999)		145																			
949	METHYLPHENIDATE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. When exposed to air it undergoes autoxidation with formation of peroxides. In the distillation process peroxides will concentrate causing violent explosion. Soluble in water.	Ethers, such as DIOXOLANE, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	2	5																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
945	METHYLAMINE, ANHYDROUS														(USCG, 1999)		3.31		59								(USCG, 1999)	(approx.)	866		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						ZAR	Poison	Zn3(AsO4)2|Zn(AsO3)2|Zn2As2O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	49.0	3.0	4.0
946	METHYLAMINE, AQUEOUS SOLUTION																																								Poison Inhalation Hazard|Corrosive|Flammable Liquid	C5H9ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	16.0	1.0	49.0	3.0	4.0
947	METHYLCYCLOHEXANE	(NTP, 1992)	: 15.8 mm Hg at 72Â° F	14		68		mm Hg	(NTP, 1992)		5.83				(USCG, 1999)		1.63		68		(NTP, 1992)		250		760		(NTP, 1992)		165.83		(NIOSH, 2003)	: A potential human carcinogen.	150	ppm	(NTP, 1992)	at 63Â° F		less than 0.1	mg/mL	TTE	Poison	C2Cl4	Dirt/Earth	10.0	1.0	17.0	3.0	4.0
948	METHYL-P-FORMYLBENZOATE														(USCG, 1999)		1.137		77		(USCG, 1999)		320		760		(USCG, 1999)		205.6										ATS	Corrosive	C5H11ClSi	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	19.0	3.0	4.0
949	METHYLPHENIDATE HYDROCHLORIDE																																								Flammable Liquid	C3H6O2		12.0	1.0	27.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
950	MICA (CONTAINING LESS THAN 1% QUARTZ)	(BLOB)	12001-26-2	MICA, a generic term, refers to any of a group of approximately 30 silicate minerals occurring as non-fibrous plates. Muscovite (hydrated aluminium potassium silicate[KAl2(AlSi3O10)(F, OH)2])and phlogopite (potassium magnesium aluminum silicate hydroxide) are the two major micas of commerce. Micas are commonly found in ordinary rocks. Inhalation of mica dust presents an occupational hazard.	1.0	2.5	5.0	2245.0	228.0	768.0	339.0	281.0	416.0	45.0	146.0	67.0	51.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
951	MINERAL OIL	(BLOB)	8012-95-1	PHYSICAL DESCRIPTION: Transparent colorless oily liquid. Practically tasteless and odorless, even when warmed. (NTP, 1992)	2.5	5.0	2.5	2245.0	228.0	772.0	339.0	281.0	416.0	45.0	147.0	67.0	51.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
952	MITOMYCIN C	AMETYCIN|AMETYCINE|6-AMINO-1,1A,2,8,8A,8B-HEXAHYDRO-8-(HYDROXYMETHYL)-8A-METHOXY-5-METHYLAZIRINO-(2',3':3,4)PYRROLO(1,2-A)INDOLE-4,7-DIONE, CARBAMATE (ESTER)|7-AMINO-9-ALPHA-METHOXYMITOSANE|(1AR)-6-AMINO-8-(((AMINOCARBONYL)OXY)METHYL)-1,1A,2,8,8A,8B-HEXAHYDRO-8A-METHOXY-5-METHYLAZIRINO(2',3':3,4)PYRROLO(1,2-A)INDOLE-4,7-DIONE|AZIRINO[2',3':3,4]PYRROLO(1,2-A]INDOLE-4,7-DIONE, 6-AMINO-1,1A,2,8,8A,8B-HEXAHYDRO-8-(HYDROXYMETHYL)-8A-METHOXY-5-METHYL-, CARBAMATE (ESTER)|AZIRINO[2',3':3,4]PYRROLO(1,2-A]INDOLE-4,7-DIONE, 6-AMINO-8-[[(AMINOCARBONYL)OXY]	50-07-7	Blue-violet crystals. Used as an anti-tumor antibiotic complex. (EPA, 1998)	1.0	2.5	5.0	2245.0	228.0	772.0	339.0	281.0	416.0	45.0	147.0	67.0	51.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
953	MITOMYCIN C (MIXTURE)	MITOMYCIN C (MIXTURE)	50-07-7	A mixture. Composed of 4% MITOMYCIN C, odorless blue-violet crystals and 96% Sodium chloride, colorless transparent crystals or a crystalline white to gray-blue powder.	1.0	2.5	5.0	2249.0	228.0	772.0	339.0	281.0	417.0	45.0	147.0	67.0	51.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air; indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
954	M-NITROBENZOIC ACID	BENZOIC ACID, M-NITRO-|M-CARBOXYNITROBENZENE|M-NITROBENZENECARBOXYLIC ACID|M-NITROBENZOIC ACID|META-NITROBENZOIC ACID|3-NITROBENZOIC ACID	121-92-6	PHYSICAL DESCRIPTION: Off white to yellowish-white crystals. Bitter taste. Melts in hot water. (NTP, 1992)	1.0	2.5	5.0	2249.0	228.0	772.0	339.0	281.0	417.0	45.0	147.0	67.0	51.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Avoid decomposing heat. (EPA, 1998)	(Non-Specific -- Poisonous Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. If water pollution occurs, notify appropriate authorities. (Non-Specific -- Poisonous Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
950	MICA (CONTAINING LESS THAN 1% QUARTZ)	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Avoid exposing this compound to air for prolonged periods of time (NTP, 1992). Water soluble.	1-AMINO-2-BUTANOL is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
951	MINERAL OIL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PHENIRAMINE MALEATE gives weakly acidic aqueous solutions. May react with strong oxidizing agents.						0																				(NTP, 1992)		219 to 226
952	MITOMYCIN C	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from alkaline materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water. Stable in neutral and slightly acidic aqueous media but hydrolyzes on heating with alkali.	ANILAZINE is incompatible with oils and alkalis. It is slightly corrosive to metals. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		318 to 320
953	MITOMYCIN C (MIXTURE)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposed by water.	DIPHENYLCYANOARSINE is incompatible with strong oxidizing agents, amines, and alkalis. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
954	M-NITROBENZOIC ACID	(Non-Specific -- Poisonous Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	ANILINE, 2,4,6-TRIMETHYL- neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		23	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
950	MICA (CONTAINING LESS THAN 1% QUARTZ)																										(NTP, 1992)		89.13						(NTP, 1992)	Soluble (>=10 mg/ml at 70Â° F)					Corrosive	C4H11NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	13.0	1.0	28.0	3.0	4.0
951	MINERAL OIL																										(NTP, 1992)		356.46						(NTP, 1992)	Soluble (>=10 mg/ml at 75Â° F)						C16H20N2.C4H4O4	Dirt/Earth	18.0	1.0	44.0	3.0	4.0
952	MITOMYCIN C	(NTP, 1992)	Negligible			68									(NTP, 1992)		1.8		68								(NTP, 1992)		275.53						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C9H5Cl3N4	Mineral-Based & Clay-Based Absorbents	13.0	1.0	42.0	3.0	4.0
953	MITOMYCIN C (MIXTURE)																																								Poison	(C6H5)2AsCN		13.0	1.0	42.0	3.0	4.0
954	M-NITROBENZOIC ACID														(EPA, 1998)		0.9633				(EPA, 1998)			450 to 451	760		(EPA, 1998)		135.2												Poison	C9H13N		11.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
955	MOLYBDENUM	AMPERIT 105.054|AMPERIT 106.2|MCHVL|METCO 63|MOLYBDENUM|MOLYBDENUM ELEMENT|MOLYBDENUM METAL|NSC 600660|NSC 600661|NSC 600665|NSC 603570|NSC 603571|NSC 603572|TMOIO|TSM1	7439-98-7	MOLYBDENUM, a chemical element, is a hard, high-melting (refractory) high-density dark gray metal or black powder. Insoluble in water. Used to make structural alloys; used as a catalyst. Molybdenum dust and fumes can irritate the eyes and respiratory tract.	1.0	2.5	5.0	2253.0	228.0	772.0	339.0	281.0	418.0	45.0	147.0	67.0	51.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
956	MONOSODIUM GLUTAMATE	ACCENT|ACCENT (FOOD ADDITIVE)|AJINOMOTO|ALPHA-MONOSODIUM GLUTAMATE|ANCOMA|CHINESE SEASONING|GLUTACYL|GLUTAMIC ACID MONOSODIUM SALT|GLUTAMIC ACID, MONOSODIUM SALT|GLUTAMIC ACID, MONOSODIUM SALT, L-|GLUTAMIC ACID, SODIUM SALT|GLUTAVENE|L(+)SODIUM GLUTAMATE|L-GLUTAMIC ACID SODIUM SALT|L-MONOSODIUM GLUTAMATE|MONOSODIUM GLUTAMATE|MONOSODIUM L-GLUTAMATE|MONOSODIUM L-GLUTAMATE|MSG|RL 50|RL-50|SODIUM GLUTAMATE|SODIUM HYDROGEN GLUTAMATE|SODIUM L-GLUTAMATE|SODIUM-L-GLUTAMATE|VETSIN|ZEST	142-47-2	PHYSICAL DESCRIPTION: White or off-white crystalline powder with a slight peptone-like odor. pH (0.2% solution)7.0. (NTP, 1992)	1.0	2.5	5.0	2253.0	228.0	772.0	343.0	281.0	418.0	45.0	147.0	68.0	51.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated. Behavior in Fire: Solid melts and burns (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
957	MORPHOLINE	BASF 238|DIETHYLENE IMIDOXIDE|DIETHYLENE OXIMIDE|DIETHYLENEIMIDE OXIDE|DIETHYLENIMIDE OXIDE|DIEYTHYLENE OXIMIDE|DREWAMINE|2H-1,4-OXAZINE, TETRAHYDRO-|4H-1,4-OXAZINE, TETRAHYDRO-|MORPHOLINE|1-OXA-4-AZACYCLOHEXANE|P-ISOXAZINE, TETRAHYDRO-|TETRAHYDRO-1,4-OXAZINE|TETRAHYDRO-2H-1, 4-OXAZINE|TETRAHYDRO-2H-1,4-OXAZINE|TETRAHYDRO-P-OXAZINE	110-91-8	A colorless liquid with a fishlike odor. Flash point 100Â°F. Corrosive to tissue. Less dense than water and soluble in water. Vapors heavier than air. Used to make other chemicals, as a corrosion inhibitor, and in detergents.	2.5	5.0	2.5	2257.0	228.0	772.0	343.0	281.0	419.0	45.0	147.0	68.0	51.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
958	M-XYLENE	BENZENE, M-DIMETHYL-|1,3-DIMETHYLBENZENE|M-DIMETHYLBENZENE|M-METHYLTOLUENE|M-XYLENE|M-XYLOL|META-XYLENE|1,3-XYLENE|XYLENES (META-XYLENE)|XYLOL	108-38-3	A colorless watery liquid with a sweet odor. Less dense than water. Insoluble in water. Irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2257.0	228.0	772.0	343.0	281.0	419.0	45.0	147.0	68.0	51.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
959	MYRCENE, [LIQUID]	BETA-GERANIOLENE|BETA-MYRCENE|7-METHYL-3-METHYLENE-1,6-OCTADIENE|2-METHYL-6-METHYLENE-2,7-OCTADIENE|3-METHYLENE-7-METHYL 1,6-OCTADIENE|3-METHYLENE-7-METHYL-1,6-OCTADIENE|MYRCENE|MYRCENE, [LIQUID]|1,6-OCTADIENE, 7-METHYL-3-METHYLENE	123-35-3	A yellow oily liquid with a pleasant odor. Flash point below 200Â°F. Insoluble in water and less dense than water.	2.5	5.0	2.5	2261.0	228.0	772.0	343.0	281.0	420.0	45.0	147.0	68.0	51.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinquisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
955	MOLYBDENUM	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	An amine, aniline derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NFPA, 2010)		244																			
956	MONOSODIUM GLUTAMATE	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	It is not soluble in water.	Isocyanates and thioisocyanates, such as DIPHENYLMETHANE-4,4'-DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		425																	(NTP, 1992)		99	
957	MORPHOLINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Water soluble.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
958	M-XYLENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Light sensitive and may be sensitive to exposure to air (NTP, 1992). Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																			(NTP, 1992)		280 to 284	
959	MYRCENE, [LIQUID]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	(BLOB)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Slightly soluble in water.	PHENYL GLYCIDYL ETHER, an ether, can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																	(NTP, 1992)		38.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
955	MOLYBDENUM																													(NIOSH, 2003)	; A potential human carcinogen.	50	mg/m3							Poison	C7H9NO		16.0	1.0	45.0	3.0	4.0
956	MONOSODIUM GLUTAMATE	(NIOSH, 2003)		5.00E-06		77		mm Hg							(USCG, 1999)		1.2		68		(NTP, 1992)			381 to 390	5		(NTP, 1992)		250.27		(NIOSH, 2003)		75	mg/m3	(NTP, 1992)	Insoluble				DPM	Poison	C15H10N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	31.0	3.0	4.0
957	MORPHOLINE																																								Corrosive	HOC6H4SO3H	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	39.0	3.0	4.0
958	M-XYLENE																																			(NTP, 1992)	at 65.3Â° F		less than 0.1	mg/mL			C18H22ClNO.ClH		17.0	1.0	26.0	3.0	4.0
959	MYRCENE, [LIQUID]	(NTP, 1992)		0.01		68		mm Hg	(NTP, 1992)		4.37				(NTP, 1992)		1.1092		68		(NTP, 1992)			473	760		(NTP, 1992)		150.19		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 64Â° F		1 to 5	mg/mL		Poison	C9H10O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
960	N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-P-PHENYLENEDIAMINE	ANTAGE 6C|ANTIOXIDANT 4020|ANTIOXIDANT CD 13|ANTOZITE 67|ANTOZITE 67E|ANTOZITE 67F|CD 13|DBDA|DIAFEN 13|DIAFEN FDMB|DMBPD|DUSANTOX 6PPD|FLEXZONE 7F|FLEXZONE 7L|FORTE 6C|N(1,3-DIMETHYLBUTYL)-N'-PHENYL-1,4-PHENYLENEDIAMINE|N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-P-PHENYLENEDIAMINE|N-(4-METHYL-2-PENTYL)-N'-PHENYL-P-PHENYLENEDIAMINE|NCI-C56315|NOCRAC 6C|OZONON 6C|P-PHENYLENEDIAMINE, N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-|PERMANAX 120|PERMANAX 6PPD|SANTOFLEX 13|SANTOFLEX 13F|UOP 562|UOP 588|VULKANOX 4020|WINGSTAY 300	793-24-8	PHYSICAL DESCRIPTION: Purple flakes. (NTP, 1992)	1.0	2.5	5.0	2265.0	228.0	772.0	343.0	285.0	421.0	45.0	147.0	68.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
961	N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE	1-AMINO-2-(ALPHA-NAPHTHYLAMINO)ETHANE DIHYDROCHLORIDE|BRATTON-MARSHALL REAGENT|ETHYLENEDIAMINE, N-1-NAPHTHYL-, DIHYDROCHLORIDE|N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE|N-1-NAPHTHALENYL-1,2-ETHANEDIAMINE DIHYDROCHLORIDE|N-1-NAPHTHYLETHYLENEDIAMINE DIHYDROCHLORIDE|N-ALPHA-NAPHTHYLETHYLENEDIAMINE DIHYDROCHLORIDE|NCI-C03281|REAGENTS, BRATTON-MARSHALL	1465-25-4	PHYSICAL DESCRIPTION: White to light tan or gray crystalline solid or off-white powder. (NTP, 1992)	1.0	2.5	5.0	2265.0	228.0	772.0	343.0	285.0	421.0	45.0	147.0	68.0	52.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
962	N,N'-DICYCLOHEXYLCARBODIIMIDE	BIS(CYCLOHEXYL)CARBODIIMIDE|CARBODICYCLOHEXYLIMIDE|CARBODIIMIDE, DICYCLOHEXYL-|DCC|DCCD|DCCI|DICYCLOCARBODIIMIDE|DICYCLOHEXYLCARBODIIMIDE|1,3-DICYCLOHEXYLCARBODIIMIDE|N,N'-DICYCLOHEXYLCARBODIIMIDE|N,N'-METHANETETRAYLBISCYCLOHEXANAMINE	538-75-0	PHYSICAL DESCRIPTION: White crystalline solid with a heavy sweet odor. (NTP, 1992)	1.0	2.5	5.0	2265.0	228.0	772.0	343.0	285.0	421.0	45.0	147.0	68.0	52.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
963	N,N-DIETHYLANILINE	ANILINE, 2,6-DIETHYL|ANILINE, N,N-DIETHYL-|BENZENEAMINE, 2,6-DIETHYL-(9CI)|DEA|(DIETHYLAMINO) BENZENE|DIETHYLANILINE| 2,6-DIETHYLANILINE|DIETHYLPHENYLAMINE|N,N-DIETHYLAMINOBENZENE|N,N-DIETHYLANILINE|N,N-DIETHYLBENZENAMINE	91-66-7	A colorless to yellow liquid with a fishlike odor, that is strongly corrosive. Irritating to skin, eyes and mucous membranes and moderately toxic by inhalation, absorption and ingestion. Flash point 185Â°F. Used in dyes and in the production of organic chemicals.	2.5	5.0	2.5	2265.0	228.0	772.0	343.0	285.0	421.0	45.0	147.0	68.0	52.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
964	N,N-DIETHYLETHYLENEDIAMINE	DIETHYLETHYLENE DIAMINE|DIETHYLETHYLENEDIAMINE|N,N-DIETHYLETHYLENEDIAMINE	110-85-0	A colorless liquid. Slightly soluble in water and less dense than water. Hence floats on water. Irritates skin and eyes. Toxic by skin absorption and ingestion. Used to make other chemicals.	2.5	5.0	2.5	2269.0	228.0	772.0	343.0	285.0	422.0	45.0	147.0	68.0	52.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray, LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
960	N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-P-PHENYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	1-AMINO-2-METHYLANTHRAQUINONE is incompatible with strong oxidizing agents. Forms salts with mineral acids (NTP, 1992).				0																							(NTP, 1992)		401	
961	N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Peroxides, such as TERT-AMYL PEROXYNEODECANOATE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
962	N,N'-DICYCLOHEXYLCARBODIIMIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIPICRYL SULPHIDE [DRY OR WETTED WITH < 10 % WATER] is a high explosive. Reacts with oxidizing agents in often vigorous reactions to liberate toxic gases. Reacts vigorously with reducing agents, including hydrides, sulfides and nitrides. These reactions may culminate in detonation. May explode in the presence of a strong base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																												
963	N,N-DIETHYLANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Incompatible with bromine water, ferric salts, camphor, phenol, chloral hydrate, monobrominated camphor, thymol, or urethane in trituration. (NTP, 1992).				0																							(NTP, 1992)		106 to 109	
964	N,N-DIETHYLETHYLENEDIAMINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). Contains any of several related compounds (Diuron, Fenuron, Linuron, Neburon, Siduron, Monuron) formally derived from urea.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
960	N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-P-PHENYLENEDIAMINE																										(NTP, 1992)		237.27						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C15H11NO2		10.0	1.0	26.0	3.0	4.0
961	N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE																																									Organic Peroxide	C15H30O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	17.0	3.0	4.0
962	N,N'-DICYCLOHEXYLCARBODIIMIDE																																								Explosive 1.1D	[(NO2)3C6H2]2S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	39.0	3.0	4.0
963	N,N-DIETHYLANILINE														(NTP, 1992)		1.2614		86		(NTP, 1992)			342 to 343	760		(NTP, 1992)		214.23						(NTP, 1992)	Insoluble						C13H10O3		11.0	1.0	18.0	3.0	4.0
964	N,N-DIETHYLETHYLENEDIAMINE																																								Poison	C7H8N2O		11.0	1.0	42.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
965	N,N-DIETHYL-M-TOLUAMIDE	AI 3-22542|AMINCENE C 140|AMINCENE C-EM|AUTAN|BAKER'S ANTIFOL|BENZAMIDE, N,N-DIETHYL-3-METHYL-|BEPPER DET|CHEMFORM|DEET|DELPHENE|DET|DET (INSECT REPELLANT)|DETA|DETA-20|DETAMIDE|DIELTAMID|DIETHYL TOLUAMIDE|DIETHYL-M-TOLUAMIDE|DIETHYLTOLUAMIDE|ENT 20218|ENT 22542|FLYPEL|M-DELPHENE|M-DET|M-DETA|M-TOLUAMIDE, N,N-DIETHYL-|M-TOLUIC ACID DIETHYLAMIDE|METADELPHENE|3-METHYL-N,N-DIETHYLBENZAMIDE|MGK DIETHYLTOLUAMIDE|N,N-DIETHYL-3-METHYLBENZAMIDE|N,N-DIETHYL-M-METHYLBENZAMIDE|N,N-DIETHYL-M-TOLUAMIDE|N,N-DIETHYL-M-	134-62-3	PHYSICAL DESCRIPTION: Clear colorless or faintly yellow slightly viscous liquid. Faint pleasant odor. (NTP, 1992)	2.5	5.0	2.5	2269.0	228.0	772.0	343.0	285.0	422.0	45.0	147.0	68.0	52.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of cyanide and nitrogen oxides. Container may explode in heat of fire. Runoff from fire control water may give off poisonous gases. Avoid sodium hypochlorite. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
966	N,N-DIMETHYL ACETAMIDE SOLUTION (40% OR LESS)	ACETIC ACID, DIMETHYLAMIDE|DIMETHYLACETAMIDE|N,N-DIMETHYL ACETAMIDE SOLUTION (40% OR LESS)	127-19-5	Colorless liquid with a slight ammonia-like odor. (USCG, 1999)	2.5	5.0	2.5	2273.0	228.0	772.0	343.0	285.0	423.0	45.0	147.0	68.0	52.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
967	N,N-DIMETHYLANILINE	ANILINE, N,N-DIMETHYL-|BENZENAMINE, N,N-DIMETHYL-|(DIMETHYLAMINO)BENZENE|DIMETHYLANILINE|DIMETHYLPHENYLAMINE|DIMETHYLAMINO)BENZENE|N,N-DIMETHYLAMINOBENZENE|N,N-DIMETHYLANILINE|N,N-DIMETHYLBENZENAMINE|N,N-DIMETHYLBENZENEAMINE|N,N-DIMETHYLPHENYLAMINE|NCI-C56428|NL 63-10P|VERSNELLER NL 63/10	121-69-7	A yellow to brown colored oily liquid with a fishlike odor. Less dense than water and insoluble in water. Flash point 150Â°F. Toxic by ingestion, inhalation, and skin absorption. Used to make dyes and as a solvent.	2.5	5.0	2.5	2273.0	228.0	772.0	343.0	285.0	423.0	45.0	147.0	68.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
968	N,N-DIMETHYLDODECYLAMINE	ADMA 12|ADMA-2|ANTIOXIDANT DDA|ARMEEN DM 12D|ARMEEN DM-12D|BARLENE 12S|DDA (CORROSION INHIBITOR)|(DIMETHYLAMINO)DODECANE|DODECYLAMINE, N,N-DIMETHYL-|DODECYLDIMETHYLAMINE|EMPIGEN AB|FARMIN DM 20|GENAMIN LA 302D|I-DODECANAMINE, N,N-DIMETHYL|IPL 12|LAURYLDIMETHYLAMINE|MONOLAURYL DIMETHYLAMINE|N,N-DIMETHYL-1-DODECANAMINE|N,N-DIMETHYL-N-DODECYLAMINE|N,N-DIMETHYLDODECYLAMINE|N,N-DIMETHYLLAURYLAMINE|N-DODECYL-N,N-DIMETHYLAMINE|N-DODECYLDIMETHYLAMINE|N-LAURLYDIMETHYLAMINE|N	112-18-5	A clear yellow liquid with a fishlike odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	2273.0	228.0	772.0	343.0	285.0	423.0	45.0	147.0	68.0	52.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as nitrogen oxides and carbon monoxide, may be formed when involved in fire. Behavior in Fire: May ignite spontaneously when spread on a large surface or when in air and in contact with porous materials such as soil, asbestos, wood, or cloth. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
969	N,N-DIMETHYL-P-TOLUIDINE	DIMETHYL-P-TOLUIDINE|N,N,4-TRIMETHYLANILINE|N,N,4-TRIMETHYLBENZENAMINE|N,N-DIMETHYL-1,4-TOLUIDINE|N,N-DIMETHYL-4-METHYLANILINE|N,N-DIMETHYL-P-METHYLPHENYLAMINE|N,N-DIMETHYL-P-TOLUIDENE|N,N-DIMETHYL-P-TOLUIDINE|N,N-DIMETHYL-P-TOLYLAMINE|P,N,N-TRIMETHYLANILINE|P-(DIMETHYLAMINO)TOLUENE|P-METHYL-N,N-DIMETHYLANILINE|P-TOLUIDINE, N,N-DIMETHYL-	99-97-8	A clear colorless liquid with an aromatic odor. Density 0.937 g / cm3 (Lancaster) and insoluble in water. Hence floats on water. Toxic by skin absorption and inhalation. May release toxic vapors when burned.	2.5	5.0	2.5	2277.0	228.0	772.0	343.0	285.0	424.0	45.0	147.0	68.0	52.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
965	N,N-DIETHYL-M-TOLUAMIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	This chemical is moisture sensitive. Insoluble in water.	PHENYLACETONITRILE can react with strong acids, strong bases, strong oxidizing agents and strong reducing agents. It may react vigorously with sodium hypochlorite. (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		215														(EPA, 1998)		-10.8	
966	N,N-DIMETHYL ACETAMIDE SOLUTION (40% OR LESS)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Slowly decomposed in water.	PHENYLCARBYLAMINE CHLORIDE may be incompatible with water, strong oxidizing agents, alcohols. Sealed containers held at room temperature may explode, due to slow decomposition that builds up pressure. This situation is more dangerous with heat. May react vigorously or explosively with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
967	N,N-DIMETHYLANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, protect it from light and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Water soluble.	PHENYLEPHRINE HYDROCHLORIDE is incompatible with acids, acid chlorides, acid anhydrides and oxidizing agents. It is also incompatible with butacaine, alkalis and ferric salts. (NTP, 1992)						0																						(NTP, 1992)		284 to 293	
968	N,N-DIMETHYLDODECYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	When exposed to air becomes red-brown. Slightly denser than water and slightly soluble in water.	PHENYLHYDRAZINE may ignite spontaneously when in contact with oxidants such as hydrogen peroxide or nitric acid, oxides of iron or copper, or manganese, lead, copper or their alloys. Will not polymerize (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		190														(USCG, 1999)		345		(USCG, 1999)		68	
969	N,N-DIMETHYL-P-TOLUIDINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Decomposes to give hydrochloric acid in water, although this reaction is slow. The reaction becomes vigorous if the water is hot.	PHENYLPHOSPHORUS THIODICHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, amines, alkali. Contact with active metals generates flammable hydrogen gas. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
965	N,N-DIETHYL-M-TOLUAMIDE	(EPA, 1998)		1		140		mm Hg							(EPA, 1998)		1.0214		59		(EPA, 1998)		451.4		760		(EPA, 1998)		117.14						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Poison	C8H7N		10.0	1.0	24.0	3.0	4.0
966	N,N-DIMETHYL ACETAMIDE SOLUTION (40% OR LESS)																																								Poison Inhalation Hazard	C7H5Cl2N	Dirt/Earth	16.0	1.0	47.0	3.0	4.0
967	N,N-DIMETHYLANILINE																											(NTP, 1992)		203.67						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C9H13NO2.ClH	Cellulose-Based Absorbents	12.0	1.0	36.0	3.0	4.0
968	N,N-DIMETHYLDODECYLAMINE	(NIOSH, 2003)		0.04		77		mm Hg							(USCG, 1999)		1.0978				(USCG, 1999)	(with decomposition)	471		760		(USCG, 1999)		108.16		(NIOSH, 2003)	; A potential human carcinogen.	15	ppm	(NIOSH, 2003)	Slight				PHE	Poison	C6H8N2		11.0	1.0	41.0	3.0	4.0
969	N,N-DIMETHYL-P-TOLUIDINE																																								Corrosive	C6H5Cl2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
970	N,N'-DIMETHYLUREA	1,3-DIMETHYLUREA|N,N'-DIMETHYLUREA|SYM-DIMETHYLUREA|SYMMETRIC DIMETHYLUREA|UREA, 1,3-DIMETHYL-	96-31-1	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	2281.0	228.0	772.0	343.0	285.0	425.0	45.0	147.0	68.0	52.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
971	N,N'-METHYLENEBISACRYLAMIDE	ACRYLAMIDE, N,N'-METHYLENEBIS-|BISACRYLAMIDE|METHYLENEBISACRYLAMIDE|METHYLENEDIACRYLAMIDE|N,N'-DIACRYLOYLMETHYLENEDIAMINE|N,N'-METHYLENEBIS(2-PROPENAMIDE)|N,N'-METHYLENEBIS(ACRYLAMIDE)|N,N'-METHYLENEBIS-2-PROPENAMIDE|N,N'-METHYLENEBISACRYLAMIDE|N,N'-METHYLENEDIACRYLAMIDE|N,N'-METHYLIDENEBISACRYLAMIDE|2-PROPENAMIDE, N,N'-METHYLENEBIS-	110-26-9	PHYSICAL DESCRIPTION: White crystalline powder with a neutral odor. (NTP, 1992)	1.0	2.5	5.0	2285.0	228.0	776.0	343.0	285.0	426.0	45.0	148.0	68.0	52.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
972	N-ACETYL-P-TOLUIDINE	1-ACETAMIDO-4-METHYLBENZENE|4-ACETAMIDOTOLUENE|4-ACETOTOLUIDE|ACETYL-P-TOLUIDINE|4-(ACETYLAMINO)TOLUENE|4'-METHYLACETANILIDE|4-METHYLACETANILIDE|N-(4-METHYLPHENYL)ACETAMIDE|N-ACETYL-4-METHYLANILINE|N-ACETYL P-TOLUIDIDE|N-ACETYL-P-TOLUIDINE|P-ACETAMIDOTOLUENE|P-ACETOTOLUIDE|P-ACETOTOLUIDIDE|P-ACETYLAMINOTOLUENE|P-METHYLACETANILIDE|P-TOLYACETAMIDE	103-89-9	PHYSICAL DESCRIPTION: Colorless needles. (NTP, 1992)	1.0	2.5	5.0	2289.0	228.0	776.0	343.0	285.0	427.0	45.0	148.0	68.0	52.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
973	NALIDIXIC ACID	3-CARBOXY-1-ETHYL-7-METHYL-1,8-NAPTHIDIN-4-ONE|1,4-DIHYDRO-1-ETHYL-7-METHYL-4-OXO-1,8-NAPHTHYRIDINE-3-CARBOXYLIC ACID|1-ETHYL 1,4-DIHYDRO-7-METHYL-4-OXO-1,8-NAPHTHYRIDINE-3-CARBOXYLIC ACID|1-ETHYL 1,4-DIHYDRO-7-METHYL-4-OXO-1,8-NAPTHYRIDINE-3-CARBOXYLIC ACID|1-ETHYL 7-METHYL-1,4-DIHYDRO-1,8-NAPTHYRIDIN-4-ONE-CARBOXYLIC ACID|1-ETHYL 7-METHYL-4-OXO-1,4-DIHYDRO-1,8-NAPHTHYRIDINE-3-CARBOXYLIC ACID|NACID|NALIDIC ACID|NALIDIXAN|NALIDIXIC ACID|NALIDIXIN|NALIDIXINIC ACID|NALIX|NALURIN|NAXURIL|NCI-C56199|NEGGRAM|NEGRAM|NEVIGRAMON|NOGRAM|URISAL|WIL 18,320|WIN	389-08-2	PHYSICAL DESCRIPTION: Cream-colored powder. (NTP, 1992)	1.0	2.5	5.0	2293.0	228.0	776.0	343.0	285.0	428.0	45.0	148.0	68.0	52.0	(BLOB)	When heated to decomposition, it emits toxic fumes of oxides of nitrogen. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
974	N-AMYL ACETATE	ACETIC ACID, N-AMYL ESTER|1-ACETOXYPENTANE|AMYL ACETATE|AMYL ACETATE (ALL ISOMERS)|AMYL ACETATE, MIXED ISOMERS|AMYL ACETATES|AMYL ACETIC ESTER|AMYL ACETIC ETHER|BIRNENOEL|N-AMYL ACETATE|N-PENTYL ACETATE|N-PENTYL ETHANOATE|1-PENTANOL ACETATE|PENTYL ACETATE|PENTYL ACETATE (N) (AMYL ACETATE)|PENTYL ACETATES|PENTYL ESTER OF ACETIC ACID|PRIMARY AMYL ACETATE	628-63-7	A mixture of isomers. A clear colorless liquid with a banana-like odor. Flash point varies from 65Â° F to 95Â°F. Less dense (at 7.2 lb / gal) than water and slightly soluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	2293.0	228.0	776.0	343.0	285.0	428.0	45.0	148.0	68.0	52.0	(BLOB)	Dangerous disaster hazard; emits toxic fumes of oxides of sulfur and nitrogen when heated to decomposition. Avoid acids or acid fumes. (EPA, 1998)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
970	N,N'-DIMETHYLUREA	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	ANTIMONY SULFIDE presents a serious fire risk if exposed to oxidizing agents. Crystals burn with a blue flame when heated in air [Mellor 9:522 1946-47]. Emits toxic antimony and sulfur oxide fumes if heated to high temperatures. Reacts with concentrated solutions of chloric acid with incandescence [Mellor Supp. II Part 1:584 1956]. Solid mixtures with phthalic oxide explode when ground in a mortar [Mellor 5:421 1946-47].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for antimony pentasulfide, CAS number 1315-04-4	1	1	1	2																								
971	N,N'-METHYLENEBISACRYLAMIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
972	N-ACETYL-P-TOLUIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE may polymerize in the presence of metals and some metal compounds. Incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents.	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
973	NALIDIXIC ACID	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		300.2		
974	N-AMYL ACETATE	Avoid inhalation or contact with skin. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	PHENYLTHIOUREA is incompatible with strong oxidizers, strong acids and strong bases. It emits toxic fumes on contact with acid fumes. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		298.4		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
970	N,N'-DIMETHYLUREA																																								Poison	Sb2S3 (antimony trisulfide)| Sb2S5 (antimony pentasulfide)		10.0	1.0	19.0	3.0	4.0
971	N,N'-METHYLENEBISACRYLAMIDE																																								Class 9	C13H17NO4	Mineral-Based & Clay-Based Absorbents	10.0	1.0	22.0	3.0	4.0
972	N-ACETYL-P-TOLUIDINE																																								Corrosive	C6H6Br2N2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	12.0	3.0	4.0
973	NALIDIXIC ACID																										(EPA, 1998)		548.7													Poison	C28H40N2O9		10.0	1.0	19.0	3.0	4.0
974	N-AMYL ACETATE														(EPA, 1998)		1.3										(EPA, 1998)		152.22						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C7H8N2S		10.0	1.0	27.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
975	NATURAL GAS, [COMPRESSED]	METHANE, COMPRESSED|NATURAL GAS, COMPRESSED|NATURAL GAS, [COMPRESSED]	74-82-8	A flammable gaseous mixture of straight chain hydrocarbons, predominately compressed methane.	5.0	1.0	1.0	2293.0	228.0	780.0	343.0	285.0	428.0	45.0	149.0	68.0	52.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
976	NATURAL GASOLINE	GASOLINE, [CASING-HEAD AND NATURAL]|GASOLINES: CASINGHEAD|NATURAL GASOLINE	8006-61-9	A gasoline obtained by recovering the butane, pentane and hexane hydrocarbons present in small proportion in certain natural gases. A clear colorless to amber colored liquid with a petroleum-like odor. Insoluble in water and less dense than water. Hence, floats on water. Vapors heavier than air. Flash point 0Â°F. Used in blending fuels.	2.5	5.0	2.5	2297.0	228.0	780.0	343.0	285.0	429.0	45.0	149.0	68.0	52.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
977	N-BUTYLBENZENE	BUTYL BENZENE|BUTYLBENZENE|1-BUTYLBENZENE|BUTYLBENZENES|N-BUTYLBENZENE|1-PHENYLBUTANE	104-51-8	A colorless liquid. Less dense than water and insoluble in water. Used to make plastics and as a solvent.	2.5	5.0	2.5	2297.0	228.0	780.0	343.0	285.0	429.0	45.0	149.0	68.0	52.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide) Container may explode in heat of fire. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide) Stay upwind; keep out of low areas. Move containers from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
978	N-BUTYL-P-HYDROXYBENZOATE	ASEPTOFORM BUTYL|BENZOIC ACID, P-HYDROXY-, BUTYL ESTER|BUTOBEN|4-(BUTOXYCARBONYL)PHENOL|BUTYL 4-HYDROXYBENZOATE|BUTYL BUTEX|BUTYL CHEMOSEPT|BUTYL P-HYDROXYBENZOATE|BUTYL PARABEN|BUTYL PARASEPT|BUTYL TEGOSEPT|BUTYLPARABEN|4-HYDROXYBENZOIC ACID BUTYL ESTER|MEKKINGS B|N-BUTYL 4-HYDROXYBENZOATE|N-BUTYL P-HYDROXYBENZOATE|N-BUTYL PARAHYDROXYBENZOATE|N-BUTYL-P-HYDROXYBENZOATE|N-BUTYLPARABEN|NIPABUTYL|P-HYDROXYBENZOIC ACID BUTYL ESTER|P-HYDROXYBENZOIC ACID N-BUTYL ESTER|PARASEPT|PRESERV	94-26-8	PHYSICAL DESCRIPTION: Odorless white crystals or crystalline powder. Tasteless, but numbs the tongue. Aqueous solutions slightly acidic to litmus. (NTP, 1992)	1.0	2.5	5.0	2301.0	228.0	780.0	347.0	285.0	430.0	45.0	149.0	69.0	52.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
979	NICKEL ACETATE	ACETIC ACID, NICKEL (II) SALT|NICKEL ACETATE|NICKEL ACETATE TETRAHYDRATE|NICKELOUS ACETATE	373-02-4	Dull green odorless solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	2301.0	228.0	780.0	347.0	285.0	430.0	45.0	149.0	69.0	52.0	(BLOB)	Fire may produce irritating or poisonous gases. Reacts with metal and may give off toxic arsine gas. Hazardous polymerization may not occur. (EPA, 1998)	Isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
980	NICKEL OXIDE	BUNSENITE|C.I. 77777|GREEN NICKEL OXIDE|MONONICKEL OXIDE|NICKEL (T+) OXIDE|NICKEL MONOXIDE|NICKEL MONOXIDE|NICKEL OXIDE|NICKEL OXIDE SINTER 75|NICKEL PROTOXIDE|NICKEL(2+) OXIDE|NICKEL(II) OXIDE|NICKEL(II) OXIDE (1:1)|NICKEL(II) OXIDE, BLACK|NICKELOUS OXIDE	1313-99-1	PHYSICAL DESCRIPTION: Odorless green-black cubic crystals (yellow when hot) or green powder. (NTP, 1992)	1.0	2.5	5.0	2301.0	228.0	780.0	347.0	285.0	430.0	45.0	149.0	69.0	52.0	(BLOB)	Flash point data for this chemical are not available; it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
975	NATURAL GAS, [COMPRESSED]	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	TRIMETHYLAMINE, AQUEOUS SOLUTION neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Contamination of an ethylene oxide tank with trimethylamine caused an explosion [BCISC Quart. Safety Summ., 1966, 37, 44].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		10		(NTP, 1992)		2		%	(NTP, 1992)		11.6		%	(NTP, 1992)		374		(NTP, 1992)		-179	
976	NATURAL GASOLINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	If it becomes damp it may spontaneously heat and ignite. Insoluble in water.	In the presence of moisture, it may ignite spontaneously on contact with air; reacts violently with oxidants and powdered sulfur, causing fire and explosion hazards. [Handling Chemicals Safely 1980. p. 966].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
977	N-BUTYLBENZENE	Caution : Chemical structure indicates that this is an organic phosphorus pesticide. (Non-Specific -- Organic Phosphorus Insecticides) Do not touch spilled material; stop leak if possible. Use water spray to reduce vapors. Absorb spills with noncombustible absorbent material. For large spills dike far ahead for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as COLEP, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
978	N-BUTYL-P-HYDROXYBENZOATE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; butyl rubber gloves; butyl rubber apron; face shield (USCG, 1999)	Highly flammable. Soluble in water.	DIPROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		63															(NTP, 1992)		-39.3	
979	NICKEL ACETATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Dissolves in water to give solutions of arsenic acid.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(EPA, 1998)	Not flammable															(EPA, 1998)		599	
980	NICKEL OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly water soluble.	DIRECT BLUE 25 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Cleavage of the diazo group by reducing agents may lead to benzidine production. (NTP, 1992)	Explosive						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
975	NATURAL GAS, [COMPRESSED]	(NIOSH, 2003)		1454		70		mm Hg	(NTP, 1992)		2				(NTP, 1992)		0.6356				(NTP, 1992)		37.17		760		(NTP, 1992)		59.13						(NTP, 1992)	Very soluble					Flammable Liquid|Corrosive	C3H9N (aqueous)	Mineral-Based & Clay-Based Absorbents	18.0	1.0	32.0	3.0	4.0
976	NATURAL GASOLINE																																									Dangerous When Wet			11.0	1.0	15.0	3.0	4.0
977	N-BUTYLBENZENE																										(EPA, 1998)		309.29													Poison	C13H12NO4PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	13.0	3.0	4.0
978	N-BUTYL-P-HYDROXYBENZOATE								(NTP, 1992)		3.5				(USCG, 1999)		0.738		68		(NTP, 1992)		228.9		760		(NTP, 1992)		101.19						(NTP, 1992)	Soluble (>=10 mg/ml)				DNA	Flammable Liquid|Corrosive	C6H15N	Mineral-Based & Clay-Based Absorbents	13.0	1.0	37.0	3.0	4.0
979	NICKEL ACETATE														(EPA, 1998)		4.32				(EPA, 1998)		229.84				(EPA, 1998)		229.84		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3					APO	Poison	As2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	40.0	3.0	4.0
980	NICKEL OXIDE																				(NTP, 1992)		962.78												(NTP, 1992)	Slightly soluble (1-10 mg/ml at 70Â° F)						C34H26N4O16S4.4Na		10.0	1.0	29.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
981	NINHYDRIN	2,3-DIHYDRO-2,2-DIHYDROXY-1,3-DIOXO-1H-INDENE|2,2-DIHYDROXY-1,3-INDANDIONE|2,2-DIHYDROXY-1H-INDENE-1,3(2H)-DIONE|1H-INDENE-1,2,3-TRIONE, 2-HYDRATE|1,3-INDANDIONE, 2,2-DIHYDROXY-|INDANE-1,2,3-TRIONE MONOHYDRATE|1,2,3-INDANTRIONE MONOHYDRATE|1,2,3-INDANTRIONE, 2 HYDRATE|NINHYDRIN|NINHYDRIN HYDRATE|TRIKETOHYDRINDENE HYDRATE|1,2,3-TRIKETOHYDRINDENE MONOHYDRATE	485-47-2	PHYSICAL DESCRIPTION: White to light yellow crystals or powder. Becomes anhydrous with reddening at 257-266Â°F. (NTP, 1992)	1.0	2.5	5.0	2301.0	228.0	780.0	347.0	285.0	430.0	45.0	149.0	69.0	52.0			
982	N-ISOPROPYL-N'-PHENYL-P-PHENYLENEDIAMINE	ACCINOX ZA|4-ANILINO-N-ISOPROPYLANILINE|ANTIGEN 3C|ANTIGENE 3C|ANTIOXIDANT 4010NA|ANTIOXIDANT 40NA|ANTIOXIDANT CD|ANTIOXIDANT IP|AO-CD|ASM 4010MA|CYZONE|CYZONE IP|DIAFEN FP|DIAFEN PP|DIAPHEN FP|DUSANTOX IPPD|ELASTOZONE 34|FLEXONE 3C|FLEXZONE 3C|POGNOX 44|PPD|4-(ISOPROPYLAMINO)DIPHENYLAMINE|N-(1-METHYLETHYL)-N-PHENYL-1,4-BENZENEDIAMINE|N-2-PROPYL-N'-PHENYL-P-PHENYLENEDIAMINE|N-ISOPROPYL-N'-PHENYL-1,4-PHENYLENEDIAMINE|N-ISOPROPYL-N'-PHENYL-P-PHENYLENEDIAMINE|N-PHENYL-N'-ISOPROPYL-1,4-PHENYLENEDIAMINE|N-PHENYL-N'-ISOPROPYL-P-PHENYLENEDIAMINE|4010NA|4010 NA|810NA|NAUGARD	101-72-4	PHYSICAL DESCRIPTION: Dark gray to black flakes or brown-black small chip-like solid with an aromatic odor. (NTP, 1992)	1.0	2.5	5.0	2305.0	228.0	784.0	347.0	285.0	431.0	45.0	150.0	69.0	52.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
983	NITRIC OXIDE	AMIDOGEN, OXO-|MONONITROGEN MONOXIDE|NITRIC OXIDE|NITRIC OXIDE (NO)|NITRIC OXIDE TRIMER|NITRIC OXIDE (NITROGEN OXIDES)|NITRIC OXIDE, COMPRESSED|NITROGEN MONOOXIDE|NITROGEN MONOXIDE|NITROGEN OXIDE|NITROGEN OXIDE (N4O4)|NITROGEN OXIDE (NO)|NITROGEN(II) OXIDE|NITROSYL RADICAL	10102-43-9	A colorless gas. Noncombustible but accelerates the burning of combustible material. Vapors heavier than air. Very toxic by inhalation and skin absorption. Heating the containers may cause them to rupture violently and rocket.	5.0	1.0	1.0	2309.0	228.0	784.0	347.0	285.0	432.0	45.0	150.0	69.0	52.0	INHALATION: Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush with running water for at least 15 minutes. Hold eyelids open if necessary. Speed in removing material from skin is of exteme importance. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation. INGESTION: If the victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Combustible POISONOUS GASES ARE PRODUCED IN FIRE. Undergoes decomposition to yield toxic fumes including NOx, and it may react violently with alcohols in the presence of a base. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
984	NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE	NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE|NITROGEN DIOXIDE AND NITRIC OXIDE MIXTURE	10102-43-9	Colorless to reddish brown gas mixture with a strong unpleasant odor. Both gases are highly toxic and often fatal by inhalation. Strongly irritates skin, eyes and mucous membranes. Noncombustible. Used in the production of nitric acid and as an oxidizing agent. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	2313.0	228.0	784.0	347.0	285.0	433.0	45.0	150.0	69.0	52.0	INHALATION: Remove victim to fresh air. Keep victim warm and quiet. If breathing has stopped, give artificial respiration. If breathing is difficult, administer oxygen. EYES or SKIN: Immediately flush with running water for at least 15 minutes. (Hold eyelids open if necessary.) Keep victim quiet and maintain normal body temperature. Remove and isolate contaminated clothing and shoes at site. INGESTION: If victim is unconscious or having convulsions, do nothing except maintain normal body temperature and seek medical aid. (USCG, 1999)	Special Hazards of Combustion Products: May contian toxic and irritating gases including NOx. Behavior in Fire: May generate toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
985	NITRIC OXIDE AND NITROGEN TETROXIDE MIXTURE	NITRIC OXIDE AND NITROGEN TETROXIDE MIXTURE|NITRIC OXIDE-NITROGEN TETROXIDE MIXTURE|NITROGEN TETROXIDE AND NITRIC OXIDE MIXTURE	10102-43-9	A reddish brown gas which becomes a yellowish-brown liquid on cooling or compressing. Shipped as a liquefied gas under own vapor pressure. Vapor heavier than air. Toxic by inhalation and skin absorption. Noncombustible but accelerates burning of combustible materials. Cylinders and ton containers may not be equipped with a safety relief device.	5.0	1.0	1.0	2317.0	228.0	784.0	347.0	285.0	434.0	45.0	150.0	69.0	52.0	INHALATION: move to fresh air. INGESTION: administer gastric lavage with warm tap water; saline catharsis; consult physician. EYES or SKIN: flush with water. (USCG, 1999)		
986	NITRILOTRIACETIC ACID	ACETIC ACID, NITRILOTRI-|ALPHA,ALPHA',ALPHA"-TRIMETHYLAMINETRICARBOXYLIC ACID|AMINOTRIACETIC ACID|CHEL 300|CHELEST NT|COMPLEXON I|DISODIUM NITRILOTRIACETATE|HAMPSHIRE NTA ACID|KOMPLEXON I|N,N-BIS(CARBOXYMETHYL)GLYCINE|N,N-BIS(CARBOXYMETHYL)GLYSINE|NCI-C02766|NITRILO-2,2',2"-TRIACETIC ACID|NITRILOTRIACETIC ACID|NITRILOTRIACETIC ACID AND SALTS|NITRILOTRIS(METHYLENECARBOXYLIC ACID)|NTA|TITRIPLEX I|TRIGLYCINE|TRIGLYCOLLAMIC ACID|TRILON A|TRISODIUM NITRILOTRIACETATE|VERSENE NTA ACID	139-13-9	Odorless white solid. Sinks in and mixes with water. (USCG, 1999)	1.0	2.5	5.0	2317.0	228.0	784.0	347.0	285.0	434.0	45.0	150.0	69.0	52.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
981	NINHYDRIN			Soluble in water. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	DISODIUM CYANODITHIOIMIDOCARBONATE is a dithiocarbamate ester. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.							0																								
982	N-ISOPROPYL-N'-PHENYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NIOSH, 2003)	(Decomposes)	1112	
983	NITRIC OXIDE	(BLOB)	Wear positive presure breathing apparatus and special protective clothing. (USCG, 1999)	Insoluble in water and denser than water. Reacts with water or moisture in the air to form carbon dioxide and the corresponding diamine (USCG 1991).	Isocyanates and thioisocyanates, such as TRIMETHYLHEXAMETHYLENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0					(USCG, 1999)	Data not available			(USCG, 1999)	Data not available														
984	NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained (positive pressure if available) breathing apparatus (with acid filter like that used for ammonia) and full protective clothing. (USCG, 1999)	Insoluble in water.	Amines, such as TRIMETHYLHEXAMETHYLENEDIAMINE, are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0			(USCG, 1999)		261																				
985	NITRIC OXIDE AND NITROGEN TETROXIDE MIXTURE		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Slightly soluble in water.	ZINC BORATE has weak oxidizing or reducing powers. Slightly soluble in water. Not water-reactive.							0																				
986	NITRILOTRIACETIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air or light. (NTP, 1992). Insoluble in water.	ASYM-DIPHENYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																							(NTP, 1992)		372	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	hp_source	hp_note	hp_value	hp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_n_otc	molwgt_value	molwgt_range	mdh_source	mdh_note	mdh_value	mdh_unit	sobility_source	sobility_note	sobility_value	sobility_range	sobility_unit	chris_code	del_labels	formulas	incompatible_jobs	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
981	NINHYDRIN																																															
982	N-ISOPROPYL-N'-PHENYL-P-PHENYLENEDIAMINE	(NIOSH, 2003)	(approx)	0				mm Hg					(NIOSH, 2003)	Decomposes									(NIOSH, 2003)	Vapor	(NIOSH, 2003)						Insoluble	(NIOSH, 2003)								H4O4Si.1/2H2O.3/2Mg	Class 9	ZBO			10.0	24.0	1.0	3.0	4.0
983	NITRIC OXIDE				7.3		(USCG, 1999)																	(USCG, 1999)																	C11H18N2O2	Poison	THI			11.0	12.0	1.0	3.0	4.0
984	NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE						(USCG, 1999)				0.867		(USCG, 1999)				449.6		760					(USCG, 1999)	(calculated)	158.29													THA	Corrosive	C9H2ZNZ	Mineral-Based & Clay-Based Absorbents	11.0	12.0	1.0	3.0	4.0
985	NITRIC OXIDE AND NITROGEN TETROXIDE MIXTURE						(USCG, 1999)				2.7		68											(USCG, 1999)		434.75													ZBO				11.0	12.0	1.0	3.0	4.0
986	NITRILOTRIACETIC ACID										1.276									Decomposes	(NTP, 1992)			(NTP, 1992)																	C13H12NZO				15.0	1.0	28.0	3.0	4.0
987	NITROBENZENE						(USCG, 1999)				1.205		68											(USCG, 1999)		412.03															C6H5NO2	Poison	THI			11.0	12.0	1.0	3.0	4.0
988	NITROGEN																																															
989	NITROGEN DIOXIDE																																															
990	NITROGEN TETROXIDE																																															
991	NITROGEN TRIOXIDE																																															
992	NITROGEN, COMPRESSED																																															
993	NITROGEN, REFRIGERATED LIQUID																																															
994	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																															
995	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																															
996	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																															
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999	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																															
1000	NITROGEN, REFRIGERATED LIQUID (CRYOGENIC LIQUID)																																															

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
987	NITROCELLULOSE MEMBRANE FILTERS	NITROCELLULOSE MEMBRANE FILTERS	9004-70-0	A membrane filter composed of nitrocellulose. Ignites easily and burn rapidly with intense heat. May release toxic fumes if exposed to high temperatures or flame.	1.0	2.5	5.0	2317.0	228.0	784.0	347.0	285.0	434.0	45.0	150.0	69.0	52.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
988	NITROCELLULOSE WITH ALCOHOL	NITROCELLULOSE WITH ALCOHOL|NITROCELLULOSE WITH NOT LESS THAN 25% ALCOHOL|NITROCELLULOSE, WET, WITH NOT LESS THAN 30% ALCOHOL OR SOLVENT|NITROCELLULOSE, [WET WITH >= 30% ALCOHOL OR SOLVENT|NITROCELLULOSE,WET [WITH >=30% ALCOHOL]	9004-70-0	A white solid mixed with ethanol or another solvent to form a slurry. A mixture of the dinitrates and trinitrate of cellulose. Exposure to heat may evaporate the solvent leaving a residue that is subject to self-accelerating decomposition and may explode if confined or present in large quantities. Treat as an explosive. Produces toxic oxides of nitrogen when burned.	1.0	2.5	5.0	2317.0	228.0	784.0	351.0	285.0	434.0	45.0	150.0	70.0	52.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
989	NITROCELLULOSE WITH WATER, NOT LESS THAN 25% WATER	NITROCELLULOSE WITH WATER, NOT LESS THAN 25% WATER	9004-70-0	A white solid. A mixture of the dinitrates and trinitrate of cellulose with water. Will burn, although may be difficult to ignite. Easily ignited, burns very vigorously if allowed to dry out. Highly explosive if allowed to dry out. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	2321.0	228.0	784.0	351.0	285.0	435.0	45.0	150.0	70.0	52.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
990	NITROCELLULOSE, [DRY]	NITROCELLULOSE, [DRY]	9004-70-0	A white solid. A mixture of the dinitrates and trinitrate of cellulose. Burns vigorously if the quantity is small or thinly spread over a large area. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	2321.0	228.0	784.0	351.0	285.0	435.0	45.0	150.0	70.0	52.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
991	NITROCELLULOSE, [WITH PLASTICIZER]	(BLOB)	9004-70-0	A solid used in making lacquers or paints. Very flammable and easily ignited. Will burn vigorously if the quantity is small or the material is thinly spread over a large area. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	2325.0	228.0	784.0	351.0	285.0	436.0	45.0	150.0	70.0	52.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) When heated to decomposition, it emits very toxic fumes of sulfur, phosphorus and nitrogen oxides. Container may explode in heat of fire. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
992	NITROCELLULOSE, BLOCK, WET, WITH NOT LESS THAN 25% ALCOHOL	NITROCELLULOSE, BLOCK, WET, WITH NOT LESS THAN 25% ALCOHOL|NITROCELLULOSE, COLLOIDED, GRANULAR OR FLAKE, WET, WITH NOT LESS THAN 20% ALCOHOL OR SOLVENT|NITROCELLULOSE, COLLOIDED, LIQUID|NITROCELLULOSE, [COLLOIDED, GRANULAR OR FLAKE, WET WITH >= 20% ALCOHOL OR SOLVENT, OR BLOCK, WET WITH >= 25% ALCOHOL]	9004-70-0	A white solid. A mixture of the dinitrates and trinitrate of cellulose and ethanol. Exposure to heat may evaporate the solvent leaving a residue that is subject to self-accelerating decomposition and may explode if confined or present in large quantities. Treat as an explosive. Produces toxic oxides of nitrogen when burned.	1.0	2.5	5.0	2325.0	228.0	784.0	351.0	285.0	436.0	45.0	150.0	70.0	52.0	(BLOB)	Some of the formulations may burn, but none of them ignite easily. Container may explode in the heat of the fire. Rapidly hydrolyzed by cold alkali or cold acid. Unstable at temperatures above 390F. (EPA, 1998)	Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
987	NITROCELLULOSE MEMBRANE FILTERS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable. Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1-BROMO-4-FLUOROBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		140															(NTP, 1992)		18	
988	NITROCELLULOSE WITH ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	AURAMINE O is incompatible with strong oxidizing agents. (NTP, 1992)						0																			(NTP, 1992)		513	
989	NITROCELLULOSE WITH WATER, NOT LESS THAN 25% WATER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very soluble in water.	AZASERINE is incompatible with acids.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
990	NITROCELLULOSE, [DRY]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to oxidation in the air. Insoluble in water.	AZATHIOPRINE may react exothermically with acids. Incompatible with isocyanates, peroxides, phenols, epoxides, anhydrides, and acid halides. Hydrolyzed by strongly basic solutions (NTP, 1992). May react with strong reducing agents to generate flammable gaseous hydrogen or hydrogen sulfide.						0																			(NTP, 1992)	(decomposes)		469 to 471
991	NITROCELLULOSE, [WITH PLASTICIZER]	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Nearly insoluble in water. What little amount is solubilized will readily hydrolyze.	The BPS Pesticide incident in Helena resulted in an explosion and death of three firemen. The burning of a 1,000 pound sack of Azinphos Methyl or the flashing of Maneb which was present on the facility may have caused the explosion. Azinphos Ethyl may behave similarly. At elevated temperatures, it will decompose generating toxic gases.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(EPA, 1998)		127	
992	NITROCELLULOSE, BLOCK, WET, WITH NOT LESS THAN 25% ALCOHOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water. What little amount is solubilized will readily hydrolyze.	The BPS Pesticide incident in Helena resulted in an explosion and death of three firemen. The burning of a 1,000 pound sack of Azinphos Methyl or the flashing of Maneb which was present on the facility may have caused the explosion. Azinphos Ethyl may behave similarly. At elevated temperatures, it will decompose generating toxic gases.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(EPA, 1998)		163 to 165	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
987	NITROCELLULOSE MEMBRANE FILTERS														(NTP, 1992)		1.4946		68		(NTP, 1992)		306		764		(NTP, 1992)		175.01												Flammable Liquid	C6H4BrF		18.0	1.0	39.0	3.0	4.0
988	NITROCELLULOSE WITH ALCOHOL																																			(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C17H21N3.ClH	Mineral-Based & Clay-Based Absorbents	18.0	1.0	39.0	3.0	4.0
989	NITROCELLULOSE WITH WATER, NOT LESS THAN 25% WATER																																									Poison	C5H7N3O4	Mineral-Based & Clay-Based Absorbents	18.0	1.0	39.0	3.0	4.0
990	NITROCELLULOSE, [DRY]																											(NTP, 1992)		277.29						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C9H7N7O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	18.0	1.0	39.0	3.0	4.0
991	NITROCELLULOSE, [WITH PLASTICIZER]	(EPA, 1998)		2.20E-07		68		mm Hg							(EPA, 1998)		1.284		68		(EPA, 1998)		232		0.001		(EPA, 1998)		345.38												Poison	C12H16N3O3PS2		18.0	1.0	39.0	3.0	4.0
992	NITROCELLULOSE, BLOCK, WET, WITH NOT LESS THAN 25% ALCOHOL	(EPA, 1998)	Negligible at 20C												(EPA, 1998)		1.44		68		(NTP, 1992)	Decomposes					(EPA, 1998)		317.34		(NIOSH, 2003)		10	mg/m3	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	AZM	Poison	C10H12N3O3PS2		18.0	1.0	39.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
993	NITROCELLULOSE, SOLUTION, FLAMMABLE	NITROCELLULOSE, SOLUTION, FLAMMABLE	9004-70-0	A solution of the dinitrates and trinitrate of cellulose in ether, ethanol, or acetone. Burns vigorously.	2.5	5.0	2.5	2325.0	228.0	784.0	351.0	285.0	436.0	45.0	150.0	70.0	52.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with water for at least 15 minutes. INGESTION: If conscious, have victim drink water and induce vomiting. If unconscious, do nothing except keep victim warm. Call a physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of hydrogen bromide. Behavior in Fire: May form explosive mixtures with air in fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
994	NITROFURANTOIN	BENKFURAN|BERKFURIN|CHEMIOFURAN|CYANTIN|CYSTITI|DANTAFUR|FUA-MED|FURREN|FURACHEL|FURADANTIN|FURADANTINE|FURADANTOIN|FURADOINE|FURADONIN|FURADONINE|FURADONTIN|FURALAN|FURANTOIN|FURATOIN|FURINA|FUROBACTINA|FUROPHEN|HYDANTOIN, 1-((5-NITROFURFURYLIDENE)AMINO)-|HYDANTOIN, 1-[(5-NITROFURFURYLIDENE)AMINO]-|2,4-IMIDAZOLIDINEDIONE, 1-(((5-NITRO-2-FURANYL)METHYLENE)AMINO)-|TURAN|MACRODANTIN|N-(5-NITRO-2-FURFURYLIDENE)-1-AMINOHYDANTOIN|N-(5-NITROFURFURYLIDENE)-1-AMINOHYDANTOIN|N-TOIN|NCI-C55196|NIFURANTIN|NITOIN|1-(((5-NITRO-2-	67-20-9	PHYSICAL DESCRIPTION: Odorless lemon yellow crystals or fine yellow powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	2325.0	228.0	784.0	351.0	285.0	436.0	45.0	150.0	70.0	52.0	(BLOB)	Material may burn but does not ignite easily. Cylinder may explode in the heat of fire. Poisonous gases may be generated from the fire or runoff water. Oxidizable in air. (EPA, 1998)	Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
995	NITROGEN TRIFLUORIDE	NITROGEN FLUORIDE|NITROGEN TRIFLUORIDE|NITROGEN TRIFLUORIDE, COMPRESSED|PERFLUOROAMMONIA|TRIFLUORAMINE|TRIFLUORAMMONIA|TRIFLUOROAMINE|TRIFLUOROAMMONIA	7783-54-2	A colorless gas with a moldy odor. Very toxic by inhalation. Slightly soluble in water. Corrosive to tissue. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Used to make other chemicals and as a component of rocket fuels.	5.0	1.0	1.0	2325.0	228.0	784.0	351.0	285.0	436.0	45.0	150.0	70.0	52.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
996	NITROGLYCERIN MIXTURE WITH MORE THAN 2% BUT NOT MORE THAN 10% NITROGLYCERIN, DESENSITIZED	NITROGLYCERIN MIXTURE WITH MORE THAN 2% BUT NOT MORE THAN 10% NITROGLYCERIN, DESENSITIZED	55-63-0	A desensitized explosive. Pure nitroglycerin is a pale yellow viscous liquid that is slightly soluble in water and extremely sensitive to shock. Here it is mixed with a solid desensitizing agent. In fire, the nitroglycerin could accumulate and explode. Easily ignited and when ignited burns readily, evolving toxic fumes. Inhalation of vapors may cause headaches, dizziness, or fainting.	2.5	5.0	2.5	2329.0	228.0	784.0	351.0	285.0	437.0	45.0	150.0	70.0	52.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
997	NITROGLYCERIN, DESENSITIZED, [LIQUID]	ANGIBID|ANGININE|ANGIOLINGUAL|ANGORIN|BLASTING OIL|CARDAMIST|CHITAMITE|GILUCOR NITRO|GLONOIN|GLYCERIN TRINITRATE|GLYCEROL TRINITRATE|GLYCERYL NITRATE|GLYCERYL TRINITRATE|GTN|KLAVIKORDAL|LENITRAL|MYOGLYCERIN|NG|NIGLIN|NIGLYCON|NITORA|NITRIN|NITRINE|NITRINE-TDC|NITRODUR|NITRO-LENT|NITROSPAN|NITRODERM|NITROGLYCERIN|NITROGLYCERIN, DESENSITIZED, [LIQUID]|NITROGLYCERINE|NITROGLYCEROL|NITROGLYN|NITROL|NITROL (PHARMACEUTICAL)|NITROLAN|NITROLETTEN|NITROLINGUAL|NITROLOW|NITROMEL|NITRONG|NITROPERCUTEN|NITRORECTAL|NITRORETARD|NITROSTABILIN|NITROSTAT|NITROZELL RETARDNK	55-63-0	A pale yellow, viscous liquid that is slightly soluble in water and more dense than water. Sensitive to shock and heat. May explode under prolonged exposure to fire or heat. Primary hazard is the blast of an instantaneous explosion and not flying fragment or projectiles. Used medicinally.	2.5	5.0	2.5	2329.0	228.0	784.0	351.0	285.0	437.0	45.0	150.0	70.0	52.0	(BLOB)	Flash point data for this compound are not available, however, literature indicates that it is a flammable solid. (NTP, 1992)	Fires involving this material should not be fought except with unmanned equipment using a water spray. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
993	NITROCELLULOSE, SOLUTION, FLAMMABLE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical safety goggles, rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	1-BROMOBUTANE is incompatible with strong bases and oxidizers (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		65		(USCG, 1999)	at 100Â°C	2.5		%	(USCG, 1999)	at 212Â° F	6.6		%	(USCG, 1999)		509		(USCG, 1999)		-170	
994	NITROFURANTOIN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water.	DISULFOTON is incompatible with the following: Alkalis (NIOSH, 1997).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		greater than 180													(EPA, 1998)	Greater than - 13Â° F			
995	NITROGEN TRIFLUORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This compound is sensitive to moisture. (NTP, 1992). Unstable in water. (NTP, 1992). Reacts with water to form acidic solutions.	TRIMETHYLOXONIUM HEXACHLORANTIMONATE is a very strong methylating agent, related to Meerwein's reagent (triethyloxonium tetrafluoroborate). It can react with water to form methanol and a strongly acidic solution.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
996	NITROGLYCERIN MIXTURE WITH MORE THAN 2% BUT NOT MORE THAN 10% NITROGLYCERIN, DESENSITIZED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable in the form of powder or dust. Insoluble in water.	THALLIUM is a reducing agent. Reacts so vigorously with fluorine that the metal becomes incandescent [Mellor 5:421 1946-47].	Strong Reducing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
997	NITROGLYCERIN, DESENSITIZED, [LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PICRYL CHLORIDE is extremely unstable when dry. Incompatible with oxidizing materials, inorganic nitrates, chlorates and ammonium nitrate (NTP, 1992). Reacts readily with ammonia to form picramide [Noller].	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						(NTP, 1992)		181 to 185	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
993	NITROCELLULOSE, SOLUTION, FLAMMABLE	(USCG, 1999)		77.55				mm Hg							(USCG, 1999)		1.276		68		(USCG, 1999)		214		760		(USCG, 1999)		137.04											BBU	Flammable Liquid	C4H9Br		18.0	1.0	39.0	3.0	4.0
994	NITROFURANTOIN	(EPA, 1998)		0.00018		68		mm Hg							(EPA, 1998)		1.144				(EPA, 1998)			270 to 271		1.5	(EPA, 1998)		274.38						(NIOSH, 2003)	at 73Â° F	0.003		%	DIS	Poison	C8H19O2PS3		13.0	1.0	31.0	3.0	4.0
995	NITROGEN TRIFLUORIDE																										(NTP, 1992)		395.57						(NTP, 1992)	Unstable					Corrosive	C3H9O.C16Sb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	19.0	3.0	4.0
996	NITROGLYCERIN MIXTURE WITH MORE THAN 2% BUT NOT MORE THAN 10% NITROGLYCERIN, DESENSITIZED																														(NIOSH, 2003)	(as TI)	15	mg/m3							Poison	TI		16.0	1.0	23.0	3.0	4.0
997	NITROGLYCERIN, DESENSITIZED, [LIQUID]														(NTP, 1992)		1.797		68								(NTP, 1992)		247.56						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Explosive 1.1D	C6H2Cl(NO2)3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	23.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
998	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH MORE THAN 1% BUT NOT MORE THAN 5% NITROGLYCERIN	ANGIBID|ANGININE|ANGIOL|NGUAL|ANGORIN|BLASTING OIL|CARDAMIST|CHITAMITE|GILUCOR NITRO|GLONOIN|GLYCERIN TRINITRATE|GLYCEROL TRINITRATE|GLYCERYL NITRATE|GLYCERYL TRINITRATE|GTN|KLAVIKORDAL|LENITRAL|MYOGLYCERIN|NG|NIGLIN|NIGLYCON|NITORA|NITRIN|NITRINE|NITRINE-TDC|NITRO-DUR|NITRO-LENT|NITRO-SPAN|NITRODERM|NITROGLYCERIN|NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH MORE THAN 1% BUT NOT MORE THAN 5% NITROGLYCERIN|NITROGLYCERINE|NITROGLYCEROL|NITROGLYN|NITROL|NITROL (PHARMACEUTICAL)|NITROLAN|NITROLETTEN|NITROLINGUAL|NITROLOWE|NITROMEL|NITRONG|NITROPERCUTEN|NITRORECTAL|NITRORETARD|NITROSTABILIN|NIT	55-63-0	A dilute solution in ethanol. If the ethanol evaporates the nitroglycerine will become shock sensitive. May then detonate if shocked or heated.	2.5	5.0	2.5	2329.0	228.0	784.0	351.0	285.0	437.0	45.0	150.0	70.0	52.0	Call a physician. EYES: Flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes, flush affected areas with water for at least 15 minutes. INHALATION: Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of Hydrogen Bromide Behavior in Fire: 914Â°F (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
999	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 1% NITROGLYCERIN	GLYCERYL TRINITRATE|NG|NITROGLYCERIN|NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 1% NITROGLYCERIN|NITROGLYCERINE|1,2,3-PROPANETRIOL TRINITRATE|SPIRITS OF NITROGLYCERIN, NOT EXCEEDING 1 % NITROGLYCERIN|SPIRITS OF NITROGLYCERIN, [<= 1% NITROGLYCERIN BY WEIGHT]|TRINITROGLYCERINE	55-63-0	Colorless to pale-yellow, viscous liquid or solid (below 56Â°F). (Note: An explosive ingredient in dynamite (20-40%) with ethylene glycol dinitrate (80-60%).). (NIOSH, 1997)	1.0	2.5	5.0	2329.0	228.0	784.0	351.0	285.0	437.0	45.0	150.0	70.0	52.0	(BLOB)	Special Hazards of Combustion Products: Contain toxic thallium fumes. Behavior in Fire: Decomposes to produce toxic thallium fumes. (USCG, 1999)	Fire Extinguishing Agents: Use an agent appropriate for the surrounding fire. (USCG, 1999)
1000	NONYLPHENOL	MONONONYLPHENOL|N-NONYLPHENOL|NONYLPHENOL	25154-52-3	A thick, yellowish liquid with a slight phenolic odor. Insoluble in water. Flash point 285Â°F. Burns although difficult to ignite. May irritate the skin. Used in the manufacture of oil additives, surfactants, fungicide preparations and plastics and rubber.	2.5	5.0	2.5	2333.0	228.0	788.0	351.0	285.0	438.0	45.0	151.0	70.0	52.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1001	N-PENTANOL	AMYL ALCOHOL|AMYL ALCOHOL, NORMAL|1-AMYL ALCOHOL|AMYL ALCOHOLS|AMYLOL|BUTYL CARBINOL|N-AMYL ALCOHOL|N-AMYL ALCOHOL, PRIMARY|N-BUTYL CARBINOL|N-BUTYLCARBINOL|N-PENTAN-1-OL|N-PENTANOL|N-PENTYL ALCOHOL|PENTAN-1-OL|PENTANOL|1-PENTANOL {AMYL ALCOHOL}|PENTANOL-1|1-PENTANOL|PENTASOL|PENTYL ALCOHOL|1-PENTYL ALCOHOL|PRIMARY AMYL ALCOHOL|PRIMARY-N-AMYL ALCOHOL	71-41-0	A colorless liquid with a mild to moderately strong odor. Less dense than water. Flash point 91Â°F. Boiling point 280Â°F. Vapors heavier than air. Moderately toxic by ingestion. Vapors may irritate skin and eyes. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2337.0	228.0	788.0	351.0	285.0	439.0	45.0	151.0	70.0	52.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1002	N-PHENYLMALEIMIDE	IMILEX P|MALEANIL|MALEIMIDE, N-PHENYL-|MALEIMIDOBENZENE|N-PHENYLMALEIC ACID IMIDE|N-PHENYLMALEIC IMIDE|N-PHENYLMALEIMIDE|N-PHENYLMALEINIMIDE|1-PHENYL-1H-PYRROLE-2,5-DIONE|PHENYLMALEIMIDE	941-69-5	PHYSICAL DESCRIPTION: Yellow needles. (NTP, 1992)	1.0	2.5	5.0	2337.0	228.0	792.0	351.0	285.0	439.0	45.0	152.0	70.0	52.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
998	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH MORE THAN 1% BUT NOT MORE THAN 5% NITROGLYCERIN	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, rubber gloves, chemical safety goggles, other protective clothing. (USCG, 1999)	Highly flammable. Slightly soluble in water.	Halogenated aliphatic compounds, such as 2-BROMOPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Emits toxic fumes of bromine when burned.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		78		(USCG, 1999)		4.6		%									(USCG, 1999)		-166	
999	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 1% NITROGLYCERIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Deliquescent. Soluble in water.	THALLIUM ACETATE gives aqueous solutions that are basic (neutralize acids). These neutralizations generate only a little heat. Neither a strong reducing agent nor oxidizing agent, but can serve as both.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		230	
1000	NONYLPHENOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	P-METHYLSTYRENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form peroxides. These peroxides and polyperoxides are usually extremely unstable and liable to detonation. The peroxidation of butadiene has been involved in several serious industrial accidents.	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for vinyl toluene (inhibited mixed isomers), CAS number 25013-15-4.	2	2	2	4		(NFPA, 2010)		125 to 127																		
1001	N-PENTANOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P-NITROBENZOIC ACID is incompatible with strong oxidizers. It is also incompatible with strong bases (potassium hydroxide). It may react with cyanides. (NTP, 1992)						0		(NTP, 1992)		396															(NTP, 1992)		468	
1002	N-PHENYLMALEIMIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1-CHLORO-2,2,2-TRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Undergoes oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
998	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH MORE THAN 1% BUT NOT MORE THAN 5% NITROGLYCERIN	(USCG, 1999)		274.01				mm Hg							(USCG, 1999)		1.3537		68		(USCG, 1999)		160		760		(USCG, 1999)		123.01											BPR	Flammable Liquid	C3H7Br		16.0	1.0	23.0	3.0	4.0
999	NITROGLYCERIN, SOLUTION IN ALCOHOL, WITH NOT MORE THAN 1% NITROGLYCERIN														(USCG, 1999)		3.765		278.6								(NTP, 1992)		263.42		(NIOSH, 2003)	(as Tl)	15	mg/m3	(NTP, 1992)	Soluble				TLA	Poison	C2H3O2.Tl		16.0	1.0	23.0	3.0	4.0
1000	NONYLPHENOL																																								Flammable Liquid	C9H10	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	10.0	1.0	16.0	3.0	4.0
1001	N-PENTANOL														(NTP, 1992)		1.55		90		(NTP, 1992)	Sublimes					(NTP, 1992)		167.12						(NTP, 1992)	at 79Â° F		less than 1	mg/mL			C7H5NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	23.0	3.0	4.0
1002	N-PHENYLMALEIMIDE																																								Non-Flammable Gas	C2H2ClF3		12.0	1.0	29.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1003	N-PROPANOL	ETHYL CARBINOL|ETHYLCARBINOL|1-HYDROXYPROPANE|N-PROPANOL|N-PROPYL ALCOHOL|NORMAL PROPYL ALCOHOL|OPTAL|OSMOSOL EXTRA|PROPANOL|1-PROPANOL|PROPYL ALCOHOL|PROPYL ALCOHOL, NORMAL	71-23-8	A clear colorless liquid with a sharp musty odor like rubbing alcohol. Flash point 53-77Â°F. Autoignites at 700Â°F. Vapors are heavier than air and mildly irritate the eyes, nose, and throat. Density approximately 6.5 lb / gal. Used in making cosmetics, skin and hair preparations, pharmaceuticals, perfumes, lacquer formulations, dye solutions, antifreezes, rubbing alcohols, soaps, window cleaners, acetone and other chemicals and products.	2.5	5.0	2.5	2341.0	228.0	792.0	351.0	285.0	440.0	45.0	152.0	70.0	52.0	(BLOB)	Flash point data are not available for this chemical, but it is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1004	N-PROPYL ACETATE	ACETIC ACID N-PROPYL ESTER|ACETIC ACID, N-PROPYL ETHER|1-ACETOXYPROPANE|N-PROPANOL ACETATE|N-PROPYL ACETATE|N-PROPYL ESTER OF ACETIC ACID|PROPYL ACETATE|1-PROPYL ACETATE|PROPYL ETHANOATE|PROPYLACETATE	109-60-4	A clear colorless liquid with a pleasant odor. Flash point 58Â°F. Less dense than water, Vapors are heavier than air.	2.5	5.0	2.5	2345.0	228.0	792.0	351.0	285.0	441.0	45.0	152.0	70.0	52.0	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Do not get water inside containers. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1005	O-AMINOPHTHALYL HYDRAZIDE	5-AMINO-1,4-DIHYDROXYPHTHALAZINE|5-AMINO-2,3-DIHYDRO-1,4-PHTHALAZINEDIONE|3-AMINOPHTHALHYDRAZIDE|3-AMINOPHTHALIC ACID HYDRAZIDE|3-AMINOPHTHALIC HYDRAZIDE|LUMINOL|O-AMINOPHTHALOYL HYDRAZIDE|O-AMINOPHTHALYL HYDRAZIDE|O-AMINOPHTHALYLHYDRAZIDE	521-31-3	PHYSICAL DESCRIPTION: Yellow crystals or light beige powder. (NTP, 1992)	1.0	2.5	5.0	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
1006	O-BROMOTOLUENE	BENZENE,1-BROMO-2-METHYL-(9CI)|2-BROMO-1-METHYLBENZENE|1-BROMO-2-METHYLBENZENE|2-BROMOTOLUENE|2-METHYLBROMOBENZENE|O-BROMOMETHYLBENZENE|O-BROMOTOLUENE|O-METHYLBROMOBENZENE|O-METHYLPHENYL BROMIDE|O-TOLYL BROMIDE|O-TOLYLBROMIDE|TOLUENE, O-BROMO-|2-TOLYL BROMIDE	95-46-5	PHYSICAL DESCRIPTION: Clear colorless to pale beige liquid. (NTP, 1992)	2.5	5.0	2.5	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	INHALATION: Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. INGESTION: If swallowed and victim is conscious have victim drink water and induce vomiting. If swallowed and victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Contain toxic and irritating gases. Behavior in Fire: Gives off toxic gases (NO x). (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemicals, CO 2 , water spray or alcohol foam. Large fires: water spray, fog or alcohol foam. (USCG, 1999)
1007	O-CHLOROBENZOIC ACID	BENZOIC ACID, 2-CHLORO-|BENZOIC ACID, O-CHLORO-|2-CBA|2-CHLOROBENZOIC ACID|O-CHLOROBENZOIC ACID	118-91-2	PHYSICAL DESCRIPTION: Crystals or fine fluffy white powder. (NTP, 1992)	1.0	2.5	5.0	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1008	O-CRESOL	CRESOL (ORTHO)|CRESOL,-O|2-CRESOL|1-HYDROXY-2-METHYLBENZENE|2-HYDROXYTOLUENE|2-METHYL PHENOL|1-METHYL-2-HYDROXYBENZENE|2-METHYLPHENOL|O-CRESOL|O-CRESYLIC ACID|O-HYDROXYTOLUENE|O-METHYLPHENOL|O-METHYLPHENYLOL|O-OXYTOLUENE|O-TOLUOL|ORTHO-CRESOL|ORTHOCRESOL|PHENOL, 2-METHYL-	95-48-7	Colorless or yellow to brown-yellow or pinkish colored liquid with a phenol-like odor. Toxic by ingestion and/or skin absorption. May have a flash point between 100 and 199Â°F. Causes burns to skin, eyes and mucous membranes. Insoluble in water.	2.5	5.0	2.5	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	Remove victim from exposure. (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1003	N-PROPANOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to air, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor and high efficiency particulate filter cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Unstable in moist surroundings and should be kept in a tightly-closed container. React with water or steam (NTP, 1992).	P-NITROBENZOYL CHLORIDE is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react with reducing agents. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		167	
1004	N-PROPYL ACETATE	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewers, basements or confined areas. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1005	O-AMINOPHTHALYL HYDRAZIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Polyvinyl alcohol Edmont 25-545 0.23 mm 480 min Nitrile Edmont 37-155 0.38 mm 480 min Viton North F-091 0.23 mm 480 min Neoprene Edmont 29-870 0.43 mm 60 min (NTP, 1992)	Highly flammable. Insoluble in water.	D-LIMONENE is sensitive to exposure to light. Atmospheric oxidation can occur. This chemical is incompatible with strong oxidizing agents. It reacts violently with (iodine pentafluoride + tetrafluoroethylene). With dry hydrogen chloride or hydrogen bromide, it forms monohalides. With aqueous hydrogen chloride or hydrogen bromide, it forms the dihalide. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0	(NTP, 1992)		119		(NTP, 1992)	at 302Â°F	0.7		%	(NTP, 1992)	at 302Â°F	6.1		%						(NTP, 1992)		-142.4	
1006	O-BROMOTOLUENE		Self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Water soluble.	POLYETHYLENE POLYAMINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Reacts with strong reducing agents such as hydrides to generate flammable gaseous hydrogen. Incompatible with aluminum, zinc and other nonferrous metals (USCG, 1999). Products of combustion contain toxic and irritating gases.						0		(USCG, 1999)		206.6												(USCG, 1999)		743				
1007	O-CHLOROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slighthy water soluble (NTP, 1992).	Organosulfides, such as D-LIMONENE DIMERCAPTAN, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. This compound can react with strong oxidizers. (NTP, 1992)						0	(NTP, 1992)			greater than 250																		
1008	O-CRESOL		Goggles or face shield. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164].	POLYPROPYLENE GLYCOL METHYL ETHER is a methoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1003	N-PROPANOL																				(NTP, 1992)			396 to 401	105		(NTP, 1992)		185.57						(NTP, 1992)	Decomposes					Corrosive	C7H4ClNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	19.0	1.0	43.0	3.0	4.0
1004	N-PROPYL ACETATE																																							Flammable Solid|Poison	C10H14N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	31.0	3.0	4.0
1005	O-AMINOPHTHALYL HYDRAZIDE	(NTP, 1992)	; 5 mm Hg at 104.7Â° F; 10 mm Hg at 128.8Â° F	1		57		mm Hg	(NTP, 1992)		4.69				(NTP, 1992)		0.8411		68		(NTP, 1992)			348 to 349	760		(NTP, 1992)		136.24						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL		Flammable Liquid	C10H16	Dirt/Earth	15.0	1.0	27.0	3.0	4.0
1006	O-BROMOTOLUENE														(USCG, 1999)	(temperature unknown)	0.99				(USCG, 1999)			401		760														PEB		(CH2CH2NH)n	Mineral-Based & Clay-Based Absorbents	11.0	1.0	22.0	3.0	4.0
1007	O-CHLOROBENZOIC ACID	(NTP, 1992)			less than 0.1	100		mm Hg	(NTP, 1992)		7.04				(NTP, 1992)		1.034		59.9		(NTP, 1992)			309	10		(NTP, 1992)		204						(NTP, 1992)	Slightly soluble						C10H20S2		10.0	1.0	33.0	3.0	4.0
1008	O-CRESOL														(USCG, 1999)	(est.)	0.9		68		(USCG, 1999)	Very high																		PGM		C4H10O2	Cellulose-Based Absorbents	13.0	1.0	39.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1009	OCTADECYLAMINE	ADOGENEN 142|ALAMINE 7|ALAMINE 7D|AMINE AB|1-AMINOOCTADECANE|ARMEEN 1188|ARMEEN 18|ARMEEN 18D|ARMOFILM|CRODAMINE 1.18D|FARMIN 80|GENAMIN SH 100|KEMAMINE P 990|MONOOCTADECYLAMINE|N-OCTADECYLAMINE|N-STEARYLAMINE|NISSAN AMINE AB|1-OCTADECANAMINE|OCTADECYLAMINE|1-OCTADECYLAMINE|STEARAMINE|STEARYLAMINE	124-30-1	A white solid. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1010	OCTANOIC ACID	C-8 ACID|CAPRYLIC ACID|EMERY 657|1-HEPTANECARBOXYLIC ACID|HEXACID 898|KORTACID 0899|LUNAC 8 95|LUNAC 8-98|N-CAPRYLIC ACID|N-OCTANOIC ACID|N-OCTIC ACID|N-OCTOIC ACID|N-OCTYLIC ACID|NAA 82|NEO-FAT 8|NEO-FAT 8S|OCTANOIC ACID|OCTIC ACID|OCTYLIC ACID|PRIFAC 2901	124-07-2	A colorless to light yellow liquid with a mild odor. Burns, but may be difficult to ignite. Corrosive to metals and tissue.	2.5	5.0	2.5	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	(BLOB)	Flash point data for this chemical are not available, but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1011	OCTANOL	ALCOHOL C-8|ALFOL 8|CAPRYLIC ALCOHOL|HEPTYL CARBINOL|HEPTYLCARBINOL|1-HYDROXYOCTANE|N-OCTAN-1-OL|N-OCTANOL|N-OCTYL ALCOHOL|OCTANOL|1-OCTANOL|OCTILIN|OCTYL ALCOHOL|OCTYL ALCOHOL (N)|SIPOL L8	111-87-5	A clear colorless liquid with a penetrating aromatic odor. Insoluble in water and floats on water. Vapors heavier than air. Vapors may irritate the eyes, nose, and respiratory system.	2.5	5.0	2.5	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1012	O-DICHLOROBENZENE	BENZENE, O-DICHLORO-|CHLOROBEN|CHLORODEN|CLOROBEN|DCB|DICHLORO BENZENE (ORTHO), LIQUID|DICHLOROBENZENE, ORTHO, LIQUID|1,2-DICHLOROBENZENE|DILANTIN DB|DILATIN DB|DIZENE|DOWTHERME|NCI-C54944|O-DCB|O-DICHLOR BENZOL|O-DICHLORBENZENE|O-DICHLOROBENZENE|O-DICHLOROBENZENE, [LIQUID]|O-DICHLOROBENZOL|ODB|ODCB|ORTHO-DICHLOROBENZENE|ORTHO DICHLOROBENZENE|ORTHO DICHLOROBENZOL|SPECIAL TERMITE FLUID|TERMITKIL	95-50-1	A clear colorless liquid with a pleasant odor. Denser than water and insoluble in water. Flash point 150Â°F. Toxic by inhalation and ingestion. Used to make other chemicals, solvents, fumigants and insecticides and for many other uses.	2.5	5.0	2.5	2349.0	228.0	796.0	359.0	285.0	442.0	45.0	153.0	72.0	52.0	(BLOB)	Behavior in Fire: May decompose, geneerating oxygen. Supports the combustion of other materials. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1013	OIL, [MINERAL SEAL]	LONG-TIME BURNING OIL|MINERAL COLZA OIL|300O OIL|OIL, [MINERAL SEAL]|OILS, MISCELLANEOUS: MINERAL SEAL|SIGNAL OIL	64742-46-7	Oily colorless to yellow liquid with an odor of kerosene. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	2353.0	228.0	796.0	359.0	285.0	443.0	45.0	153.0	72.0	52.0	(BLOB)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1014	OILS, EDIBLE: COCONUT	COCONUT BUTTER|COCONUT OIL|COPRA OIL|OILS, EDIBLE: COCONUT	8001-31-8	White or light-yellow to orange semi-solid. Density 0.92 g / cm3 and insoluble in water. Hence floats on water. Nontoxic. Contains principally glycerides of myristic, palmitic, stearic, oleic and linoleic acids.	1.0	2.5	5.0	2357.0	228.0	800.0	359.0	285.0	444.0	45.0	154.0	72.0	52.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1009	OCTADECYLAMINE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BARIUM STYPHNATE may begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides, May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)																																	
1010	OCTANOIC ACID		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Water soluble.	POLYVINYLPYRROLIDONE is a polymeric material and probably has low reactivity. It reacts as a weak base.						0																							
1011	OCTANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Water soluble.	PONCEAU 3R is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																						(NTP, 1992)			greater than 572
1012	O-DICHLOROBENZENE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Approved dust mask; protective gloves; goggles or face shield. (USCG, 1999)	Soluble in water.	Potassium or sodium dichromate reacts explosively with hydrazine [Mellor 11:234. 1946-47]. A drop of anhydrous hydroxylamine on powdered potassium dichromate produces a violent explosion [Mellor 8:293. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable				(NTP, 1992)		748	
1013	OIL, [MINERAL SEAL]	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	POTASSIUM BROMATE is a strong oxidizing agent. Forms very flammable mixtures with combustible materials. Such mixtures may be explosive if the combustible material is finely divided and are often ignitable by friction. A mixture with finely divided aluminum can explode by heat, percussion, and friction [Mellor 2:310. 1946-47]. Reacts explosively with selenium [Mellor 2 Supp1:763. 1956].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		662	
1014	OILS, EDIBLE: COCONUT	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly water soluble.	A dinitroaniline derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1009	OCTADECYLAMINE																																								Explosive 1.1A	Ba(C6H2N3O8)2.H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	28.0	3.0	4.0
1010	OCTANOIC ACID														(NTP, 1992)			1.23 to 1.29									(NTP, 1992)	(average)	10000						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			(C6H9NO)x	Mineral-Based & Clay-Based Absorbents	13.0	1.0	39.0	3.0	4.0
1011	OCTANOL																											(NTP, 1992)		494.47						(NTP, 1992)	at 66Â° F		50 to 100	mg/mL			C19H18N2O7S2.2Na		12.0	1.0	38.0	3.0	4.0
1012	O-DICHLOROBENZENE														(USCG, 1999)		2.676		77		(NTP, 1992)	Decomposes at 932Â° F					(NTP, 1992)		294.2						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	PTD	Oxidizer|Poison	Cr2H2O72K	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	44.0	3.0	4.0
1013	OIL, [MINERAL SEAL]														(NTP, 1992)		3.27				(NTP, 1992)	Decomposes at 698Â° F					(NTP, 1992)		167.01						(NTP, 1992)	at 66Â° F		10 to 50	mg/mL		Oxidizer	KBrO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	24.0	3.0	4.0
1014	OILS, EDIBLE: COCONUT																																								Class 9	C13H16F3N3O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	19.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1015	OILS, EDIBLE: FISH	OILS, EDIBLE: FISH	8016-13-5	Pale yellow oily liquid with a fishy odor. Insoluble in water and less dense than water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	2357.0	232.0	800.0	359.0	285.0	444.0	46.0	154.0	72.0	52.0	(BLOB)	Flammability data is not available, but this compound is probably nonflammable. (NTP, 1992)	
1016	OILS, EDIBLE: OLIVE	OILS, EDIBLE: OLIVE	8001-25-0	Pale yellow oily liquid. Insolube in water and less dense than water. Hence floats on water. Contains principally glycerides of oleic, palmitic and linoleic acids.	2.5	5.0	2.5	2361.0	232.0	800.0	359.0	285.0	445.0	46.0	154.0	72.0	52.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting; treat peripheral vascular shock vigorously; get medical attention. EYES: flush with water for at least 15 min.; get medical attention. SKIN: flush with water; if irritation persists, get medical attention. (USCG, 1999)	Behavior in Fire: May increase intensity of fire if in contact with combustible materials. Cool containers and spilled material with plenty of water. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1017	OILS, EDIBLE: PALM	OILS, EDIBLE: PALM|PALM BUTTER|PALM FRUIT OIL|PALM OIL	8002-75-3	Orange-red liquid or solid with a pleasant odor. Insoluble in water and less dense than water. Hence floats on water. Contains principally glycerides of palmitic, oleic, and linoleic acids.	2.5	5.0	2.5	2361.0	232.0	800.0	359.0	285.0	445.0	46.0	154.0	72.0	52.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of thallium and sulfur oxide. (EPA, 1998)	(BLOB)
1018	OILS, EDIBLE: PEANUT	OILS, EDIBLE: PEANUT	8002-03-7	Pale yellow oily liquid with a weak odor of peanuts. Floats on water. Contains principally glycerides of oleic and linoleic acids.	2.5	5.0	2.5	2365.0	232.0	800.0	359.0	285.0	446.0	46.0	154.0	72.0	52.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1019	OILS, EDIBLE: SAFFLOWER	CARTHAMUS TINCTORIUS OIL|FATS AND GLYCERIDIC OILS, SAFFLOWER|LIPOVOL SAF(TIPO)|NEOBEE 18|OBESITOL|OILS, EDIBLE: SAFFLOWER|OILS, GLYCERIDIC, SAFFLOWER|SAFFLOR|SAFFLOWER OIL|SAFFLOWER SEED OIL|SAFFOLA|THISTLE OIL|TRI-OL SA(TRI-K)	8001-23-8	Pale yellow oily liquid with a weak odor.	2.5	5.0	2.5	2365.0	232.0	800.0	359.0	285.0	446.0	46.0	154.0	72.0	52.0	(BLOB)	Contact with acid releases highly flammable hydrogen cyanide gas. Moisture may cause this material to volatilize as hydrogen cyanide. When heated to decomposition, it emits very toxic fumes of cyanide and nitrogen oxides. Reacts with acids to produce hydrogen cyanide gas. Reacts with strong oxidizers such as nitrates and chlorates, nitrogen trichloride; perchloryl fluoride; sodium nitrate; acids; alkaloids; chloral hydrate; iodine. Avoid contact with acids. (EPA, 1998)	Wear full protective clothing. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Water may be used on fire in an area containing potassium cyanide. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1020	OILS, EDIBLE: VEGETABLE	OILS, EDIBLE: VEGETABLE|VEGETABLE MIST|VEGETABLE OIL MIST	68956-68-3	Pale yellow oily liquid with a weak, fatty odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	2365.0	232.0	800.0	359.0	285.0	446.0	46.0	154.0	72.0	52.0	(BLOB)	Special Hazards of Combustion Products: May form toxic chlorine and other gases in fire Behavior in Fire: Decomposition can be initiated with a heat source and can propagate throughout the mass with the evolution of dense fumes. Containers may explode when heated. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1015	OILS, EDIBLE: FISH	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Water soluble.	POTASSIUM CHLORIDE is not in general strongly reactive. Violent reaction with BrF3 and with a mixture of sulfuric acid potassium permanganate mixture (NTP, 1992). Reacts with concentrated sulfuric acid to generate fumes of hydrogen chloride.							0																			(NTP, 1992)		1418	
		Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)																																	
1016	OILS, EDIBLE: OLIVE		Bu. of Mines approved filter-type respirator; close-fitting safety goggles; rubber boots and apron; safety hat; face shield (USCG, 1999)	Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1017	OILS, EDIBLE: PALM	(Non-Specific -- Thallium Salts, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water.	THALLIUM SULFATE has weak oxidizing and weak reducing powers. Redox reactions can however still occur.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		1170	
1018	OILS, EDIBLE: PEANUT	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	POTASSIUM CUPROCYANIDE is an inorganic cyanide. Members of this class that contain heavy metals tend to explosive instability, most of them are capable of violent oxidation under certain condition; fusion of metal cyanides with metal chlorates, perchlorates, nitrates or nitrites can cause violent explosions [Bretherick 1979. p. 101].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1019	OILS, EDIBLE: SAFFLOWER	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Deliquescent. Soluble in water. Dissolution releases some poisonous hydrogen cyanide gas. The amount is not hazardous except in an enclosed space. If the water is acidic, dangerous amounts of hydrogen cyanide form at once. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Cyanide gas will be created in 12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	POTASSIUM CYANIDE is a basic salt and a reducing agent. Reacts with acids of all kinds to generate poisonous hydrogen cyanide gas. Can react violently with oxidizing agents: fusion with metal chlorates, perchlorates, nitrates, or nitrites can cause explosions [Bretherick 1979. p. 101]. A mixture with perchloryl fluoride may explode above 100Â°C. A mixture with nitrite salts may cause an explosion [Pieters 1957. p. 30]. Incompatible with iodine. Initiates the explosive decomposition of nitrogen trichloride.	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1680 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(EPA, 1998)	Not flammable													(USCG, 1999)	Not flammable			(EPA, 1998)		1173	
1020	OILS, EDIBLE: VEGETABLE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask or chlorine canister mask; goggles; rubber gloves and other protective clothing to prevent contact with skin. (USCG, 1999)	The solid may vigorously react with water releasing chlorine gas. Material containing less than 39% available chlorine will undergo reactions as described herein, but may take longer to initiate, and the resulting reaction may not be as vigorous. Water soluble.	Contact with ammonium compounds or hydrated salts can cause a very vigorous reaction. Prolonged exposure to heat /fire may result in the vigorous decomposition of the material with the rupture of its containers, it will accelerate the burning of combustible materials. Chlorine plus alcohols would yield alkyl hypochlorites. They decompose in the cold and explode on exposure to sunlight or heat. Tertiary hypochlorites are less unstable than secondary or primary hypochlorites [NFPA 491 M. 1991].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	Oxidizer																	(NTP, 1992)	(decomposes)	482	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1015	OILS, EDIBLE: FISH														(NTP, 1992)		1.984				(NTP, 1992)	Sublimes at 2732Â° F					(NTP, 1992)		74.56						(NTP, 1992)	at 68Â° F		greater than 100	mg/mL			ClK		14.0	1.0	19.0	3.0	4.0
1016	OILS, EDIBLE: OLIVE														(USCG, 1999)		2.73		64.4								(USCG, 1999)		194.2		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3						PCH	Oxidizer| Corrosive	K2CrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	35.0	3.0	4.0
1017	OILS, EDIBLE: PALM	(EPA, 1998)	Inappreciable												(EPA, 1998)		6.77				(EPA, 1998)	Decomposes					(EPA, 1998)		504.8		(NIOSH, 2003)	(as Tl)	15	mg/m3						TSU	Poison	Tl2SO4		19.0	1.0	33.0	3.0	4.0
1018	OILS, EDIBLE: PEANUT																																									Poison	KCu(CN)2		13.0	1.0	18.0	3.0	4.0
1019	OILS, EDIBLE: SAFFLOWER	(NIOSH, 2003)	(approx)	0				mm Hg							(EPA, 1998)		1.52		60.8		(USCG, 1999)	Very high					(EPA, 1998)		65.11		(NIOSH, 2003)	(as CN)	25	mg/m3	(NIOSH, 2003)	at 77Â° F	72		%	PTC	Poison	KCN		15.0	1.0	28.0	3.0	4.0
1020	OILS, EDIBLE: VEGETABLE														(USCG, 1999)		0.96		68								(NTP, 1992)		237.07						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL	PDT	Oxidizer	C3HCl2N3O3.K	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	17.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1021	OILS, NEATSFOOT	OILS, MISCELLANEOUS: NEATSFOOT	8002-64-0	Pale yellow oily liquid with a peculiar odor. Insoluble in water and less dense than water. Hence floats on water. Contains principally glycerides of oleic and palmitic acids.	2.5	5.0	2.5	2369.0	232.0	800.0	359.0	285.0	447.0	46.0	154.0	72.0	52.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
1022	OLEIC ACID METHYL ESTER	CIS-9-OCTADECENOIC ACID METHYL ESTER|EDENOR METIOS|EMEREST 2801|EMERY|EMERY 2301|EMERY, OLEIC ACID ESTER|ESTEROL 112|EXCEPARL M-OL|METHYL (Z)-9-OCTADECENOATE|METHYL 9-OCTADECENOATE|METHYL CIS-9-OCTADECENOATE|METHYL OLEATE|NISSAN UNISTER M 182A|9-OCTADECENOIC ACID (Z)-, METHYL ESTER|OLEIC ACID METHYL ESTER|OLEIC ACID, METHYL ESTER|PRIOLUBE 1403|UNISTER M 182A|WITCONOL 2301|(Z)-9-OCTADECENOIC ACID METHYL ESTER|(Z)-9-OCTADECENOIC ACID, METHYL ESTER	112-62-9	PHYSICAL DESCRIPTION: Clear to amber liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	2373.0	232.0	800.0	359.0	285.0	448.0	46.0	154.0	72.0	52.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1023	OLEIC ACID, [SODIUM SALT]	EUNATROL|OLEIC ACID, SODIUM SALT|OLEIC ACID, [SODIUM SALT]|SODIUM OLEATE	143-19-1	Light tan solid with a slight tallow-like odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	2377.0	232.0	800.0	359.0	285.0	449.0	46.0	154.0	72.0	52.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1024	OLEUM, WITH LESS THAN 30% FREE SULFUR TRIOXIDE	FUMING SULFURIC ACID|OLEUM|OLEUM (FUMING SULFURIC ACID)|OLEUM IODISUM|OLEUM, WITH LESS THAN 30% FREE SULFUR TRIOXIDE|OLEUM, WITH LESS THAN 30% FREE SULPHUR TRIOXIDE|OLEUM, WITH NOT LESS THAN 30% FREE SULFUR TRIOXIDE|OLEUM, WITH NOT LESS THAN 30% FREE SULPHUR TRIOXIDE|SULFUR TRIOXIDE, MIXT. CONTAINING|SULFURIC ACID|SULFURIC ACID (FUMING)|SULFURIC ACID FUMING|SULFURIC ACID, FUMING|SULFURIC ACID, FUMING, WITH LESS THAN 30% FREE SULFUR TRIOXIDE|SULFURIC ACID, FUMING, WITH NOT LESS THAN 30% FREE SULFUR TRIOXIDE|SULFURIC ACID, MIXTURE WITH SULFUR TRIOXIDE|SULPHURIC ACID,	8014-95-7	Thick fuming yellow liquid. Density 16.5 lb / gal. Very toxic by inhalation. Corrosive to metals and tissue, quickly causing severe burns. Used to make chemicals, dyes, explosives and in petroleum refining.	2.5	5.0	2.5	2381.0	232.0	800.0	359.0	285.0	450.0	46.0	154.0	72.0	52.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1025	O-METHOXYPHENOL	ANASTIL|GUAIACOL|GUAIASTIL|GUAICOL|1-HYDROXY-2-METHOXYBENZENE|2-HYDROXYANISOLE|2-METHOXYPHENOL|O-GUAIACOL|O-HYDROXVANIOSOLE|O-HYDROXYANISOLE|O-METHOXY CATECHOL|O-METHOXYPHENOL|O-METHYL CATECHOL|PHENOL, O-METHOXY-|PYROCATECHOL MONOMETHYL ETHER|PYROGUAIAC ACID	90-05-1	PHYSICAL DESCRIPTION: Colorless to amber crystals or liquid. Density (of solid) 1.129 g / cm3. Solidifies at 28Â°C (82.4Â°F), but may remain liquid for a long time even at a much lower temperature. Slightly water soluble . Soluble in aqueous sodium hydroxide. Used medicinally as an expectorant. Used, because of its anti-oxidant properties, as an anti-skinning agent for paints.	1.0	2.5	5.0	2385.0	232.0	800.0	359.0	285.0	451.0	46.0	154.0	72.0	52.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1021	OILS, NEATSFOOT	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	A dangerous fire risk when exposed to limited amounts of water or moist air. Soluble in water. Dissolution in large amounts of water removes danger of fire. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of sulfur Dioxide gas will be created in 6.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	POTASSIUM DITHIONITE reacts, often violently, with oxidizing agents to generate heat and gaseous products that may be toxic and flammable. Generates gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1022	OLEIC ACID METHYL ESTER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Addition of water to hydrosulfide may drop the pH and allow copious quantities of hydrogen sulfide to be produced. Acid accelerates the H2S production.	Inorganic sulfides are generally basic and therefore incompatible with acids. Many of these compounds are reducing agents and therefore react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Simple salts of sulfides (such as sodium, potassium, and ammonium sulfide) react vigorously with acids to release hydrogen sulfide gas	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1023	OLEIC ACID, [SODIUM SALT]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	(BLOB)	Insoluble in water.	BENOMYL is incompatible with strong acids, peroxides and strong oxidizers. Decomposed by strong alkalis. Also decomposes on storage with water (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0									(NTP, 1992)		0.05		g/L						(NTP, 1992)		428		(NTP, 1992)	Decomposes before melting		
1024	OLEUM, WITH LESS THAN 30% FREE SULFUR TRIOXIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolysis generates enough heat to ignite adjacent combustible material [Haz. Chem. Data 1966]. Dissolves in water with liberation of heat, may steam and spatter. Solution is basic (alkaline). Forms crusts on exposure to air (from absorption of carbon dioxide).	(BLOB)	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																								
1025	O-METHOXYPHENOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Reactivity in Water: No reaction, unless in presence of acids or strong caustics. Slow decomposition, not considered hazardous. Polymerization: Violent polymerization occurs at about 255Â°F. Acid fumes also cause polymerization at ordinary temperatures (USCG, 1999). Materials in this group are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Polymerizable	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1021	OILS, NEATSFOOT																																								Spontaneously Combustible	O4S2K2		11.0	1.0	16.0	3.0	4.0
1022	OLEIC ACID METHYL ESTER																																								Corrosive|Poison	HKS		11.0	1.0	25.0	3.0	4.0
1023	OLEIC ACID, [SODIUM SALT]	(NTP, 1992)	Negligible			68															(NTP, 1992)	Decomposes					(NTP, 1992)		290.36						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C14H18N4O3	Mineral-Based & Clay-Based Absorbents	13.0	1.0	25.0	3.0	4.0
1024	OLEUM, WITH LESS THAN 30% FREE SULFUR TRIOXIDE																																								Corrosive	KOH, aqueous	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	81.0	4.0	4.0
1025	O-METHOXYPHENOL																																								Poison	C6H12N3PO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1026	O-METHYLHYDROXYLAMINE HYDROCHLORIDE	METHOXYAMINE HYDROCHLORIDE|METHOXYAMINE, HYDROCHLORIDE|METHOXYAMMONIUM CHLORIDE|METHOXYLAMINE HYDROCHLORIDE|METHYLOXYAMMONIUM CHLORIDE|O-METHOXYAMINE HYDROCHLORIDE|O-METHYLHYDROXYLAMINE HYDROCHLORIDE|O-METHYLHYDROXYLAMINE, HYDROCHLORIDE	593-56-6	PHYSICAL DESCRIPTION: Off-white crystals. (NTP, 1992)	1.0	2.5	5.0	2389.0	232.0	804.0	359.0	285.0	452.0	46.0	155.0	72.0	52.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1027	O-PHENANTHROLINE MONOHYDRATE	BETA-PHENANTHROLINE MONOHYDRATE|4,5-DIAZAPHENANTHRENE MONOHYDRATE|O-PHENANTHROLINE MONOHYDRATE|1,10-O-PHENANTHROLINE MONOHYDRATE|ORTHOPHENANTHROLINE MONOHYDRATE|1,10-PHENANTHROLINE MONOHYDRATE|4,5-PHENANTHROLINE MONOHYDRATE	5144-89-8	PHYSICAL DESCRIPTION: White crystalline powder or solid. Slight odor. (NTP, 1992)	1.0	2.5	5.0	2389.0	232.0	804.0	359.0	285.0	452.0	46.0	155.0	72.0	52.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1028	ORANGE FLOWER WATER	BITTER ORANGE FLOWER OIL|CITRUS AURANTIUM AMARA FLOWER OIL|CITRUS AURANTIUM FLOWER OIL|CITRUS OILS, SOUR ORANGE NEROLI|EAU D'ORANGER|ESSENTIAL OILS, SOUR ORANGE NEROLI|NEROLI OIL|OIL OF NEROLI|OIL OF ORANGE BLOSSOM|OIL OF ORANGE FLOWERS|OILS, ESSENTIAL, SOUR ORANGE NEROLI|OILS, NEROLI, WATER|OLEUM NEROLI|ORANGE BLOSSOM OIL|ORANGE FLOWER OIL|ORANGE FLOWER WATER|SOUR ORANGE NEROLI OIL	8016-38-4	PHYSICAL DESCRIPTION: Clear golden, fluorescent liquid with a very intense and pleasant odor. (NTP, 1992)	2.5	5.0	2.5	2393.0	232.0	804.0	359.0	285.0	453.0	46.0	155.0	72.0	52.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1029	OSMIUM TETROXIDE	MILAS' REAGENT|OSMIC ACID ANHYDRIDE|OSMIUM OXIDE|OSMIUM OXIDE (OSO4)|OSMIUM OXIDE OSO4 (T-4)-|OSMIUM TETRAOXIDE|OSMIUM TETROXIDE|OSMIUM(IV) OXIDE|REAGENTS, MILAS'|TETRAOXOOSMIUM	20816-12-0	A colorless or yellow solid with a pungent odor of chlorine. Begins to sublime below melting point. Soluble in alcohol. Toxic by inhalation and a strong irritant to the eyes and mucous membranes.	1.0	2.5	5.0	2397.0	232.0	804.0	367.0	285.0	454.0	46.0	155.0	74.0	52.0	Get medical attention following all exposures to this compound. INHALATION: remove to fresh air. EYES: flush with water for at least 15 min.; do not use oils or ointments. SKIN: flush with water; wash with soap and water. INGESTION: give large amounts of water or milk; induce vomiting; give milk, eggs, or olive oil. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes include oxides of phosphorus and sulfur and hydrogen chloride. Behavior in Fire: Containers may rupture. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1030	O-TOLUIDINE	2-AMINO-1-METHYLBENZENE|1-AMINO-2-METHYLBENZENE|2-AMINOTOLUENE|C.I. 37077|2-METHYL-1-AMINOBENZENE|1-METHYL-2-AMINOBENZENE|2-METHYLANILINE|2-METHYLBENZENAMINE|2-METHYLPHENYLAMINE|O-AMINOTOLUENE|O-METHYLANILINE|O-METHYLBENZENAMINE|O-TOLUIDINE|O-TOLYLAMINE|ORTHO-TOLUIDINE|TOLUIDINE (ORTHO)|2-TOLUIDINE	95-53-4	A clear colorless or light yellow liquid. May become reddish brown on exposure to air and light. Flash point 185Â°F. Has about the same density as water and is very slightly soluble in water. Vapors are heavier than air. Confirmed carcinogen.	2.5	5.0	2.5	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1026	O-METHYLHYDROXYLAMINE HYDROCHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BENZ[C]ACRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1027	O-PHENANTHROLINE MONOHYDRATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	Most alkyl monohydroperoxides are liquid, the explosivity of the lower members (e.g., methyl hydroperoxide, or possibly due to traces of the dialkyl peroxides) decreasing with increasing chain length and branching [Bretherick 2nd ed. 1979 p. 10]. Though relatively stable, explosions have been caused by distillation to dryness [Milas, JACS, 1946, 68, 205] or attempted distillation at atmospheric pressure [Castrantas 1965 p 15].	Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	4	8	Oxidizer																							
1028	ORANGE FLOWER WATER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. The oxides of potassium react with water vigorously and with enough evolution of heat to cause boiling and spattering of hot caustic solution, [Chemical Safety Data Sheets SD-9, SD-10. 1947]. Reacts with warm water with violent explosion [Thorpe and Tlinton J. Chem. Soc. 59:1019: 1891].	The higher oxides of potassium, formed in air, react explosively with pure potassium, sodium, sodium-potassium alloys, and organic matter [Mellor 2, Supp. 3:1559. 1963].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1029	OSMIUM TETROXIDE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self-contained breathing apparatus; acid-type canister mask; goggles and face shield; rubber gloves; protective clothing. (USCG, 1999)	Decomposed exothermically by water, including moisture in air or soil, to form hydrochloric acid (HCl), often as fumes.	BENZENE PHOSPHORUS THIODICHLORIDE is incompatible with water, with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		252												(USCG, 1999)		338		(USCG, 1999)		-11.2	
1030	O-TOLUIDINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	POTASSIUM NITRITE is an oxidizing agent. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Contamination by ammonium compounds can initiate spontaneous decomposition. The resulting heat may ignite surrounding combustible material. Reacts with acids to form toxic nitrogen dioxide gas. Mixing with liquid ammonia forms dipotassium nitrite, which is very reactive and easily explosive [Mellor 2, Supp. 3:1566 1963]. Melting together with an ammonium salt leads to a violent explosion [Von Schwartz 1918 p. 299]. A mixture with potassium cyanide may cause an explosion. When a little ammonium sulfate is added to fused potassium nitrite, a vigorous reaction occurs attended by flame [Mellor 2:702. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1026	O-METHYLHYDROXYLAMINE HYDROCHLORIDE																																								Class 9	C17H11N	Mineral-Based & Clay-Based Absorbents	11.0	1.0	31.0	3.0	4.0
1027	O-PHENANTHROLINE MONOHYDRATE																																								Organic Peroxide	C4H10O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	41.0	3.0	4.0
1028	ORANGE FLOWER WATER																																								Corrosive	K2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	11.0	1.0	21.0	3.0	4.0
1029	OSMIUM TETROXIDE															(USCG, 1999)		1.378		68		(USCG, 1999)		518		760		(USCG, 1999)		211											BPT	Corrosive	C6H5Cl2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	22.0	3.0	4.0
1030	O-TOLUIDINE																																								Oxidizer	KNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1031	OXAZEPAM	ADUMBRAN|ANSIOLISINA|ANSIOXACEPAM|ANXIOLIT|ANXIOLIT RETARD|APLAKIL|ASTRESS|BONARE|7-CHLORO-1,3-DIHYDRO-3-HYDROXY-5-PHENYL-2H-1,4-BENZODIAZEPIN-2-ONE|7-CHLORO-1,3-DIHYDRO-3-HYDROXY-5-PHENYL-2H-1,4-BENZODIAZEPINE-2-ONE|7-CHLORO-3-HYDROXY-5-PHENYL-1,3-DIHYDRO-2H-1,4-BENZODIAZEPIN-2-ONE|DRIMUEL|DROXACEPAM|ENIDREL|HI-LONG|HILONG|ISODIN|LIMBIAL|N-DESMETHYLTEMAZEPAM|NESONTIL|NOCTAZEPAM|NORTEMAZEPAM|NOTARAL|NOZEPAM|OXAZAPAM|(-+-)-3-OXAZEPAM|PACIENX|PRAXITEN|PROPAX|PSICOPAX|PSIQUIWAS|QUEN|QUILIBREX|RO 5-6789|RONDAR|(RS)-OXAZEPAM|SERAX|SERENAL|SERENID|SERENID-D|SEREPAX|SERESTA|SERPA	604-75-1	PHYSICAL DESCRIPTION: Odorless creamy-white to pale-yellow powder or white crystalline solid. Bitter taste. pH (2% aqueous suspension) 4.8-7, (NTP, 1992)	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1032	OXYFLUORFEN	OXYFLUORFEN	42874-03-3	Orange crystalline solid. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	INGESTION: consult a doctor if large amount was ingested. EYES: flush with water; consult a doctor if irritation persists. SKIN: flush with water. (USCG, 1999)		
1033	OXYTETRACYCLINE HYDROCHLORIDE	AQUACYCLINE|BISOLVOMYCIN|4-(DIMETHYLAMINO)-1,4,4A,5,5A,6,11,12A-OCTAHYDRO-3,5,6,10,12,12A-HEXAHYDROXY-|ENGEMYCIN|HYDROCYCLIN|5-HYDROXYTETRACYCLINE HYDROCHLORIDE|5-HYDROXYTETRACYCLINE MONOHYDROCHLORIDE|LIQUAMYCIN INJECTABLE|MEPATAR|6-METHYL-1,11-DIOXO-2-NAPHTHACENECARBOXAMIDE MONOHYDROCHLORIDE|2-NAPHTHACENECARBOXAMIDE, 4-(DIMETHYLAMINO)-1,4,4A,5,5A,6,11,12A-OCTAHYDRO-3,5,6,10,12,12A-HEXAHYDROXY-6-METHYL-1,11-DIOXO-, MONOHYDROCHLORIDE, [4S-(4ALPHA,4AALPHA,5ALPHA,5AALPHA,6BETA,12A.ALPHA)].-|2-NAPHTHACENECARBOXAMI	2058-46-0	PHYSICAL DESCRIPTION: Odorless fluffy yellow solid or yellow powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	INGESTION: consult a doctor if large amount was ingested. EYES: flush with water; consult a doctor if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic vapors of triethanolamine and oxides of nitrogen may form in fire. (USCG, 1999)	
1034	P-AMINOPHENOL	ACTIVOL|4-AMINO-1-HYDROXYBENZENE|1-AMINO-4-HYDROXYBENZENE|4-AMINOPHENOL|AZOL|BASF URSOL P BASE|BENZOFURP|C.I. 76550|C.I. OXIDATION BASE 6|C.I. OXIDATION BASE 6A|CERTINAL|CITOL|DURAFUR BROWN RB|FOURAMINE P|FOURRINE 84|FOURRINE P BASE|FURRO P BASE|4-HYDROXY-1-AMINOBENZENE|4-HYDROXYANILINE|4-HYDROXYBENZENAMINE|4-HYDROXYPHENYLAMINE|NAKO BROWN R|P-AMINOPHENOL|P-HYDROXYANILINE|P-HYDROXYPHENYLAMINE|PAP|PARA-AMINOPHENOL|PARANOL|PELAGOL GREY P BASE|PELAGOL P BASE|PHENOL, P-AMINO-|RENAL ACIRODINAL|TERTRAL P	123-30-8	PHYSICAL DESCRIPTION: White or reddish-yellow crystals or light brown powder. Turns violet when exposed to light. (NTP, 1992)	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam (USCG, 1999)
1035	PARAFORMALDEHYDE	ALDACIDE|FLO-MOR|FORMALDEHYDE POLYMER|PARAFORM|PARAFORMALDEHYDE|POLYFORMALDEHYDE|POLYOXYMETHYLENE|POLYOXYMETHYLENE GLYCOL	30525-89-4	A white solid with a light pungent odor. A linear polymer of formaldehyde of formula HO(CH2-O)xH where x averages about 30. Soluble in water when x is less than 12; higher polymers are not immediately soluble. Slow dissolution in water proceeds by means of hydrolysis to give fragments of lower x. Flammable, although may take some effort to ignite. Flash point 158Â°F. Used in fungicides, bactericides, and in the manufacture of adhesives. A hazard to the environment. Immediate steps should be taken to limit spread to the environment.	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1036	P-BROMOANILINE	1-AMINO-4-BROMOBENZENE|ANILINE, P-BROMO-|4-BROMOANILINE (9CI)|4-BROMOANILINE|4-BROMOBENZENAMINE (9CI)|4-BROMOBENZENAMINE|4-BROMOBENZENEAMINE|P-AMINOBROMOBENZENE|P-BROMOANILINE|P-BROMOPHENYLAMINE|PARA-BROMOANILINE	106-40-1	PHYSICAL DESCRIPTION: Brown solid with a sweet odor. (NTP, 1992)	1.0	2.5	5.0	2401.0	232.0	804.0	367.0	285.0	455.0	46.0	155.0	74.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1031	OXAZEPAM	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	Most alkyl monohydroperoxides are liquid. The explosivity of the lower members (e.g., methyl hydroperoxide, or possibly, traces of the dialkyl peroxides) decreasing with increasing chain length and branching [Bretherick 2nd ed. 1979 p. 10]. Though relatively stable, explosions have been caused by distillation to dryness [Milas, JACS 1946, 68, 205] or attempted distillation at atmospheric pressure [Castrantas 1965 p. 15].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	4	8	Oxidizer																							
1032	OXYFLUORFEN		Goggles or face shield; rubber gloves (USCG, 1999)	May float or sink and mix with water.	Salts, basic, such as DODECYL SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																							
1033	OXYTETRACYCLINE HYDROCHLORIDE		Rubber gloves; goggles or face shield (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Reacts violently with strong oxidants. REF [Handling Chemicals Safely, 1980 p. 928]. Toxic vapors of triethanolamine and oxides of nitrogen may form in fire (USCG, 1999).						0																							
1034	P-AMINOPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Goggles or face shield; rubber gloves. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DODECYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		275														(NTP, 1992)		19.4	
1035	PARAFORMALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. May be sensitive to prolonged exposure to air. Slightly water soluble.	BENZETHONIUM CHLORIDE MONOHYDRATE is incompatible with soap and anionic detergents. (NTP, 1992)					0																		(NTP, 1992)		327 to 331	
1036	P-BROMOANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)	(decomposes)	347	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1031	OXAZEPAM																																								Organic Peroxide	C4H10O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	15.0	3.0	4.0
1032	OXYFLUORFEN														(USCG, 1999)		1.04		68								(USCG, 1999)	(solute)	555												DSM		Mg(SO4C12H25)2		10.0	1.0	24.0	3.0	4.0
1033	OXYTETRACYCLINE HYDROCHLORIDE														(USCG, 1999)	(est.)		greater than 1.1	68								(USCG, 1999)	(solute)	415												DST		C12H26O4S.C6H15NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	11.0	1.0	37.0	3.0	4.0
1034	P-AMINOPHENOL	(USCG, 1999)		211.97				mm Hg	(NTP, 1992)		8.47				(USCG, 1999)		0.86		68		(NTP, 1992)		627.8		760		(NTP, 1992)		246.43						(NTP, 1992)	at 77Â° F		less than 1	mg/mL	DDB		C18H30		12.0	1.0	47.0	3.0	4.0
1035	PARAFORMALDEHYDE																										(NTP, 1992)		466.11						(NTP, 1992)	at 70Â° F		5 to 10	mg/mL			C27H42NO2.Cl.H2O		18.0	1.0	42.0	3.0	4.0
1036	P-BROMOANILINE																										(NTP, 1992)		344.37						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H12N2OS2		11.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1037	P-BROMOTOLUENE	4-BROMO-1-METHYLBENZENE|1-BROMO-4-METHYLBENZENE|4-BROMOTOLUENE|4-METHYL-1-BROMOBENZENE|1-METHYL-4-BROMOBENZENE|4-METHYLBROMOBENZENE|4-METHYLPHENYL BROMIDE|P-BROMOTOLUENE|P-METHYLBROMOBENZENE|P-METHYLPHENYL BROMIDE|P-TOLYL BROMIDE|PARABROMOTOLUENE|TOLUENE, P-BROMO-|4-TOLYL BROMIDE	106-38-7	PHYSICAL DESCRIPTION: Crystals, clear pale yellow liquid. (NTP, 1992)	1.0	2.5	5.0	2405.0	232.0	804.0	367.0	285.0	456.0	46.0	155.0	74.0	52.0	(BLOB)	(Non-Specific -- Thallium Salts) Fire may produce irritating or poisonous gases. When heated to decomposition, it emits very toxic fumes of chloride and thallium. Thallium(I) chloride is vigorously attacked by cold fluorine. A mixture of potassium and thallous chloride produces a weak explosion on impact. (EPA, 1998)	(Non-Specific -- Thallium Salts) Move container from fire area if you can do so without risk. (Non-Specific -- Thallium Salts) Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. (EPA, 1998)
1038	P-CHLOROPHENOL	APPLIED 3-78|CHLOROPHENOL, SOLID|4-CHLOROPHENOL|CHLOROPHENOLS|CHLOROPHENOLS, SOLID|CHLOROPHENOLS, [SOLID]|4-HYDROXYCHLOROBENZENE|P-CHLOROPHENIC ACID|P-CHLOROPHENOL|P-CHLOROPHENOL, LIQUID|P-CHLOROPHENOL, SOLID|PARACHLOROPHENOL|PHENOL, P-CHLORO-	106-48-9	White crystals with a strong phenol odor. Slightly soluble to soluble in water, depending on the isomer, and denser than water. Noncombustible. Used as an intermediate in organic synthesis of dyes and drugs.	1.0	2.5	5.0	2405.0	232.0	804.0	367.0	285.0	456.0	46.0	155.0	74.0	52.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1039	P-CHLOROPHENYL ISOCYANATE	P-CHLOROPHENYL ISOCYANATE	104-12-1	Colorless to yellow liquid or crystals. Used as an intermediate in pesticide and pharmaceutical manufacture.	1.0	2.5	5.0	2409.0	232.0	804.0	367.0	285.0	457.0	46.0	155.0	74.0	52.0	(BLOB)	(Non-Specific -- Thallium Salts, n.o.s.) Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. (EPA, 1998)	(Non-Specific -- Thallium Salts, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Thallium Salts, n.o.s.) For small fires use dry chemical, carbon dioxide, water spray, or foam. For large fires use water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
1040	P-DICHLOROBENZENE	BENZENE, P-DICHLORO-|DI-CHLORICIDE|DICHLORICIDE|1,4-DICHLOROBENZENE, [SOLID]|1,4-DICHLOROBENZENE|DICHLOROCIDE|EVOLA|GLOBOL|NCI-C54955|P-CHLOROPHENYL CHLORIDE|P-DCB|P-DICHLOROBENZENE|P-DICHLOROBENZOL|PARA CRYSTALS|PARA-DICHLOROBENZENE|PARACIDE|PARADI|PARADICHLOROBENZENE|PARADICHLOROBENZOL|PARADOW|PARAMOTH|PARANUGGETS|PARAZENE|PDB|PDCB|PERSIA-PERAZOL|SANTOCHLOR	106-46-7	A white colored liquid with the odor of moth balls. Denser than water and insoluble in water. Flash point below 200Â°F. Used as a moth repellent, to make other chemicals, as a fumigant, and for many other uses.	2.5	5.0	2.5	2413.0	232.0	804.0	367.0	285.0	458.0	46.0	155.0	74.0	52.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1041	PENTAERYTHRITOL	2,2-BIS(HYDROXYMETHYL)-1,3-PROPANEDIOL|METHANE TETRAMETHYLOL|MONOPE|MONOPENTAERYTHRITOL|PE|PENTAERYTHRITE|PENTAERYTHRITOL|PENTEK|TETRAHYDROXYMETHYLMETHANE|TETRAHYDROXYMETHYLOLMETHANE|TETRAMETHYLOLMETHANE	115-77-5	Odorless white solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	2413.0	232.0	804.0	367.0	285.0	458.0	46.0	155.0	74.0	52.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1042	PERACETIC ACID	ACETIC PEROXIDE|ACETYL HYDROPEROXIDE|DESOXON 1|ESTOSTERIL|ETHANEPEROXOIC ACID|HYDROPEROXIDE, ACETYL|MONOPERACETIC ACID|OSBON A|OXYPEL|PERACETIC ACID|PERETHANOIC ACID|PEROXOACETIC ACID|PEROXYACETIC ACID|PEROXYACETIC ACID (PERACETIC ACID)|PROXITANE 12A|PROXITANE 1507|PROXITANE 4002|PROXITANE S	79-21-0	Colorless liquid with a strong, pungent acrid odor. Used as a bactericide and fungicide, especially in food processing; as a reagent in making caprolactam and glycerol; as an oxidant for preparing epoxy compounds; as a bleaching agent; a sterilizing agent; and as a polymerization catalyst for polyester resins. (EPA, 1998)	2.5	5.0	2.5	2413.0	232.0	804.0	367.0	285.0	458.0	46.0	155.0	74.0	52.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1037	P-BROMOTOLUENE	Avoid inhalation. (Non-Specific -- Thallium Salts) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Fluorine and THALLOUS CHLORIDE react violently, melting the product [Mellor Supp. 1:63 1956]. When heated to decomposition, it emits very toxic fumes of chloride and thallium. Thallium(I) chloride is vigorously attacked by cold fluorine. A mixture of potassium and thallous chloride produces a weak explosion on impact [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(EPA, 1998)		806	
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)																															
1038	P-CHLOROPHENOL		Sensitive to prolonged exposure to air. Insoluble in water.	BENZO(F)QUINOLINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.				0		(NTP, 1992)		330.8																(NTP, 1992)		199 to 201	
1039	P-CHLOROPHENYL ISOCYANATE	Avoid inhalation. (Non-Specific -- Thallium Salts, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Salts, basic, such as THALLOUS MALONATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1040	P-DICHLOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very sensitive to exposure to air and light. Turns red to brown on exposure to light and air. (NTP, 1992). Slightly soluble in water.	P-PHENETIDINE reacts vigorously with powerful oxidizers.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		240														(NTP, 1992)		36 to 39	
1041	PENTAERYTHRITOL	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1042	PERACETIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Slightly soluble in water.	PROFLAVINE HYDROCHLORIDE is amphoteric. Reacts both as a weak acid and as a weak base.						0																			(NTP, 1992)	DECOMPOSES	518	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1037	P-BROMOTOLUENE	(NTP, 1992)		10		963		mm Hg							(EPA, 1998)		7				(EPA, 1998)		1328		760		(EPA, 1998)		239.82		(NIOSH, 2003)	(as Tl)	15	mg/m3							Poison	ClTl		12.0	1.0	30.0	3.0	4.0
1038	P-CHLOROPHENOL	(NTP, 1992)		5.5		66		mm Hg													(NTP, 1992)		662		721		(NTP, 1992)		179.22						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL			C13H9N	Mineral-Based & Clay-Based Absorbents	10.0	1.0	33.0	3.0	4.0
1039	P-CHLOROPHENYL ISOCYANATE																										(EPA, 1998)		510.79												Poison	C3H4O4, 2Tl		10.0	1.0	21.0	3.0	4.0
1040	P-DICHLOROBENZENE	(NTP, 1992)		3.48		77		mm Hg	(NTP, 1992)		4.73				(NTP, 1992)		1.0652		61		(NTP, 1992)		482		760		(NTP, 1992)		137.18						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL		Poison	C8H11NO		11.0	1.0	39.0	3.0	4.0
1041	PENTAERYTHRITOL																														(NIOSH, 2003)		1500	mg/m3							Organic Peroxide	C14H10O4, aqueous	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	17.0	1.0	44.0	3.0	4.0
1042	PERACETIC ACID																										(NTP, 1992)		245.71						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL			C13H11N3.HCl	Mineral-Based & Clay-Based Absorbents	17.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1043	PERCHLORIC ACID, WITH MORE THAN 50% BUT NOT MORE THAN 72% ACID	DIOXONIUM PERCHLORATE SOLUTION|PERCHLORIC ACID|PERCHLORIC ACID SOLUTION|PERCHLORIC ACID, WITH MORE THAN 50% BUT NOT MORE THAN 72% ACID|PERCHLORIC ACID, [> 50% BUT <= 72% STRENGTH]	7601-90-3	A clear colorless odorless aqueous solution. Corrosive to metals and tissue. Closed containers may rupture violently under prolonged exposure to heat.	2.5	5.0	2.5	2413.0	232.0	804.0	367.0	285.0	458.0	46.0	155.0	74.0	52.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as hydrogen chloride and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1044	PERCHLORIC ACID, WITH NOT MORE THAN 50% ACID	PERCHLORIC ACID, WITH NOT MORE THAN 50% ACID|PERCHLORIC ACID, [<= 50% ACID]	7601-90-3	A clear colorless odorless aqueous solution. Corrosive to metals and tissue. Closed containers may rupture violently under prolonged exposure to heat.	2.5	5.0	2.5	2417.0	232.0	808.0	367.0	285.0	459.0	46.0	156.0	74.0	52.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1045	PERCHLOROETHYLENE	ANKILOSTIN|ANTISAL 1|ANTISOL 1|CARBON BICHLORIDE|CARBON DICHLORIDE|DIDAKENE|DILATIN PT|DOW-PER|ENT 1,860|ETHENE, TETRACHLORO-|ETHYLENE TETRACHLORIDE|ETHYLENE, TETRACHLORO-|F 1110|F 1110 (HALOCARBON)|FEDAL-UN|FREON 1110|NCI-C04580|NEMA|PCE|PER|PERAWIN|PERC|PERCHLOR|PERCHLORETHYLENE|PERCHLOROETHENE|PERCHLOROETHYLENE|PERCLENE|PERCLENED|PERCOSOLVE|PERK|PERKLONE|PERSEC|R 1110|TETLEN|TETRACAP|TETRACHLORETHYLENE|TETRACHLOROETHENE|TETRACHLOROETHYLENE|1,1,2,2-TETRACHLOROETHENE|TETRACHLOROETHYLENE|1,1,2,2-TETRACHLOROETHYLENE|TETRAGUER|TETRALENO|TETRALEX|TETRAVEC|TETROGUER|TETROPIL	127-18-4	A clear colorless volatile liquid having an ether-like odor. Noncombustible. Insoluble in water. Vapors heavier than air. Density approximately 13.5 lb / gal. Used as dry cleaning solvent, a degreasing solvent, a drying agent for metals, and in the manufacture of other chemicals.	2.5	5.0	2.5	2417.0	232.0	808.0	367.0	285.0	459.0	46.0	156.0	74.0	52.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be extinguished with a foam, carbon dioxide or Halon extinguisher. (NTP, 1992)
1046	PERLITE	ARAGATS|CERAMIC SIL 32|DICAPERL HP 610|EX-ZF|EXPANDED PERLITE|FILTROPERLITE|FUYO LITE|FUYO LITE 1|FUYOBALLOON|HARBORLITE 905|KP (GLASS)|MICROPERL GT 25|MITSUI PERLITE|MITSUI PERLITE B|MITSUI PERLITE KAKOYO 1|NENISANSO|NENISANSO 3|NOBLITE|P 500|P 500 (FILLER)|PERFIL|PERFIT PF 3|PERLIGRAN|PERLIGRAN 0/1|PERLITE|PERLITE (FUSED NAKAL SILICATE, < 1% QUARTZ)|PERLITE A|ROKAHELP|ROKAHELP 4109|ROKAHELP 4189|ROKAHELP 419|ROKAHELP 4209|ROKAHELP 439|ROKAHELP 479|ROKAHELP B 4|ROKAHELP CP 175|RYOLEX|RYOLEX 3|RYOLEX 39|52S (GLASS)|SILBRICO 43-	93763-70-3	An odorless, light-gray to glassy-black solid. A naturally occurring aluminosilicate rock. May contain trace amounts of crystalline silica dust, a chronic health hazard by inhalation.	1.0	2.5	5.0	2417.0	232.0	808.0	367.0	285.0	459.0	46.0	156.0	74.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1047	PETROLEUM ETHER	BENZINE (LIGHT PETROLEUM DISTILLATE)|BENZOLINE|BP 2|BP 2 (SOLVENT)|CANADOL|LIGHT NAPHTHA|LIGROIN|NAPHTHA, LIGROINE|PETROLEUM ETHER|PETROLEUM SOLVENT|REFINED SOLVENT NAPHTHA|RUBBER SOLVENT|SENECA OIL|SKELLYSOLVE F|SKELLYSOLVE G|VIROL	8032-32-4	Colorless liquid with a gasoline- or kerosene-like odor. A mixture of paraffins (C5 to C13). May contain a small amount of aromatic hydrocarbons. Flash point ranges from -40Â° F to -86Â° F	2.5	5.0	2.5	2421.0	232.0	808.0	367.0	285.0	460.0	46.0	156.0	74.0	52.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1043	PERCHLORIC ACID, WITH MORE THAN 50% BUT NOT MORE THAN 72% ACID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Slightly soluble in water.	1-CHLOROPROPANE presents a dangerous fire risk. May be incompatible with strong oxidizing and reducing agents. Incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		0		(USCG, 1999)		2.6		%	(USCG, 1999)		11		%	(USCG, 1999)		968		(USCG, 1999)		-189	
1044	PERCHLORIC ACID, WITH NOT MORE THAN 50% ACID	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	1-CHLOROPROPYLENE is a halogenated unsaturated aliphatic hydrocarbon. The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NFPA, 2010)			less than 21																	
1045	PERCHLOROETHYLENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PROGESTERONE is sensitive to light (NTP, 1992).					0																		(NTP, 1992)		250 to 252
1046	PERLITE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	EM-12 is an example of an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																		(NTP, 1992)		460 to 464
1047	PETROLEUM ETHER	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Can evolve gaseous hydrogen in contact with water or damp air. The heat of the reaction may be sufficient to ignite the hydrogen produced [Haz. Chem. Data 1966. p. 171]. Flammable. May form an explosive mixture with air [Hawley].	(BLOB)	Strong Reducing Agent; Known Catalytic Activity; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1043	PERCHLORIC ACID, WITH MORE THAN 50% BUT NOT MORE THAN 72% ACID														(USCG, 1999)		0.892				(USCG, 1999)			115 to 117	760		(USCG, 1999)		78.54											PRC	Flammable Liquid	C3H7Cl		12.0	1.0	27.0	3.0	4.0
1044	PERCHLORIC ACID, WITH NOT MORE THAN 50% ACID																																									Combustible Liquid	C3H5Cl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	27.0	3.0	4.0
1045	PERCHLOROETHYLENE														(NTP, 1992)		1.171		68								(NTP, 1992)		314.51						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C21H30O2	Dirt/Earth	14.0	1.0	39.0	3.0	4.0
1046	PERLITE																											(NTP, 1992)		244.25						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C13H12N2O3		11.0	1.0	15.0	3.0	4.0
1047	PETROLEUM ETHER																																								Dangerous When Wet|Spontaneously Combustible	Zn		14.0	1.0	24.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1048	PETROLEUM NAPHTHA, [V.M. & P.]	HIGH SOLVENT NAPHTHA|NAPHTHA|PETROLEUM NAPHTHA|PETROLEUM NAPHTHA, [FLAMMABLE LIQUID LABEL.]|PETROLEUM NAPHTHA, [V.M. & P.]|PETROLEUM NAPHTHA, [VARNISH MAKERS & PAINTERS]|V,M&P NAPHTHA, [WOOD PRESERVATIVE]	8032-32-4	Colorless liquid with the odor of gasoline. Less dense than water and insoluble in water. Hence floats on water. Also referred to as Varnish Makers & Painters Naphtha. This petroleum fraction is similar to Petroleum Ether (CAS 8030-30-6) but V.M. & P. is a heavier distillate. Flash point ranges from 20Â° F to 100Â° F.	2.5	5.0	2.5	2425.0	232.0	808.0	367.0	285.0	461.0	46.0	156.0	74.0	52.0	Call a physician. INHALATION: Remove from exposure. EYES: Flush with water. SKIN: Wash with soap and cold water. INGESTION: Gastric lavage with lime water or a 1% solution of calcium chloride. Give several ounces of lime water at frequent intervals. Milk may be substituted. Aluminum hydroxide gel may be used to bind fluoride. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1049	PHENOLPHTHALEIN	3,3-BIS(4-HYDROXYPHENYL)-1(3H)-ISOBENZOFURANONE|3,3-BIS(4-HYDROXYPHENYL)PHTHALIDE|3,3-BIS(P-HYDROXYPHENYL)PHTHALIDE|EUCHESSINA|FEEN-A-MINT GUM|KOPROL|LAXOGEN|LILO|NCI-C55798|O-TOLUIC ACID, ALPHA-(P-HYDROXYPHENYL)-ALPHA-4-OXO-2,5-CYCLOHEXADIEN-1-YLIDENE-|PHENOLPHTHALEIN|PHTHALIMETTEN|PHTHALIN|PURGA|PURGEN|PURGOPHEN|SPULMAKO-LAX|TRILAX	77-09-8	PHYSICAL DESCRIPTION: White or yellowish-white to pale orange fine crystalline powder. Odorless. Aqueous solution is acidic. Colorless to pH 8.5; pink to deep-red above pH 9. Colorless in presence of large amounts of alkali. Tasteless. (NTP, 1992)	1.0	2.5	5.0	2429.0	232.0	808.0	367.0	285.0	462.0	46.0	156.0	74.0	52.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1050	PHENOTHIAZINE	AFI-TIAZIN|AGRAZINE|ANTIVERM|CONTAVERM|CONTRAVERM|DANIKOROPA|DIBENZO-1,4-THIAZINE|DIBENZOPARATHIAZINE|DIBENZOTHIAZINE|EARLY BIRD WORMER|ENT 38|FEENO|FENOTHIAZINE|FENOVERM|FENTIAZIN|HELMETINA|LETHELMIN|NEMAZENE|NEMAZINE|NEXABROL|ORIMON|PADOPHENE|PENTHAZINE|PHENEGIC|PHENOSAN|PHENOTHIAZINE|PHENOVERM|PHENOVIS|PHENOXUR|PHENTHIAZINE|PHENZEEN|RECONOX|SOUFRAMINE|THIODIPHENYLAMINE|VERMITIN|WURM-THIONAL|XL-50	92-84-2	PHYSICAL DESCRIPTION: Light green to steel-blue powder. Acquires a greenish-brown tint under exposure to sunlight. (NTP, 1992)	1.0	2.5	5.0	2433.0	232.0	808.0	375.0	285.0	463.0	46.0	156.0	76.0	52.0	INHALATION: Remove victim to fresh air and call a physician at once; administer oxygen until physician arrives. INGESTION: Get medical attention at once. EYES or SKIN: Flush with plenty of water for at least 15 min; if cyanosis is present, shower with soap and warm water, with special attention to scalp and finger nails; remove any contaminated clothing. (USCG, 1999)	Special Hazards of Combustion Products: Toxic vapors are generated when heated. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1051	PHENYLACETYL CHLORIDE	ACETYL CHLORIDE, PHENYL-|ALPHA-PHENYLACETYL CHLORIDE|PHENACETYL CHLORIDE|PHENYLACETIC ACID CHLORIDE|PHENYLACETYL CHLORIDE|2-PHENYLACETYL CHLORIDE	103-80-0	A colorless volatile liquid with a strong odor. Denser than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion. May also be combustible.	2.5	5.0	2.5	2433.0	232.0	812.0	375.0	285.0	463.0	46.0	157.0	76.0	52.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1052	PHENYLHYDRAZINE HYDROCHLORIDE	HYDRAZINE, PHENYL-, HYDROCHLORIDE|HYDRAZINE, PHENYL-, MONOHYDROCHLORIDE|N-PHENYLHYDRAZINE HYDROCHLORIDE|PHENYLHYDRAZINE HYDROCHLORIDE|PHENYLHYDRAZINE MONOHYDROCHLORIDE|PHENYLHYDRAZINIUM CHLORIDE	59-88-1	White to tan solid with a weak aromatic odor. (EPA, 1998)	1.0	2.5	5.0	2433.0	232.0	812.0	375.0	285.0	463.0	46.0	157.0	76.0	52.0	(BLOB)	Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases and may cause pollution. Cylinder may explode in the heat of fire. Reacts with water to release hydrochloric acid. (EPA, 1998)	Keep unnecessary people away and isolate hazard area. Stay upwind and keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. For small fires: dry chemical, carbon dioxide, water spray, or foam. For large fires: water spray, fog, or foam. Move container from fire area if possible. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
1053	PHENYLSULPHONIC ACID	PHENYLSULFONIC ACID|PHENYLSULPHONIC ACID	42615-29-2	Fine whitish needles. Solid form may severely irritate skin and eyes. Used to make other chemicals.	1.0	2.5	5.0	2437.0	232.0	812.0	375.0	285.0	464.0	46.0	157.0	76.0	52.0	INHALATION: chest x-ray should be taken immediately for evidence of pneumonitis. EYES: flush with water for at least 15 min.; if irritation persists, get medical attention. SKIN: cuts or puncture wounds in which beryllium may be embedded under the skin should be thoroughly cleansed immediately by a physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating beryllium oxide fumes and hydrogen chloride may form in fires. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Do not use water on adjacent fires. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1048	PETROLEUM NAPHTHA, [V.M. & P.]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Approved dust and fume respirator, skin and eye protection. (USCG, 1999)	Slightly soluble in water.	ZINC FLUORIDE can react violently with potassium [Hawley]. Fluorinates organic compounds. Soluble in hot acids.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		1601.6	
1049	PHENOLPHTHALEIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	ENDOSULFAN SULFATE is an organochlorine and cycloalkene. It is also a sulfate ester. Corrosive to iron. It can be hydrolyzed by aqueous alkali or acid, generating sulfur dioxide. Incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. As an ester, it will hydrolyze to form sulfur dioxide and diol; reaction is more rapid under basic conditions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		358	
1050	PHENOTHIAZINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator; rubber gloves, splash proof goggles (USCG, 1999)	Flammable. Slightly soluble in water.	BENZYLDIMETHYLAMINE neutralizes acids on exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. May attack some plastics (USCG, 1999).		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		-103	
1051	PHENYLACETYL CHLORIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dilution with water causes release of heat.	PROPIONIC ACID, [SOLUTION] reacts as an acid to neutralize bases in exothermic reactions. Burns when exposed to heat, flame or oxidizers. When heated to decomposition emits acrid smoke and irritating fumes [Lewis, 3rd ed., 1993, p. 1090].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2																						
1052	PHENYLHYDRAZINE HYDROCHLORIDE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	BENZYLIDENE CHLORIDE is incompatible with strong oxidizers and strong bases. It readily hydrolyzes under acid or alkaline conditions. It reacts with metals (except nickel and lead). (NTP, 1992).		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		198		(EPA, 1998)	This material may burn but will not ignite easily.					(EPA, 1998)	This material may burn but will not ignite easily.						(EPA, 1998)		2.48	
1053	PHENYLSULPHONIC ACID	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute solution of sodium bicarbonate or soda ash. (USCG, 1999)	Respiratory protection; gloves; freshly laundered clothing; chemical safety goggles (USCG, 1999)	Reacts with water with evolution of heat. Forms beryllium oxide and hydrochloric acid solution. Corrodes most metals in presence of moisture. Flammable and explosive hydrogen gas may collect in enclosed spaces (USCG, 1999).	Acidic salts, such as BERYLLIUM CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. This material reacts with vigor with sulfur nitrides. Some explode upon intimate mixing, i.e. tetrasulfur tetranitride.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		824	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1048	PETROLEUM NAPHTHA, [V.M. & P.]														(USCG, 1999)	4.95 at 25Â°C	4.84		59		(USCG, 1999)		2732		760		(USCG, 1999)	(anhydrous salt)	103.38											ZFX	Class 9	ZnF2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	14.0	1.0	24.0	3.0	4.0
1049	PHENOLPHTHALEIN																																							Poison	C9H6Cl6O4S	Dirt/Earth	11.0	1.0	34.0	3.0	4.0
1050	PHENOTHIAZINE														(USCG, 1999)		0.915		50		(USCG, 1999)		357.8		760		(USCG, 1999)		135.21											BDM	Corrosive|Flammable Liquid	C9H13N	Mineral-Based & Clay-Based Absorbents	11.0	1.0	20.0	3.0	4.0
1051	PHENYLACETYL CHLORIDE																																							Corrosive	C3H6O2, aqueous		10.0	1.0	23.0	3.0	4.0
1052	PHENYLHYDRAZINE HYDROCHLORIDE	(EPA, 1998)		1		95.72		mm Hg	(NTP, 1992)	(technical grade)	5.6				(EPA, 1998)		1.26				(EPA, 1998)		401		760		(EPA, 1998)		161.03						(NTP, 1992)	at 63Â° F		less than 1	mg/mL	BZL	Poison	C7H6Cl2		10.0	1.0	28.0	3.0	4.0
1053	PHENYLSULPHONIC ACID														(USCG, 1999)		1.9		77		(USCG, 1999)	(sublimes)	968		760		(USCG, 1999)		79.9		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3						BEC	Poison	BeCl2		10.0	1.0	16.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1054	PHENYTOIN	(BLOB)	57-41-0	PHYSICAL DESCRIPTION: Fine white or almost white crystalline powder. Odorless or almost odorless. Tasteless. (NTP, 1992)	1.0	2.5	5.0	2437.0	232.0	812.0	375.0	285.0	464.0	46.0	157.0	76.0	52.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1055	PHOSGENE	CARBON DICHLORIDE OXIDE|CARBON OXYCHLORIDE|CARBONIC ACID DICHLORIDE|CARBONIC DICHLORIDE|CARBONYL CHLORIDE|CARBONYL DICHLORIDE|CG|CHLOROFORMYL CHLORIDE|CHLOROFORMYL CHLORIDE|DICHLOROFORMALDEHYDE|NCI-C60219|PHOSGEN|PHOSGENE	75-44-5	A colorless gas or very low-boiling, volatile liquid (b.p. 8.3Â°C, 48Â°F) with an odor of new-mown hay or green corn. Extremely toxic. Warning properties of the gas inhaled are slight, death may occur within 36 hours (Lewis, 3rd ed., 1993, p. 1027). Prolonged exposure of the containers to intense heat may result in their violent rupturing and rocketing. Rate of onset: Immediate & Delayed (Lungs) Persistence: Minutes - hours Odor threshold: 0.5 ppm Source/use/other hazard: Dye, pesticide, and other industries; history as war gas, corrosive/irritating .	5.0	1.0	1.0	2441.0	232.0	812.0	379.0	285.0	465.0	46.0	157.0	77.0	52.0	INHALATION: move to fresh air. INGESTION: cause vomiting by giving soapy water or mustard water; have patient drink large quantities of lime water, if necessary, give stimulant such as strong coffee. EYES: flush with water; call physician as necessary. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating hydrogen fluoride and silicon tetrafluoride are formed in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1056	PHOSPHORIC ANHYDRIDE	DIPHOSPHORUS PENTAOXIDE|DIPHOSPHORUS PENTAOXIDE (P2O5)|DIPHOSPHORUS PENTOXIDE|PHOSPHORIC ACID ANHYDRIDE|PHOSPHORIC ACID, ANHYDROUS|PHOSPHORIC ANHYDRIDE|PHOSPHORIC OXIDE|PHOSPHORIC PENTOXIDE|PHOSPHORUS OXIDE|PHOSPHORUS PENTAOXIDE|PHOSPHORUS PENTOXIDE|PHOSPHORUS(V)OXIDE|PHOSPHORUS, OXIDE, PENT-	1314-56-3	A white amorphous powder. Corrosive to metals and tissue and moderately toxic.	1.0	2.5	5.0	2441.0	232.0	812.0	379.0	285.0	465.0	46.0	157.0	77.0	52.0	(BLOB)	Literature sources indicate that this compound is probably nonflammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1057	PHOSPHORUS OXYCHLORIDE	PHOSPHONYL TRICHLORIDE|PHOSPHORIC CHLORIDE|PHOSPHORIC TRICHLORIDE|PHOSPHOROUS CHLORIDE OXIDE (POCL3)|PHOSPHOROXYCHLORIDE|PHOSPHOROXYTRICHLORIDE|PHOSPHORUS CHLORIDE|PHOSPHORUS CHLORIDE OXIDE|PHOSPHORUS OXIDE (PCL3O)|PHOSPHORUS CHLORIDE OXIDE (POCL3)|PHOSPHORUS MONOXIDE TRICHLORIDE|PHOSPHORUS OXIDE TRICHLORIDE|PHOSPHORUS OXYCHLORIDE|PHOSPHORUS OXYTRICHLORIDE|PHOSPHORUS TRICHLORIDE OXIDE|PHOSPHORYL CHLORIDE|PHOSPHORYL CHLORIDE (PHOSPHOROUS OXYCHLORIDE)|PHOSPHORYL TRICHLORIDE|TRICHLOROP	10025-87-3	A colorless fuming liquid with a pungent odor. Density 14.0 lb / gal. Very toxic by inhalation and corrosive to metals and tissue. Used in gasoline additives and hydraulic fluids.	2.5	5.0	2.5	2441.0	232.0	812.0	379.0	285.0	465.0	46.0	157.0	77.0	52.0	See a physician. EYES: Wash with copious amounts of water. SKIN: Wash with soap and water. INGESTION: Give 3 to 4 glasses of water, induce vomiting and consult a physician. (USCG, 1999)	Behavior in Fire: Moderate hazard. May emit toxic fumes of zinc compounds. (USCG, 1999)	
1058	PHOSPHORUS PENTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	DIPHOSPHORUS PENTASULFIDE|PHOSPHORIC SULFIDE|PHOSPHORUS PENTASULFIDE|PHOSPHORUS PENTASULFIDE (P2S5)|PHOSPHORUS PENTASULFIDE (P4S10)|PHOSPHORUS PENTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS PENTASULPHIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS PERSULFIDE|PHOSPHORUS SULFIDE|PHOSPHORUS SULFIDE (P4S10)|SULFUR PHOSPHIDE|TETRAPHOSPHORUS DECASULFIDE|THIOPHOSPHORIC ANHYDRIDE	1314-80-3	A greenish yellow solid with an odor of rotten eggs that may paralyze the sense of smell at hazardous concentrations in air. Density 2.04 g / cm3. It is used for making lube oil additives, insecticides, flotation agents, safety matches, blown asphalt, and other products and chemicals.	1.0	2.5	5.0	2445.0	232.0	812.0	379.0	285.0	466.0	46.0	157.0	77.0	52.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1059	PHOSPHORUS SESQUISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	PHOSPHORUS SESQUISULFIDE|PHOSPHORUS SESQUISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS SESQUISULPHIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS SULFIDE (P4S3)|TETRAPHOSPHORUS TRISULFIDE|TRISULFURATED PHOSPHORUS	1314-85-8	A yellow crystalline solid. Easily ignited by friction. Forms sulfur dioxide and phosphorus pentaoxide during combustion. Reacts with water to form phosphoric acid, a corrosive material. Used to make matches and in the manufacture of other chemicals.	1.0	2.5	5.0	2445.0	232.0	816.0	379.0	285.0	466.0	46.0	158.0	77.0	52.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1054	PHENYTOIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)	(decomposes)	572	
		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)					Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																												
1055	PHOSGENE		Dust respirator; chemical goggles or face shield; protective gloves (USCG, 1999)	Insoluble in water.	ZINC FLUOROSILICATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.						0																					
1056	PHOSPHORIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure respirator or a self-contained breathing apparatus (SCBA). If either of these are not available, wear a full face chemical cartridge respirator equipped with the appropriate high efficiency particulate filter cartridges. However, note that full face chemical cartridge respirators provide a substantially lower protection level than do positive pressure supplied-air or SCBA equipment. (NTP, 1992)	Water soluble.	Salts, basic, such as BERYLLIUM SULFATE TETRAHYDRATE are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Incompatible with acids. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		518	
1057	PHOSPHORUS OXYCHLORIDE		Approved respirator, rubber gloves, and safety goggles. (USCG, 1999)	Soluble in water.	Salts, basic, such as ZINC FORMATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.	Known Catalytic Activity						0																						
1058	PHOSPHORUS PENTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water. Reacts slowly with water to generate sulfur dioxide.	BETA-ENDOSULFAN is a sulfite ester of a chlorinated cyclic diol. Decomposed rapidly by alkali to generate sulfur dioxide. Decomposed by acid. Incompatible with strong oxidizing and reducing agents. may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		406 to 410	
1059	PHOSPHORUS SESQUISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble [Merck].	EPINEPHRINE HYDROCHLORIDE is readily destroyed by alkalis and oxidizing agents (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		315	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1054	PHENYTOIN																									(NTP, 1992)		691.88						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C20H8Br4O5.2Na		10.0	1.0	16.0	3.0	4.0
1055	PHOSGENE														(USCG, 1999)		2.1		68		(USCG, 1999)	(decomposes)		122 to 158	760		(USCG, 1999)		315.5											ZSL	Poison	F6Si.Zn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	22.0	3.0	4.0
1056	PHOSPHORIC ANHYDRIDE														(NTP, 1992)		1.713				(NTP, 1992)	(Decomposes)	1076		760		(NTP, 1992)		177.14		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3	(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	BES	Poison	BeSO4.4H2O		12.0	1.0	46.0	3.0	4.0
1057	PHOSPHORUS OXYCHLORIDE														(USCG, 1999)	dihydrate 2.368 anhydrous	2.207		68		(USCG, 1999)	Decomposes Loses 2 H 2 O at 140°/b0C					(USCG, 1999)	191.45 Dihydrate; 155.41 anhydrous										ZFM		CH2O2.1I2Zn		13.0	1.0	48.0	3.0	4.0
1058	PHOSPHORUS PENTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS																										(NTP, 1992)		406.95						(NTP, 1992)	Insoluble					Poison	C9H6Cl6O3S	Dirt/Earth	12.0	1.0	28.0	3.0	4.0
1059	PHOSPHORUS SESQUISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS																										(NTP, 1992)		219.69												Poison	C9H13NO3.ClH	Cellulose-Based Absorbents	12.0	1.0	28.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1060	PHOSPHORUS TRIBROMIDE	PBR3|PHOSPHOROUS BROMIDE|PHOSPHORUS BROMIDE|PHOSPHORUS BROMIDE (PBR3)|PHOSPHORUS TRIBROMIDE|TRIBROMOPHOSPHINE	7789-60-8	A colorless fuming liquid with a pungent odor. Corrosive to metals and tissue. Boiling point 347Â°F (175Â°C). Freezing point -40Â°F (-40Â°C).	2.5	5.0	2.5	2445.0	232.0	816.0	379.0	285.0	466.0	46.0	158.0	77.0	52.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water fog, alcohol foam, carbon dioxide, dry chemical. (USCG, 1999)
1061	PHOSPHORUS, [BLACK]	PHOSPHORUS|PHOSPHORUS, BLACK|PHOSPHORUS, [BLACK]	7723-14-0	Black crystalline or amorphous solid resembling graphite. Conducts electricity. Denser than water and insoluble in water. Hence sinks in water. (USCG, 1999)	1.0	2.5	5.0	2445.0	232.0	816.0	379.0	285.0	466.0	46.0	158.0	77.0	52.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Avoid strong oxidizers. Hydrolyzed by alkali. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1062	PHOSPHORUS, [RED AND YELLOW MIXED, SOLID]	PHOSPHORUS, [RED AND YELLOW MIXED, SOLID]	7723-14-0	A yellowish to red waxy amorphous solid. May severely burn skin and may be toxic by ingestion of very small quantities. Shipped in a container of water or as a solid or liquid in an atmosphere of inert gas. Barely soluble in water and denser than water. Hence sinks in water and dissolves at an extremely slow rate. Does not react with water. Stable if kept wet or otherwise excluded from air. Contact with oxidizing materials (including elemental sulfur) may cause a vigorous reaction or explosion. Reactive with a wide variety of substances. Contact with strong caustics may result in evolution of poisonous and flammable phosphine gas. Produces irritating and toxic smoke when burned. Toxic by inhalation, contacted or ingestion. Uses in the manufacture of munitions, pyrotechnics, explosives, smoke bombs, artificial fertilizers, etc.	1.0	2.5	5.0	2449.0	232.0	816.0	379.0	285.0	467.0	46.0	158.0	77.0	52.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
1063	PHOSPHORUS, AMORPHOUS	AMGARD CPC|AMGARD CPC 405|AMORPHOUS PHOSPHORUS|BONIDE BLUE DEATH RAT KILLER|COMMON SENSE COCKROACH AND RAT PREPARATIONS|EXOLIT 385|EXOLIT 405|EXOLIT LPKN|EXOLIT LPKN 275|EXOLIT VPK-N 361|EXOLIT VPK-N361|HISHIGADO|HISHIGADO AP|HISHIGADO CP|HISHIGADO NP 10|HOSTAFLAM RP 602|HOSTAFLAM RP 614|HOSTAFLAM RP 622|HOSTAFLAM RP 654|NOVA SOL R 20|NOVAEXCEL 140|NOVAEXCEL 150|NOVAEXCEL F 5|NOVAEXCEL ST 100|NOVAEXCEL ST 140|NOVARED 120UF|NOVARED 120UFA|NOVARED 120VFA|NOVARED 280|NOVARED C	7723-14-0	Red or dark crystals or powder. Not white phosphorus but rather one of the numerous less reactive polymorphic forms of the element. Not soluble in water.	1.0	2.5	5.0	2449.0	232.0	816.0	379.0	285.0	467.0	46.0	158.0	77.0	52.0			Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1064	PHOSPHORUS, WHITE, DRY OR UNDER WATER OR IN SOLUTION	AMGARD CPC|AMGARD CPC 405|ELEMENTAL PHOSPHORUS|EXOLIT 385|EXOLIT 405|EXOLIT LPKN 275|EXOLIT VPK-N 361|HISHIGADO|HISHIGADO AP|HISHIGADO CP|HISHIGADO NP 10|HOSTAFLAM RP 602|HOSTAFLAM RP 614|HOSTAFLAM RP 622|HOSTAFLAM RP 654|NOVA SOL R 20|NOVAEXCEL 140|NOVAEXCEL 150|NOVAEXCEL F 5|NOVAEXCEL ST 100|NOVAEXCEL ST 140|NOVARED 120UF|NOVARED 120UFA|NOVARED 120VFA|NOVARED 280|NOVARED C 120|PHOSPHORUS (YELLOW OR WHITE)|PHOSPHORUS (YELLOW)|PHOSPHORUS, WHITE|PHOSPHORUS, WHITE, DRY OR UNDER WATER OR IN	7723-14-0	A soft waxy solid with a sharp pungent odor similar to garlic. Insoluble in water and ethyl alcohol. Soluble in carbon disulfide. Shipped as a solid or liquid in an atmosphere of inert gas or as a solid under water. Barely soluble in water and denser than water. Hence, sinks in water. Uses include munitions manufacture, pyrotechnics, explosives, smoke bombs, artificial fertilizers, and rat poisons. Density approximately 15.2 lb / gal.	1.0	2.5	5.0	2453.0	232.0	816.0	379.0	285.0	468.0	46.0	158.0	77.0	52.0	INHALATION: move to fresh air. INGESTION: give large amount of water. EYES or SKIN: flush with water. (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1060	PHOSPHORUS TRIBROMIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and moisture. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	Goggles. (USCG, 1999)	Water soluble.	PROPYLENE GLYCOL is hygroscopic. It is sensitive to excessive heat (tends to oxidize at high temperatures). This compound can react with oxidizing materials. It is incompatible with acid chlorides, acid anhydrides, chloroformates, and reducing agents. It dissolves many essential oils. A mixture of this compound with hydrofluoric acid and silver nitrate was put in a glass bottle which burst 30 minutes later. (NTP, 1992)			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		210		(NTP, 1992)		2.6		%	(NTP, 1992)		12.6		%	(USCG, 1999)		700		(NTP, 1992)		-76	
1061	PHOSPHORUS, [BLACK]	Ventilate area of spill. Cover with soda ash, mix, and spray with water. Place in container of water and allow to stand for 2 days, then neutralize with 6 molar hydrochloric acid. (EPA, 1998)	(BLOB)	Insoluble in water. Hydrolyzed by alkali [EPA, 1998].	Organophosphates, such as EPN, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(EPA, 1998)		97	
1062	PHOSPHORUS, [RED AND YELLOW MIXED, SOLID]	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. The severity of the pyrophoric reaction depends a great deal on zirconium particle size, with the finely divided material reacting with the most vigor. The initiation of the explosion has been spark and by electrostatic ignition. Zirconium dusts have been known to explode, [NFPA 482M, 1974], covers all aspects of storage and handling of zirconium, there are 43 abstracts of unusual zirconium fire and explosion incidents. Water insoluble (NIOSH, 1997).	A mixture of powdered ZIRCONIUM and carbon tetrachloride exploded violently when heated, as did an immersion of zirconium sponge in the unheated carbon tetrachloride solvent, [491M, 1975, 446]. The consequences from the affinity of finely divided zirconium with oxygen containing compounds can be anticipated to be hazardous. Explosive reactions with potassium chlorate, potassium nitrate, copper(II) oxide, or lead oxide may be expected as is the case when zirconium is heated with alkali-metal hydroxides (lithium, sodium, potassium). Hydrated sodium borate reacts similarly to other alkali-metal oxosalts (chromates, dichromates, molybdates, sulfates, tungstates), [Mellor, 1941, Vol. 7, 116; Military and Civilian Pyrotechnics, Ellern, 1968, 249].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NIOSH, 2003)		3375	
1063	PHOSPHORUS, AMORPHOUS			Insoluble in water.	EPOXIDIZED VEGETABLE OILS may react with acids, bases, and oxidizing and reducing agents. Can polymerize in the presence of catalysts or when heated.								0		(USCG, 1999)		585																	
1064	PHOSPHORUS, WHITE, DRY OR UNDER WATER OR IN SOLUTION		Dust mask; goggles or face shield; protective gloves. (USCG, 1999)	Water soluble.	ZIRCONIUM SULFATE is a weak oxidizing agent. Water solutions are acidic and corrosive to aluminum and other metals.								0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1060	PHOSPHORUS TRIBROMIDE	(NTP, 1992)	; 0.13 mm Hg at 77Â° F	0.08		68		mm Hg	(NTP, 1992)		2.62				(USCG, 1999)		1.04		68		(NTP, 1992)		370.8		760		(NTP, 1992)		76.1						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	PPG		C3H8O2	Cellulose-Based Absorbents	10.0	1.0	31.0	3.0	4.0
1061	PHOSPHORUS, [BLACK]	(EPA, 1998)		0.0003		212		mm Hg							(EPA, 1998)		1.268		77								(EPA, 1998)		323.3		(NIOSH, 2003)		5	mg/m3	(NIOSH, 2003)	Insoluble					Poison	C14H14NO4PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	49.0	3.0	4.0
1062	PHOSPHORUS, [RED AND YELLOW MIXED, SOLID]	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(Metal)	6.51				(NIOSH, 2003)		6471		760		(NIOSH, 2003)		91.2		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NIOSH, 2003)	Insoluble					Spontaneously Combustible			11.0	1.0	49.0	3.0	4.0
1063	PHOSPHORUS, AMORPHOUS														(USCG, 1999)		1		68		(USCG, 1999)	Very high																	EVO			Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	49.0	3.0	4.0
1064	PHOSPHORUS, WHITE, DRY OR UNDER WATER OR IN SOLUTION														(USCG, 1999)	(approx.)	3		68								(USCG, 1999)		355.4		(NIOSH, 2003)	(as Zr)	50	mg/m3						ZCS		Zr(SO4)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	49.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1065	PHOSPHORUS, WHITE, MOLTEN	AMGARD CPC|AMGARD CPC 405|EXOLIT 385|EXOLIT 405|EXOLIT LPKN 275|EXOLIT VPK-N 361|HISHIGADO|HISHIGADO AP|HISHIGADO CP|HISHIGADO NP 10|HOSTAFLAM RP 602|HOSTAFLAM RP 614|HOSTAFLAM RP 622|HOSTAFLAM RP 654|NOVA SOL R 20|NOVAEXCEL 140|NOVAEXCEL 150|NOVAEXCEL F 5|NOVAEXCEL ST 100|NOVAEXCEL ST 140|NOVARED 120UF|NOVARED 120UFA|NOVARED 120VFA|NOVARED 280|NOVARED C 120|PHOSPHORUS (YELLOW OR WHITE)|PHOSPHORUS, WHITE OR YELLOW|PHOSPHORUS, WHITE, MOLTEN|PHOSPHORUS, (WHITE,	7723-14-0	A white or yellow colored semi-liquid. Transported at high temperatures. Insoluble in water and denser than water. Contact may cause burns to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. May ignite upon exposure to air. Used to make other chemicals.	2.5	5.0	2.5	2457.0	236.0	816.0	379.0	289.0	469.0	47.0	158.0	77.0	53.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
1066	PHTHALIC ACID	1,2-BENZENDICARBOXYLIC ACID|BENZENE-1,2-DICARBOXYLIC ACID|O-BENZENEDICARBOXYLIC ACID|O-CARBOXYBENZOIC ACID|O-DICARBOXYBENZENE|O-PHTHALIC ACID|PHTHALIC ACID|SUNFTAL 20	88-99-3	PHYSICAL DESCRIPTION: White crystals or fine white powder. (NTP, 1992)	1.0	2.5	5.0	2457.0	240.0	816.0	379.0	289.0	469.0	48.0	158.0	77.0	53.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1067	PHTHALIMIDE	1,2-BENZENEDICARBOXIMIDE|BENZOIMIDE|2-DIAZOINDAN-1,3-DIONE|ISOINDOLE-1,3-DIONE|1,3-ISOINDOLEDIONE|1,3-ISOINDOLINEDIONE|O-PHTHALIC IMIDE|PHENYLIMIDE|PHTHALIC DICARBOXIMIDE|PHTHALIMIDE	85-41-6	PHYSICAL DESCRIPTION: White to light tan powder. Slightly acidic. (NTP, 1992)	1.0	2.5	5.0	2457.0	240.0	816.0	379.0	289.0	469.0	48.0	158.0	77.0	53.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1068	PICRIC ACID, [DRY]	C.I. 10305|CARBAZOTIC ACID|1-HYDROXY-2,4,6-TRINITROBENZENE|MELINITE|NITROXANTHIC ACID|PA|PICRAL|PICRIC ACID|PICRIC ACID, [DRY]|PICRONITRIC ACID|TRINITROPHENOL|2,4,6-TRINITROPHENOL	88-89-1	Yellow crystals. An explosive. Specific gravity 1.767. Melting point 251.2Â°F (121.8Â°C). Explodes at 572Â°F. Toxic by ingestion.	1.0	2.5	5.0	2457.0	240.0	816.0	379.0	289.0	469.0	48.0	158.0	77.0	53.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1069	PICRIC ACID, WET, WITH NOT LESS THAN 10% WATER	C.I. 10305|CARBAZOTIC ACID|2-HYDROXY-1,3,5-TRINITROBENZENE|1-HYDROXY-2,4,6-TRINITROBENZENE|LYDDITE|MELINITE|NITROXANTHIC ACID|PA|PERTITE|PHENOL TRINITRATE|PICRAL|PICRIC ACID|PICRIC ACID, WET, WITH NOT LESS THAN 10% WATER|PICRIC ACID, [WET, WITH >= 10% WATER]|PICRONITRIC ACID|SHIMOSE|TRINITROPHENOL|TRINITROPHENOL, WETTED WITH NOT LESS THAN 30% WATER|1,3,5-TRINITROPHENOL|2,4,6-TRINITROPHENOL	88-89-1	A paste or slurry consisting of the yellow crystalline solid mixed with water. The dry compound is a sensitive high explosive. The mixture with water is considered safe for storage, handling and shipping. Can be detonated with a number 8 electric blasting cap. The primary hazard is blast where the entire load explodes instantaneously and not from flying projectiles fragments. Can explode under prolonged exposure to heat.	1.0	2.5	5.0	2457.0	240.0	816.0	379.0	289.0	469.0	48.0	158.0	77.0	53.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide ot Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1065	PHOSPHORUS, WHITE, MOLTEN		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water Soluble in water	PROPYLENE GLYCOL DINITRATE is explosive. Acts as a strong oxidizing agent. Heating may cause a violent combustion or explosion producing toxic fumes (nitrogen oxides). May also decompose explosively from shock, friction or from a build-up of electrostatic charge that sparks suddenly to ground. Can begin a vigorous reaction that culminates in an explosion if mixed with reducing agents including hydrides, sulfides, and nitrides and numerous ordinary combustible materials. Reacts violently with Al, BP, cyanides, esters, PN2H, P, NaCN, SnCl2, sodium hypophosphite, and thiocyanates. Reacts with acids and with alkalis, including ammonia and amines. Must be stored in a cool, ventilated place, away from acute fire hazards and easily oxidized materials.	Explosive; Strong Oxidizing Agent						0																						(NIOSH, 2003)		18	
1066	PHTHALIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A base. Readily forms salts with acids. (NTP, 1992)						0																						(NTP, 1992)			212 to 219
1067	PHTHALIMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a refrigerator and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to moisture and prolonged exposure to light. This compound is rapidly hydrolyzed in water. (NTP, 1992). Insoluble in water.	A halogenated and nitrated aliphatic hydrocarbon. The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen.						0		(NTP, 1992)		130																(NTP, 1992)			153 to 156
1068	PICRIC ACID, [DRY]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BETA-CADINENE is a sesquiterpene. May react vigorously with strong oxidizing agents. Can react exothermically with reducing agents to release gaseous hydrogen.						0		(NTP, 1992)			greater than 230																
1069	PICRIC ACID, WET, WITH NOT LESS THAN 10% WATER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ETHACRYNIC ACID may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with acids. Reacts exothermically with all bases both organic (for example, the amines) and inorganic.						0																						(NTP, 1992)		252	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1065	PHOSPHORUS, WHITE, MOLTEN	(NIOSH, 2003)		0.07		72		mm Hg							(NIOSH, 2003)		1.23		77								(NIOSH, 2003)		166.1						(NIOSH, 2003)		0.1		%			CH3CNO2OHCHNO2OH	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	49.0	3.0	4.0
1066	PHTHALIC ACID														(NTP, 1992)		1018.59										(NTP, 1992)		1018.59						(NTP, 1992)		at 72Â° F		less than 1	mg/mL		C37H67NO13.C18H36O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	12.0	1.0	20.0	3.0	4.0
1067	PHTHALIMIDE														(NTP, 1992)		1.018		70.5								(NTP, 1992)		212.06						(NTP, 1992)		at 72Â° F		less than 1	mg/mL		C8H6BrNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	12.0	1.0	40.0	3.0	4.0
1068	PICRIC ACID, [DRY]														(NTP, 1992)		0.9239		68		(NTP, 1992)	: 300Â° F at 20 mm Hg	525		760		(NTP, 1992)		204.34						(NTP, 1992)		at 64Â° F		less than 0.1	mg/mL		C15H24	Dirt/Earth	10.0	1.0	21.0	3.0	4.0
1069	PICRIC ACID, WET, WITH NOT LESS THAN 10% WATER																										(NTP, 1992)		303.15						(NTP, 1992)		at 75Â° F		less than 1	mg/mL		C13H12Cl2O4	Dirt/Earth	10.0	1.0	21.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1070	PIGMENT RED 2	C.I. 12310|C.I. PIGMENT RED 2|CONFAST RED 2R|FAST RED F 2R|FLASH RED R 100|IRGALITE RED FBS|IRGALITE RED FBX|ISOLARYL RED 2R|KROMON RED 2R|LUTETIA FAST RED BR|LUTETIA FAST RED F 2R|MONOLITE FAST PAPER RED 2R|MONOLITE FAST RED 2R|MONOLITE FAST RED 2RA|MONOLITE FAST RED 2RV|N-PHENYL-4-(2,5-DICHLOROPHENYL)AZO)-3-HYDROXY-2-NAPHTHALENECARBOXAMIDE|NAFTOL RED RN 1533|2-NAPHTHANILIDE, 4-(2,5-DICHLOROPHENYLAZO)-3-HYDROXY-|NAPHTHOL RED LIGHT 10397|PERMANENT RED F 2R|PERMANENT RED FRR|PIGMENT RED 2|PIGMENT RED 2R|PIGMENT SCARLET 2S|PIGMENT SCARLET 2SV|RECOLITE FAST RED 2R|REVERE RED X 2198|SCARLET 2S|SICO FAST RED P 16|SICO FAST RED P	6041-94-7	PHYSICAL DESCRIPTION: Yellowish red solid with a tint of pink or dark red powder. (NTP, 1992)	1.0	2.5	5.0	2457.0	240.0	816.0	379.0	289.0	469.0	48.0	158.0	77.0	53.0	Remove from exposure; support respiration. (USCG, 1999)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
1071	PINE OIL	ARIZOLE|C 30 (PINE OIL)|DERTOL 90|ESSENTIAL OILS, PINE|ESSENTIAL PINE OIL|GLIDCO 150|GLIDSOL 150|OIL OF FIR--SIBERIAN|OIL OF PINE|OIL, MISC: PINE|OILS, ESSENTIAL, PINE|OILS, PINE WOOD|OILS, PINE, SYNTHETIC|OLEUM ABIETIS|OULO 102|PINE OIL|PINE OIL C 30|PINE OIL, SYNTHETIC|PINE WOOD OIL|POLYIFF 272|RT 1712|UNIPINE|UNIPINE 80|UNIPINE 85|YARMOR|YARMOR 302|YARMOR 60|YARMOR F|YARMOR PINE OIL	8002-09-3	A clear colorless to light amber colored liquid. Contains mainly tertiary and secondary terpene alcohols Produced from the wood of pine trees by extraction or steam distillation. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	2461.0	240.0	820.0	379.0	289.0	470.0	48.0	159.0	77.0	53.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1072	PIPERAZINE	ANHYDROUS PIPERAZINE|ANTIREN|1,4-DIAZACYCLOHEXANE|DIETHYLENEDIAMINE|1,4-DIETHYLENEDIAMINE|DISPERMINE|ERAVERM|HEXAHYDRO-1,4-DIAZINE|HEXAHYDROPYRAZINE|LUMBRICAL|PIPERAZIDINE|PIPERAZINE|1,4-PIPERAZINE|PIPERSOL|PYRAZINE HEXAHYDRIDE|PYRAZINE, HEXAHYDRO-|UVILON|VERMEX|WORM-A-TON|WURMIRAZIN	110-85-0	Needle-like white or colorless crystals. Shipped as a solid or suspended in a liquid medium. Very corrosive to skin, eyes and mucous membranes. Solid turns dark when exposed to light. Flash point 190Â°F. Used as a corrosion inhibitor and as an insecticide.	1.0	2.5	5.0	2461.0	240.0	820.0	379.0	289.0	470.0	48.0	159.0	77.0	53.0	(BLOB)	As for other organophosphorus pesticides, containers may explode in heat of fire. Heat may cause decomposition and evolution of highly toxic fumes of nitrogen oxides and phosphorus oxides. (EPA, 1998)	Triamiphos is listed as an organophosphorus pesticide. As for other organophosphorus pesticides, stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. This material may burn, but does not ignite readily. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1073	PIPERIDINE	AZACYCLOHEXANE|CYCLOPENTIMINE|CYPENTIL|HEXAHYDROPYRIDINE|HEXAZANE|PENTAMETHSENEIMINE|PENTAMETHYLENEIMINE|PENTAMETHYLENIMINE|PERHYDROPYRIDINE|PIPERIDINE|PYRIDINE, HEXAHYDRO-	110-89-4	A clear colorless liquid with a pepper-like odor. Less dense than water, but miscible in water. Will float on water. Flash point 37Â°F. Melting point -15.8Â°F (-9Â°C). Boiling point 222.8Â°F (106Â°C). May severely irritate skin and eyes. May be toxic by ingestion and inhalation. Vapors heavier than air. Used to make rubber and as a solvent.	2.5	5.0	2.5	2465.0	240.0	820.0	387.0	289.0	471.0	48.0	159.0	79.0	53.0	(BLOB)	Vapor is heavier than air and may travel considerable distance to source of ignition and flash back. Vapors form explosive mixture with air. If polymerization takes place in container, there may be a violent rupture of container. Explosion hazard is severe when exposed to flame. Violently reacts with acetylide- forming metals such as copper or copper alloys, ammonium hydroxide; chlorosulfonic acid; hydrochloric acid; hydrofluoric acid; nitric acid; oleum and sulfuric acid. Hazardous polymerization may occur. Avoid active catalytic surfaces such as anhydrous chlorides of iron, tin, and aluminum; peroxides of iron and aluminum; and alkali metal hydroxides, high temperatures; alkalies; aqueous acids; amines and acidic alcohols. (EPA, 1998)	Firefighting should be done from a safe distance or from a protected location. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Move container from area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Extinguish with dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
1074	PIPERONAL	1,3-BENZODIOXOLE-5-CARBOXALDEHYDE|3,4-DIHYDROXYBENZALDEHYDE METHYLENE KETAL|3,4-DIMETHYLENEDIOXYBENZALDEHYDE|5-FORMYL-1,3-BENZODIOXOLANE|5-FORMYL-1,3-BENZODIOXOLE|5-FORMYLBENZODIOXOLE|GELIOTROPIN|HELIOTROPIN|HELIOTROPINE|3,4-(METHYLENEDIOXY)BENZALDEHYDE|PIPERONAL|PIPERONALDEHYDE|PIPERONYLALDEHYDE|PROTOCATECHUIC ALDEHYDE METHYLENE ETHER	120-57-0	PHYSICAL DESCRIPTION: Colorless lustrous crystals. (NTP, 1992)	1.0	2.5	5.0	2465.0	240.0	820.0	387.0	289.0	471.0	48.0	159.0	79.0	53.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1075	PIPERONYL BUTOXIDE	ALPHA-(2-(2-BUTOXYETHOXY)ETHOXY)-4,5-METHYLENEDIOXY-2-PROPYLTOLUENE|ALPHA-(2-(2-N-BUTOXYETHOXY)ETHOXY)-4,5-METHYLENEDIOXY-2-PROPYLTOLUENE|ALPHA-[2-(2-BUTOXYETHOXY)ETHOXY]-4,5-METHYLENEDIOXY-2-PROPYLTOLUENE|BUTACIDE|BUTOCIDE|BUTOXIDE|BUTOXIDE (SYNERGIST)|5-((2-(2-BUTOXYETHOXY)ETHOXY) METHYL)-6-PROPYL-1,3-BENZODIOXOLE|BUTYL CARBITOL 6-PROPYLPIPERONYL ETHER|BUTYL-CARBITYL (6-PROPYLPIPERONYL) ETHER|ENT 14,250|FAC 5273|FMC 5273|INCITE|3,4-METHYLENEDIOXY-6-PROPYLBENZYL N-BUTYL DIETHYLENEGLYCOL ETHER|(3,4-METHYLENEDIOXY-6-PROPYLBENZYL)(BUTYL)	51-03-6	PHYSICAL DESCRIPTION: Pale yellow to light brown liquid with a mild odor and a faint bitter taste. (NTP, 1992)	2.5	5.0	2.5	2469.0	240.0	820.0	387.0	289.0	472.0	48.0	159.0	79.0	53.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1070	PIGMENT RED 2	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Self-contained breathing apparatus for high vapor concentrations. (USCG, 1999)	Highly flammable.	Saturated aliphatic hydrocarbons, such as ETHANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Peroxidizable	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(USCG, 1999)		-211		(USCG, 1999)		2.9		%	(USCG, 1999)		13		%	(USCG, 1999)		940		(USCG, 1999)		-279.9	
1071	PINE OIL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Sensitive to heat and prolonged exposure to air. Water soluble.	PROPYLENE GLYCOL T-BUTYL ETHER is incompatible with acids, oxidizing agents, oxygen (prolonged contact), water and dehydrating agents. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		112																			
1072	PIPERAZINE	Triamiphos is an organophosphorus pesticide. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as TRIAMIPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1073	PIPERIDINE	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	1,3-PROPYLENE OXIDE react with oxidizing agents and strong acids (NTP, 1992). Reacts with Grignard reagents and organolithium compounds. An explosion occurred when propylene oxide was added to an epoxy resin. It was concluded that polymerization was catalyzed by an amine accelerator in the resin [Bretherick, 5th Ed., 1995]. Underwent polymerization when mixed with sodium hydroxide causing ignition and explosion of a drum of the crude product. [Combust Sci. Technol., 1983].	Highly Flammable; Polymerizable	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	2	6		(EPA, 1998)		-35		(EPA, 1998)		2.8		%	(EPA, 1998)		37		%	(USCG, 1999)		869		(EPA, 1998)		-169.83	
1074	PIPERONAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Viton, Butyl rubber, Nitrile, PVA (NTP, 1992)	Slighthy water soluble (NTP, 1992).	BETA-IONONE may react vigorously with oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.			(NFPA, 2010)		1	0	1		(NTP, 1992)		greater than 235																	
1075	PIPERONYL BUTOXIDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Highly flammable. Gives off HCl gas on contact with moist air. Reacts violently with water, steam, with generation of heat and combustible (H2) and corrosive (HCl) gases [Handling Chemicals Safely 1980 p. 924]. Propyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 2.1 minutes. After mixing particular chemicals into water, there may be a delay of <1-10 minutes before gas generation may be observed. For this chemical, a 5 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PROPYL TRICHLOROSILANE reacts violently with water, steam, moist air, alcohols, acetone, and light metals with generation of heat and flammable (H2) and corrosive (HCl) gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1816 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NFPA, 2010)			98 to 100																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1070	PIGMENT RED 2														(USCG, 1999)		0.546		-127.48		(USCG, 1999)		-127.5		760		(USCG, 1999)		30.07											ETH	Flammable Gas	C2H6		11.0	1.0	42.0	3.0	4.0
1071	PINE OIL	(NTP, 1992)		4.8		68		mm Hg	(NTP, 1992)		4.6				(NTP, 1992)		0.87				(NTP, 1992)		304		760		(NTP, 1992)		132.21						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C7H16O2	Cellulose-Based Absorbents	14.0	1.0	38.0	3.0	4.0
1072	PIPERAZINE																				(EPA, 1998)		294.34																	Poison	C12H19N6OP	Mineral-Based & Clay-Based Absorbents	11.0	1.0	42.0	3.0	4.0
1073	PIPERIDINE	(EPA, 1998)		445		68		mm Hg	(EPA, 1998)		2				(EPA, 1998)		0.859		32		(EPA, 1998)		93.61		760		(EPA, 1998)		58.08		(NIOSH, 2003)	; A potential human carcinogen.	400	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	POX	Flammable Liquid	C3H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	21.0	3.0	4.0
1074	PIPERONAL														(NTP, 1992)		0.9462				(NTP, 1992)		284		18		(NTP, 1992)		192.31						(NTP, 1992)	Slightly soluble						C13H20O	Dirt/Earth	11.0	1.0	24.0	3.0	4.0
1075	PIPERONYL BUTOXIDE																																								Corrosive/Flammable Liquid	C3H7Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	20.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1076	PLATINUM	C.I. 77795|FURUUCHI 8105|LIQUID BRIGHT PLATINUM|PLATINUM|PLATINUM (METAL)|PLATINUM BLACK|PLATINUM ELEMENT|PLATINUM METAL|PLATINUM SPONGE|PR 0|TP 1|TP 1 (METAL)|TR 706	7440-06-4	Silvery, whitish-gray, malleable, ductile metal. Mp: 1772Â°C; bp: 2187Â°C. Density: 21.45 g cm-3 at room conditions (very dense). Also shipped as a finely divided powder (platinum black), as a sponge, and as particles deposited on a supporting material such as alumina. Has strong catalytic activity in these forms; finely divided platinum can be dangerous to handle in the vicinity of other chemicals on this account. Used platinum catalysts are particularly dangerous and can be explosive.	1.0	2.5	5.0	2473.0	240.0	820.0	387.0	289.0	473.0	48.0	159.0	79.0	53.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1077	P-NITROBENZOIC ACID	BENZOIC ACID, P-NITRO-|1-CARBOXY-4-NITROBENZENE|4-NITROBENZOIC ACID|NITRODRACYLIC ACID|4-NITRODRACYLIC ACID|P-CARBOXYNITROBENZENE|P-NITROBENZENECARBOXYLIC ACID|P-NITROBENZOIC ACID|P-NITRODRACYLIC ACID|PNBA	62-23-7	PHYSICAL DESCRIPTION: Odorless pale yellow crystals. (NTP, 1992)	1.0	2.5	5.0	2473.0	240.0	820.0	387.0	289.0	473.0	48.0	159.0	79.0	53.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of chlorine containing compounds and nitrogen oxides. (EPA, 1998)	A carbamate insecticide. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1078	P-NITROBENZOYL CHLORIDE	BENZOIC ACID, 4-NITRO, CHLORIDE|BENZOYL CHLORIDE, P-NITRO-|4-NITROBENZOIC ACID CHLORIDE|4-NITROBENZOYL CHLORIDE|P-NITROBENZOIC ACID CHLORIDE|P-NITROBENZOYL CHLORIDE	122-04-3	PHYSICAL DESCRIPTION: Yellow needles or powder with a pungent odor. (NTP, 1992)	1.0	2.5	5.0	2477.0	240.0	820.0	387.0	289.0	474.0	48.0	159.0	79.0	53.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1079	POLYBUTENE	BUTENE RESINS|POLYBUTENE|POLYISOBUTYLENE PLASTICS|POLYISOBUTYLENE RESINS|POLYISOBUTYLENE WAXES	9003-29-6	Oily odorless colorless liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	2481.0	240.0	824.0	387.0	289.0	475.0	48.0	160.0	79.0	53.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1080	POLYPROPYLENE GLYCOL	PLURACOL POLYOL|POLYOXPROPYLENE GLYCOL|POLYOXYPROPYLENE GLYCOL|POLYPROPYLENE GLYCOL|POLYPROPYLENE GLYCOLS P400 TO P4000|THANOL PPG	25322-69-4	Colorless liquid that is odorless or has a mild sweet odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	2481.0	240.0	824.0	387.0	289.0	475.0	48.0	160.0	79.0	53.0	(BLOB)	When heated to decomposition, it emits acrid smoke and fumes. (EPA, 1998)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1076	PLATINUM	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	This chemical darkens in air to a reddish-purple color (oxidizes). Slightly soluble in hot water and denser than water. Napthyl amines can be slowly hydrolyzed, releasing NH3 as a byproduct. [N.L. Drake, Org. React. 1, (1942), 105].	BETA-NAPHTHYLAMINE is a weak base. It is incompatible with strong oxidizing agents and strong acids. It is also incompatible with nitrous acid. It reduces warm ammoniacal silver nitrate. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		315																	(NTP, 1992)			232 to 235
1077	P-NITROBENZOIC ACID	A carbamate insecticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, it emits very toxic fumes of chlorine containing compounds and nitrogen oxides. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(EPA, 1998)			318 to 320
1078	P-NITROBENZOYL CHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
1079	POLYBUTENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as P-TOLUNITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		185																	(NTP, 1992)		85.1	
1080	POLYPROPYLENE GLYCOL	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	PYRENE reacts with nitrogen oxides to form nitro derivatives. It also reacts with 70% nitric acid. (NTP, 1992)								0																		(EPA, 1998)		313	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1076	PLATINUM	(NTP, 1992)	; 5 mm Hg at 286.9Â° F	1		226.4		mm Hg	(NTP, 1992)		4.95				(NTP, 1992)		1.061		208		(NTP, 1992)		583		760		(NTP, 1992)		143.18		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C10H9N		19.0	1.0	50.0	3.0	4.0
1077	P-NITROBENZOIC ACID																										(EPA, 1998)		241.7												Poison	C10H12CIN3O2		13.0	1.0	32.0	3.0	4.0
1078	P-NITROBENZOYL CHLORIDE																																							Poison	C23H22CIF3O2	Dirt/Earth	11.0	1.0	28.0	3.0	4.0
1079	POLYBUTENE														(NTP, 1992)		0.9805		86		(NTP, 1992)		423.7		760		(NTP, 1992)		117.16						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C8H7N		11.0	1.0	19.0	3.0	4.0
1080	POLYPROPYLENE GLYCOL	(NTP, 1992)	; 6.90 mm Hg at 429.4Â° F	2.6		392.7		mm Hg							(EPA, 1998)		1.27		73.4		(EPA, 1998)		759		760		(EPA, 1998)		202.26						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C16H10		13.0	1.0	30.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1081	POLYPROPYLENE GLYCOL METHYL ETHER	POLY (PROPYLENE GLYCOL) METHYL ETHER|POLYOXYPROPYLENE GLYCOL METHYL ETHER|POLYPROPYLENE GLYCOL METHYL ETHER	1320-67-8	Odorless colorless liquid. Mixes with water. (USCG, 1999)	2.5	5.0	2.5	2485.0	240.0	824.0	387.0	289.0	476.0	48.0	160.0	79.0	53.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Highly toxic fumes are imminent. (USCG, 1999)	
1082	POTASSIUM	POTASSIUM|POTASSIUM, METAL|POTASSIUM, [METAL]	7440-09-7	Potassium is a soft silvery metal though normally grayish white due to oxidation.	1.0	2.5	5.0	2485.0	240.0	828.0	387.0	289.0	476.0	48.0	161.0	79.0	53.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1083	POTASSIUM BIFLUORIDE	HYDROGEN POTASSIUM DIFLUORIDE|HYDROGEN POTASSIUM FLUORIDE|HYDROGEN POTASSIUM FLUORIDE (HKF2)|POTASSIUM ACID FLUORIDE|POTASSIUM BIFLUORIDE|POTASSIUM BIFLUORIDE (KHF2)|POTASSIUM FLUORIDE HYDROFLUORIDE|POTASSIUM HYDROGEN DIFLUORIDE|POTASSIUM HYDROGEN FLUORIDE|POTASSIUM HYDROGEN FLUORIDE (KHF2)|POTASSIUM HYDROGENDIFLUORIDE|POTASSIUM MONOHYDROGEN DIFLUORIDE	7789-29-9	Colorless crystals, corrosive to tissues, etches glass.	1.0	2.5	5.0	2485.0	240.0	828.0	387.0	289.0	476.0	48.0	161.0	79.0	53.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1084	POTASSIUM BROMATE	BROMIC ACID, POTASSIUM SALT|POTASSIUM BROMATE	7758-01-2	A white crystalline solid.	1.0	2.5	5.0	2489.0	240.0	828.0	387.0	289.0	477.0	48.0	161.0	79.0	53.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1085	POTASSIUM CHLORATE	ANFORSTAN|BERTHOLLET SALT|BERTHOLLET'S SALT|CHLORATE OF POTASH|CHLORATE OF POTASSIUM|FEKABIT|POTASSIUM CHLORATE|POTASSIUM OXYMURIATE|POTCRATE	3811-04-9	A white crystalline solid. Forms a very flammable mixture with combustible materials. Mixture may be explosive if combustible material is very finely divided. Mixture may be ignited by friction. Contact with strong sulfuric acid may cause fires or explosions. May spontaneously decompose and ignite when mixed with ammonium salts. May explode under prolonged exposure to heat or fire. Used to make matches, paper, explosives, and many other uses.	1.0	2.5	5.0	2489.0	240.0	832.0	387.0	293.0	477.0	48.0	162.0	79.0	54.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1081	POLYPROPYLENE GLYCOL METHYL ETHER		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	PYRETHRINS are incompatible with the following: Strong oxidizers (NIOSH, 1997).								0		(NIOSH, 2003)			180 to 190										(USCG, 1999)	Not flammable						
1082	POTASSIUM	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	1-ETHYLPIPERIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																									
1083	POTASSIUM BIFLUORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. All handling of this compound should be under an inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Extremely sensitive to exposure to air. Also extremely sensitive to moisture; decomposes in water (NTP, 1992)	Organometallics, such as BIS(CYCLOPENTADIENYL)VANADIUM DICHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																								(NTP, 1992)	(Decomposes)		greater than 482
1084	POTASSIUM BROMATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ETHION MIXTURE, [DRY] gives toxic products when burned (may include diethyl suffide, sulfur dioxide, carbon monoxide, phosphorus pentaoxide).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																											
1085	POTASSIUM CHLORATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A thiocarbamate/amine. Thiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.								0																								(NTP, 1992)	(Decomposes)		327 to 331

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1081	POLYPROPYLENE GLYCOL METHYL ETHER	(NIOSH, 2003)	Low												(NIOSH, 2003)	(approx)	1				(USCG, 1999)	338Â° F (Pyrethrin I) 392Â°F (Pyrethrin II) 279Â°F (Cinerin I) 361Â°F (Cinerin II)					(USCG, 1999)	328.4 Pyrethrin I; 372.4 Pyrethrin II; 316.4 Cinerin I; 360.4 Cinerin II	328.4		(NIOSH, 2003)		5000	mg/m3	(NIOSH, 2003)	Insoluble					PRR			Dirt/Earth	10.0	1.0	31.0	3.0	4.0
1082	POTASSIUM																																									Flammable Liquid|Corrosive	C7H15N	Mineral-Based & Clay-Based Absorbents	11.0	1.0	21.0	3.0	4.0
1083	POTASSIUM BIFLUORIDE														(NTP, 1992)		1.6										(NTP, 1992)		252.04						(NTP, 1992)	Decomposes				Poison	C10H10Cl2V		11.0	1.0	31.0	3.0	4.0
1084	POTASSIUM BROMATE																																								Poison	C9H22O4P2S4		11.0	1.0	35.0	3.0	4.0
1085	POTASSIUM CHLORATE														(NTP, 1992)												(NTP, 1992)		166.24						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C8H10N2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	29.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1086	POTASSIUM CHLORATE, AQUEOUS SOLUTION	ANFORSTAN|BERTHOLLET SALT|BERTHOLLET'S SALT|FEKABIT|POTASSIUM CHLORATE|POTASSIUM CHLORATE SOLUTION|POTASSIUM CHLORATE, AQUEOUS SOLUTION|POTASSIUM CHLORATE, SOLUTION|POTASSIUM OXYMURIATE|POTCRATE	3811-04-9	A colorless liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals. Ignites organic materials upon contact .	2.5	5.0	2.5	2493.0	240.0	832.0	387.0	293.0	478.0	48.0	162.0	79.0	54.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (Non-Specific -- Combustible Liquid, n.o.s.) Flammable/combustible material; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. (EPA, 1998)	(Non-Specific -- Combustible Liquid, n.o.s.) Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. It is combustible. (Non-Specific -- Combustible Liquid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1087	POTASSIUM CYANIDE	CYANIDE|CYANIDE OF POTASSIUM|HYDROCYANIC ACID, POTASSIUM SALT|POTASSIUM CYANIDE|POTASSIUM CYANIDE(KCN)|POTASSIUM CYANIDE, [SOLID]|POTASSIUM SALT OF HYDROCYANIC ACID	151-50-8	White amorphous lumps or a crystalline mass with a faint odor of bitter almonds. Density 1.52 g / cm3 Toxic by skin absorption through open wounds, by ingestion. Heating to decomposition produces toxic fumes. Used for gold and silver extraction, in chemical analysis, to make other chemicals, and as an insecticide.	1.0	2.5	5.0	2493.0	240.0	832.0	387.0	293.0	478.0	48.0	162.0	79.0	54.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1088	POTASSIUM CYANIDE SOLUTION	POTASSIUM CYANIDE|POTASSIUM CYANIDE SOLUTION|POTASSIUM SALT OF HYDROCYANIC ACID	151-50-8	Clear colorless aqueous solution with a faint odor of bitter almonds. Can contain up to 50 g of potassium cyanide per 100 g of water at room temperature.	2.5	5.0	2.5	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1089	POTASSIUM FLUOROSILICATE	DIPOTASSIUM HEXAFLUOROSILICATE|DIPOTASSIUM HEXAFLUOROSILICATE(2-)|POTASSIUM FLUOROSILICATE|POTASSIUM FLUOROSILICATE (K2SIF6)|POTASSIUM FLUOROSILICATE, [SOLID]|POTASSIUM FLUOSILICATE|POTASSIUM HEXAFLUOROSILICATE|POTASSIUM HEXAFLUOROSILICATE (K2SIF6)|POTASSIUM SILICOFLUORIDE|POTASSIUM SILICOFLUORIDE (K2SIF6)|POTASSIUM SILICON FLUORIDE (K2SIF6)	16871-90-2	A white, odorless crystalline powder. Denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	EYES: flush with water for at least 15 min. SKIN: wipe off; wash well with soap and water. INGESTION: induce vomiting; get medical attention. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1090	POTASSIUM HYDROGEN FLUORIDE, SOLUTION	HYDROGEN POTASSIUM DIFLUORIDE|HYDROGEN POTASSIUM FLUORIDE|HYDROGEN POTASSIUM FLUORIDE (HKF2)|POTASSIUM ACID FLUORIDE|POTASSIUM BIFLUORIDE|POTASSIUM BIFLUORIDE (KHF2)|POTASSIUM FLUORIDE HYDROFLUORIDE|POTASSIUM HYDROGEN DIFLUORIDE|POTASSIUM HYDROGEN FLUORIDE|POTASSIUM HYDROGEN FLUORIDE (KHF2)|POTASSIUM HYDROGEN FLUORIDE SOLUTION|POTASSIUM HYDROGEN FLUORIDE, SOLUTION|POTASSIUM MONOHYDROGEN DIFLUORIDE	7789-29-9	A colorless liquid resulting from dissolution of the solid salt in water. Corrosive to metals and tissue. Used in the electrolytic production of fluorine, and as a metallurgical flux.	2.5	5.0	2.5	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1086	POTASSIUM CHLORATE, AQUEOUS SOLUTION	(Non-Specific -- Combustible Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Shut off ignition sources; no flares, smoking, or flames in hazard area. Stop leak if you can do so without risk. Use water spray to reduce vapors. Absorb spills with sand or noncombustible absorbent material. For large spills dike far ahead. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PYRIDINE, 2-METHYL-5-VINYL- neutralizes acids in exothermic reactions to form salts plus water. Can polymerize exothermically. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		165															(EPA, 1998)	Freezing point (anhydrous)	6.3	
1087	POTASSIUM CYANIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL AMMONIUM METHYL SULFATES may react vigorously with strong oxidizing agents and with strong reducing agents. May generate heat with acids.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		89															(NTP, 1992)		192 to 277
1088	POTASSIUM CYANIDE SOLUTION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-HEXADECANETHIOL Class IIIB is non-flammable but combustible (flash point exceeds 200Â°F). Incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite (Ca(OCl)2) to generate SOx. Reacts with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield hydrogen halides. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		215															(NIOSH, 2003)		64 to 68
1089	POTASSIUM FLUOROSILICATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Ethers, such as ETHOXYDIHYDROPYRAN can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3		(USCG, 1999)		98															(USCG, 1999)		-148	
1090	POTASSIUM HYDROGEN FLUORIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	THEOPHYLLINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0															(NTP, 1992)		522 to 525

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1086	POTASSIUM CHLORATE, AQUEOUS SOLUTION														(EPA, 1998)			0.978 to 0.982		68	(EPA, 1998)		358		760		(EPA, 1998)		119.18												Poison	C8H9N	Mineral-Based & Clay-Based Absorbens|Dirt/Earth	14.0	1.0	29.0	3.0	4.0
1087	POTASSIUM CYANIDE														(NTP, 1992)		0.96																		(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Solid			14.0	1.0	23.0	3.0	4.0
1088	POTASSIUM CYANIDE SOLUTION	(NIOSH, 2003)		0.1				mm Hg							(NIOSH, 2003)		0.85										(NIOSH, 2003)		258.5						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	CH3[CH2]15SH		14.0	1.0	23.0	3.0	4.0
1089	POTASSIUM FLUOROSILICATE														(USCG, 1999)		0.875	68			(USCG, 1999)		289		760		(USCG, 1999)		128.17										EHP	Flammable Liquid	C7H12O2	Dirt/Earth	10.0	1.0	33.0	3.0	4.0
1090	POTASSIUM HYDROGEN FLUORIDE, SOLUTION																										(NTP, 1992)		180.17						(NTP, 1992)	at 70.7Â° F		1 to 5	mg/mL			C7H8N4O2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	31.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1091	POTASSIUM HYDROGEN SULFATE	ACID POTASSIUM SULFATE|HYDROGEN POTASSIUM SULFATE|MONOPOTASSIUM SULFATE|POTASSIUM ACID SULFATE|POTASSIUM BISULFATE|POTASSIUM BISULPHATE|POTASSIUM HYDROGEN SULFATE|POTASSIUM HYDROGEN SULFATE, [SOLID]|POTASSIUM HYDROGEN SULPHATE|POTASSIUM SULFATE (KHSO4)|SAL ENIXUM|SULFURIC ACID POTASSIUM SALT (1:1)	7646-93-7	Potassium hydrogen sulfate is a colorless crystalline solid with a sulfur odor. It may cause illness from ingestion. If heated to high temperatures it may emit toxic fumes. It is used to make fertilizers and wine.	1.0	2.5	5.0	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	Flush eyes with water for at least 15 min. Wash skin well with water. Get medical attention. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)
1092	POTASSIUM METABISULFITE	DIPOTASSIUM DISULFITE|DIPOTASSIUM METABISULFITE|DIPOTASSIUM PYROSULFITE|POTASSIUM DISULFITE (K2S2O5)|POTASSIUM METABISULFITE|POTASSIUM METABISULFITE (K2S2O5)|POTASSIUM PYROSULFITE|POTASSIUM PYROSULFITE (K2S2O5)|PYROSULFUROUS ACID, DIPOTASSIUM SALT	16731-55-8	A white granular or powdery solid with a sharp odor of sulfur dioxide. Decomposes at 150 to 190Â°C. Density 2.3 g / cm3. Contact severely irritates skin, eyes, and mucous membranes. Low toxicity. Used as a food preservative and an antioxidant.	1.0	2.5	5.0	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire. Fire Extinguishing Agents: Dry chemicals, foam, carbon dioxide (USCG, 1999)
1093	POTASSIUM OLEATE	CENTURY 1005|FR 14|NONSOUL OK 1|NORFOX KO|9-OCTADECENOIC ACID (Z)-, POTASSIUM SALT|OLEIC ACID, POTASSIUM SALT|OLEIC ACID, [POTASSIUM SALT]|OSSOAP|POTASSIUM 9-OCTADECENOATE|POTASSIUM CIS-9-OCTADECENOATE|POTASSIUM CIS-9-OCTADECENOIC ACID|POTASSIUM OLEATE|TRENAMINE D 200|TRENAMINE D 201|(Z)-9-OCTADECANOIC ACID, POTASSIUM SALT	143-18-0	Brown solid or clear to amber liquid with a soapy odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	2497.0	240.0	836.0	387.0	293.0	479.0	48.0	163.0	79.0	54.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1094	POTASSIUM PERSULFATE	ANTHION|DIPOTASSIUM PEROXODISULFATE|DIPOTASSIUM PEROXYDISULFATE|DIPOTASSIUM PERSULFATE|POTASSIUM PEROXODISULFATE|POTASSIUM PEROXYDISULFATE (K2(S2O8))|POTASSIUM PEROXYDISULFATE (K2S2O3)|POTASSIUM PEROXYDISULPHATE|POTASSIUM PERSULFATE|POTASSIUM PERSULPHATE|VIRKON S	7727-21-1	A white crystalline solid. Specific gravity 2.477. Decomposes below 100Â°C.	1.0	2.5	5.0	2497.0	240.0	840.0	387.0	293.0	479.0	48.0	164.0	79.0	54.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1095	POTASSIUM SILVER CYANIDE	ARGENTATE(1-), BIS(CYANO-C)-, POTASSIUM|ARGENTATE(1-), DICYANO-, POTASSIUM|ARGENTATES(I) (SOL), DICYANO-|POTASSIUM ARGENTOCYANIDE|POTASSIUM ARGENTOCYANIDE (KAG(CN)2)|POTASSIUM BIS(CYANO-C)ARGENTATE (1-)|POTASSIUM BIS(CYANO-C)ARGENTATE(1-)|POTASSIUM CYANOARGENTATE(I) (KAG(CN)2)|POTASSIUM DICYANOARGENTATE|POTASSIUM DICYANOARGENTATE (I)|POTASSIUM DICYANOARGENTATE(1-)|POTASSIUM DICYANOARGENTATE(I)|POTASSIUM DICYANOARGENTATE(KAG(CN)2)|POTASSIUM SILVER CYANIDE|POTASSIUM SILVER CYANIDE (KAG(CN)2)|POTASSIUM	506-61-6	White crystals. Poisonous. Used in silver plating, as a bactericide and in the manufacture of antiseptics. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	2497.0	240.0	840.0	387.0	293.0	479.0	48.0	164.0	79.0	54.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1091	POTASSIUM HYDROGEN SULFATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Plastic gloves, goggles. (USCG, 1999)	Mixes slowly with water.	ETHOXYLATED DODECANOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		470															(USCG, 1999)		61	
1092	POTASSIUM METABISULFITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Gloves and safety glasses (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ETHOXYLATED NONYLPHENOL is a polyether. May react exothermically with strong oxidizing agents.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(burns with difficulty)		greater than 140																
1093	POTASSIUM OLEATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	THIABENDAZOLE is incompatible with a number of pesticides, including copper-containing fungicides, and with highly alkaline materials. It is a chelating agent, binding many metals including iron, but not calcium (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(NTP, 1992)			579 to 581
1094	POTASSIUM PERSULFATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water. This chemical is slowly hydrolyzed by moisture.	ETHYL ACETATE is also sensitive to heat. On prolonged storage, materials containing similar functional groups have formed explosive peroxides. This chemical may ignite or explode with lithium aluminum hydride. It may also ignite with potassium tert-butoxide. It is incompatible with nitrates, strong alkalis and strong acids. It will attack some forms of plastics, rubber and coatings. It is incompatible with oxidizers such as hydrogen peroxide, nitric acid, perchloric acid and chromium trioxide. Violent reactions occur with chlorosulfonic acid. (NTP, 1992). SOCl2 reacts with esters, such as ethyl acetate, forming toxic SO2 gas and water soluble/toxic acyl chlorides, catalyzed by Fe or Zn (Spagnuolo, C.J. et al. 1992. Chemical and Engineering News 70(22):2.).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		24		(NTP, 1992)		2		%	(NTP, 1992)		11.5		%	(USCG, 1999)		800		(NTP, 1992)		-118.5	
1095	POTASSIUM SILVER CYANIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Rubber gloves; goggles; protective clothing and protective creams. Good personal hygiene is necessary, with instruction of personnel and adequate cleaning facilities. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164]. Insoluble in water.	BISPHENOL A DIGLYCIDYL ETHER, is not highly reactive. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound						0		(NTP, 1992)			greater than 200															(NTP, 1992)			46 to 54

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1091	POTASSIUM HYDROGEN SULFATE														(USCG, 1999)		1.02		68		(USCG, 1999)	Very high					(USCG, 1999)			450 to 626										EOD	Class 9	C14H30O	Cellulose-Based Absorbents	15.0	1.0	33.0	3.0	4.0
1092	POTASSIUM METABISULFITE														(USCG, 1999)			0.99 to 1.07	77								(USCG, 1999)			greater than 500					(NTP, 1992)	Turned cloudy with 10.5 mg/mL, remained cloudy after 10 mL added.				ENP	Class 9	C15H23O.(C2H4O)n	Cellulose-Based Absorbents	13.0	1.0	34.0	3.0	4.0
1093	POTASSIUM OLEATE	(NTP, 1992)	Negligible			68																				(NTP, 1992)		201.26						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C10H7N3S	Mineral-Based & Clay-Based Absorbents	12.0	1.0	20.0	3.0	4.0
1094	POTASSIUM PERSULFATE	(NTP, 1992)	; 100 mm Hg at 81Â° F	73		68		mm Hg	(NTP, 1992)		3.04				(USCG, 1999)		0.902		68		(NTP, 1992)		171		760		(NTP, 1992)		88.11		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	2000	ppm	(NTP, 1992)	at 70Â° F		50 to 100	mg/mL	ETA	Flammable Liquid	C4H8O2		11.0	1.0	43.0	3.0	4.0
1095	POTASSIUM SILVER CYANIDE														(USCG, 1999)		1.16		68		(NTP, 1992)	Decomposes					(NTP, 1992)		312.37						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL	BDE		C21H24O4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	26.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1096	POTASSIUM TETRAPYRO PHOSPHATE	POTASSIUM TETRAPYRO PHOSPHATE|POTASSIUM TETRAPYRO PHOSPHATE (POISONOUS SOLIDS, N.O.S.)|POTASSIUM TETRAPYRO PHOSPHATE (TOXIC SOLID, INORGANIC, N.O.S.)|POTASSIUM TETRAPYROPHOSPHATE (POISONOUS SOLIDS, N.O.S.)	7320-34-5	Potassium tetrapyrophosphate is a whitish-colored powdered solid. It is toxic by ingestion, and/or inhalation. Contact with the substance should be avoided.	1.0	2.5	5.0	2497.0	240.0	840.0	387.0	293.0	479.0	48.0	164.0	79.0	54.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating vapors generated when heated. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. May polymerize and cause container to explode. (USCG, 1999)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1097	POTASSIUM, METAL ALLOYS	POTASSIUM, METAL ALLOYS|POTASSIUM, METAL LIQUID ALLOY|POTASSIUM, [METAL LIQUID ALLOY]	7440-09-7	Potassium, metal alloys is potassium mixed with some other metal, usually sodium. It is a liquid under normal conditions. It reacts vigorously with water to form potassium hydroxide, a corrosive material and hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen. Potassium alloy may ignite spontaneously in contact with air. Once ignited, potassium burns quite violently. It is used as a heat exchange fluid.	1.0	2.5	5.0	2501.0	240.0	840.0	387.0	293.0	480.0	48.0	164.0	79.0	54.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1098	P-PHENETIDINE	4-AMINOETHOXYBENZENE|4-AMINOPHENETOLE|ANILINE, P-ETHOXY-|4-ETHOXYANILINE|4-ETHOXYBENZENAMINE|4-ETHOXYPHENYLAMINE|P-AMINOPHENETOLE|P-ETHOXYANILINE|P-PHENETIDIN|P-PHENETIDINE|PARA-AMINOETHOXYBENZENE|PARA-PHENETIDINE|PHENETHIDINE|4-PHENETIDINE	156-43-4	PHYSICAL DESCRIPTION: Colorless to dark red liquid. (NTP, 1992)	2.5	5.0	2.5	2501.0	240.0	840.0	387.0	293.0	480.0	48.0	164.0	79.0	54.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1099	PROBENECID	APURINA|BENECID|BENEMID|BENURYL|BENZOIC ACID, 4-((DIPROPYLAMINO)SULFONYL)-|BENZOIC ACID, P-(DIPROPYLSULFAMOYL)-|4-((DIPROPYLAMINO)SULFONYL)BENZOIC ACID|4-(DIPROPYLAMINOSULFONYL)BENZOIC ACID|4-(DIPROPYLSULFAMOYL)BENZOIC ACID|ETHAMIDE|NCI-C56097|P-(DIPROPYLSULFAMOYL)BENZOIC ACID|P-(DIPROPYLSULFAMYL)BENZOIC ACID|PROBECID|PROBEN|PROBENECID|PROBENECID ACID|PROBENEMID|PROLONGINE|SYNERGID R|TUBOPHAN|URICOSID	57-66-9	PHYSICAL DESCRIPTION: Odorless white or almost white crystalline powder. Slightly bitter taste; pleasant aftertaste. (NTP, 1992)	1.0	2.5	5.0	2505.0	240.0	844.0	387.0	293.0	481.0	48.0	165.0	79.0	54.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1100	PROMETHAZINE HYDROCHLORIDE	(BLOB)	58-33-3	PHYSICAL DESCRIPTION: Odorless white to faint yellow crystalline powder. Bitter taste. A 10% solution in water has a pH of 3.5-5.0. (NTP, 1992)	1.0	2.5	5.0	2505.0	240.0	848.0	387.0	293.0	481.0	48.0	166.0	79.0	54.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water. Where there is evidence of skin irritation, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1096	POTASSIUM TETRAPYROPHOSPHATE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	A flammable liquid, confirmed carcinogen. It can react vigorously with oxidizing reagents, peroxides,strong alkalis and polymerization initiators. [NTP] It reacts violently with chlorosulfonic acid [Sax, 9th ed., 1996, p. 1515]. When an inhibited monomer was placed in a clear glass bottle exposed to sunlight, exothermic polymerization set in and caused the bottle to burst. The use of brown glass or metal containers and increase in inhibitor concentration (to 200 ppm; tenfold) was recommended [MCA Case History No. 1759]. It may polymerize when exposed to light and it is subject to slow hydrolysis. Inhibitors do not function in the absence of air. Solutions in DMSO are stable for 24 hours under normal lab conditions. [NTP].	Highly Flammable; Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5		(NTP, 1992)		48		(NTP, 1992)		1.8		%	(NTP, 1992)		12.1		%	(USCG, 1999)		721		(NTP, 1992)		-96.2	
1097	POTASSIUM, METAL ALLOYS	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Acetic acid or acetic anhydride can explode with permanganates if not kept cold [Von Schwartz 1918. p. 34]. Explosions can occur when permanganates treated with sulfuric acid come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1098	P-PHENETIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PYRIMETHAMINE is sensitive to exposure to light (NTP, 1992). Neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(capillary)		451 to 453
1099	PROBENECID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. The liquid decomposed in water to form ethyl alcohol and boric acid.	Borates behave similarly to esters in that they react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters/borates with alkali metals and hydrides.	Highly Flammable; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1100	PROMETHAZINE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable.	ETHYL BUTYL KETONE is reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion. Reacts with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. May react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. Irritating vapors and toxic gases may be formed when involved in fire (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		115		(USCG, 1999)		1.4		%	(USCG, 1999)		8.8		%						(USCG, 1999)		-38	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1096	POTASSIUM TETRAPYRO PHOSPHATE	(NTP, 1992)	; 40 mm Hg at 79Â° F	29.3		68		mm Hg	(NTP, 1992)		3.45				(USCG, 1999)		0.923		68		(NTP, 1992)		211.6		760		(NTP, 1992)		100.12		(NIOSH, 2003)	; A potential human carcinogen.	300	ppm	(NTP, 1992)	at 70Â° F		10 to 50	mg/mL	EAC	Flammable Liquid	C5H8O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	16.0	1.0	50.0	3.0	4.0
1097	POTASSIUM, METAL ALLOYS																																							Oxidizer	HMnO4.1I2Zn	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	21.0	3.0	4.0
1098	P-PHENETIDINE																										(NTP, 1992)		248.71						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C12H13ClN4	Mineral-Based & Clay-Based Absorbents	10.0	1.0	19.0	3.0	4.0
1099	PROBENECID																																							Flammable Liquid	C2H7BO3		11.0	1.0	33.0	3.0	4.0
1100	PROMETHAZINE HYDROCHLORIDE	(NIOSH, 2003)		4				mm Hg							(USCG, 1999)		0.818				(USCG, 1999)		297		760		(USCG, 1999)		114.19		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)		1		%	EBK	Flammable Liquid	C7H14O		12.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1101	PROPANIL	N-(3,4-DICHLOROPHENYL)PROPANAMIDE|PROPANIL	709-98-8	Colorless to brown crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	2505.0	240.0	848.0	387.0	293.0	481.0	48.0	166.0	79.0	54.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fire Extinguishing Agents: Water fog. (USCG, 1999)
1102	PROPIONALDEHYDE	ETHYLCARBOXALDEHYDE|METHYL ACETALDEHYDE|METHYLACETALDEHYDE|N-PROPANAL|N-PROPIONALDEHYDE|NCI-C61029|PROPALDEHYDE|PROPANAL|1-PROPANAL|PROPANALDEHYDE|1-PROPANONE|PROPIONAL|PROPIONALDEHYDE|PROPIONIC ALDEHYDE|PROPYL ALDEHYDE|PROPYLALDEHYDE|PROPYLIC ALDEHYDE	123-38-6	A clear colorless liquid with an overpowering fruity-like odor. Less dense than water. Flash point 15Â°F. Vapors are heavier than air.	2.5	5.0	2.5	2509.0	240.0	852.0	387.0	293.0	482.0	48.0	167.0	79.0	54.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1103	PROPIONIC ACID	ADOFEED|ANTISCHIMB|CARBOXYETHANE|EHTYLFORMIC ACID|ETHANECARBOXYLIC ACID|ETHYLFORMIC ACID|LUPROSIL|METACETONIC ACID|METHYL ACETIC ACID|METHYLACETIC ACID|MONOPROP|PROPANOIC ACID|PROPCORN|PROPIONIC ACID|PROPIONIC ACID GRAIN PRESERVER|PROPKORN|PROZOIN|PSEUDOACETIC ACID|SENTRY GRAIN PRESERVER|TENOX P GRAIN PRESERVATIVE	79-09-4	Colorless liquid with a sharp rancid odor. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2509.0	240.0	856.0	387.0	293.0	482.0	48.0	168.0	79.0	54.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1104	PROPIONIC ACID, [SOLUTION]	PROPIONIC ACID|PROPIONIC ACID, [SOLUTION]	79-09-4	A clear oily aqueous liquid with a pungent rancid odor. Burns skin and the vapors irritate mucous membranes. Corrosive to most metals and tissue.	2.5	5.0	2.5	2509.0	244.0	856.0	387.0	297.0	482.0	49.0	168.0	79.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1105	PROPYL GALLATE	BENZOIC ACID, 3,4,5-TRIHYDROXY-, PROPYL ESTER|GALLIC ACID, PROPYL ESTER|N-PROPYL 3,4,5-TRIHYDROXYBENZOATE|N-PROPYL ESTER OF 3,4,5-TRIHYDROXYBENZOIC ACID|N-PROPYL GALLATE|NIPA 49|NIPAGALLIN P|NIPANOX S 1|PG|PROGALLIN P|PROPYL 3,4,5-TRIHYDROXYBENZOATE|PROPYL GALLATE|TENOX PG|3,4,5-TRIHYDROXYBENZENE-1-PROPYLCARBOXYLATE|3,4,5-TRIHYDROXYBENZOIC ACID, N-PROPYL ESTER|3,4,5-TRIHYDROXYBENZOIC ACID, PROPYL ESTER	121-79-9	PHYSICAL DESCRIPTION: Fine white to creamy-white crystalline powder. Odorless or with a faint odor. Melting point 150Â°C. Insoluble in water. Slightly bitter taste.	1.0	2.5	5.0	2513.0	244.0	856.0	387.0	297.0	483.0	49.0	168.0	79.0	55.0	INHALATION: remove to fresh air; use artificial respiration if breathing has stopped; call a doctor; keep victim quiet and administer oxygen if needed. EYES: flush with water for at least 15 min.; see a doctor. SKIN: wash liberally with water for at least 15 min., then apply dilute solution of sodium bicarbonate or commercially prepared neutralizer. INGESTION: do NOT induce vomiting; give large amount of water; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic chlorine and phosgene gases may be formed in fires. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1101	PROPANIL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Chemical goggles; chemical resistant gloves and clothing. (USCG, 1999)	Water soluble.	BORIC ACID is a very weak acid. Incompatible with alkali carbonates and hydroxides. During an attempt to make triacetyl borate, a mixture of boric acid and acetic anhydride exploded when heated to 58-60Â°C [Chem. Eng. News 51:(34) 1973]. Reacts violently with the strong reducing agent potassium metal.					0																					(NTP, 1992)		340	
1102	PROPIONALDEHYDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Ignites spontaneously in contact with air at or above 160Â°C.	PYROXYLIN is a nitrocellulose mixture. Nitroalkanes, such as NITROCELLULOSE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive.	Highly Flammable; Air-Reactive	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NFPA, 2010)			less than 0																	
1103	PROPIONIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Very soluble in water.	PYRROLIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. An explosion occurred when a mixture of pyrrolidine, benzaldehyde, and propionic acid was heated in an attempt to form porphyrins.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NFPA, 2010)			37																	
1104	PROPIONIC ACID, [SOLUTION]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PYRVINIUM PAMOATE is light sensitive. Incompatible with strong oxidizing agents, strong acids and bases (NTP, 1992).					0																					(NTP, 1992)		410 to 419	
1105	PROPYL GALLATE	(BLOB)	Air-line mask, self-contained breathing apparatus, or organic and acid canister mask; full protective clothing. (USCG, 1999)	Highly flammable. Emits fumes containing HCl on contact with moist air. Decomposes exothermically but slowly in water.	ETHYL CHLOROFORMATE decomposes slowly in water to form ethanol, HCl, and CO2 Attacks many metals especially in humid atmosphere [Handling Chemicals Safely 1980. p. 476]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1182 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(USCG, 1999)			61											(USCG, 1999)		932		(USCG, 1999)		-114	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1101	PROPANIL														(USCG, 1999)		1.435		68		(NTP, 1992)	(decomposes)	572		760		(NTP, 1992)		61.83						(NTP, 1992)	at 66Â° F		10 to 50	mg/mL	BAC		BH3O3		12.0	1.0	17.0	3.0	4.0
1102	PROPIONALDEHYDE																																								Flammable Liquid	C6H7N3O11 (approx)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	12.0	1.0	30.0	3.0	4.0
1103	PROPIONIC ACID																																								Flammable Liquid|Corrosive	C4H9N	Mineral-Based & Clay-Based Absorbents	16.0	1.0	40.0	3.0	4.0
1104	PROPIONIC ACID, [SOLUTION]																																									(C26H28N3)2.(C23H14O6)		16.0	1.0	40.0	3.0	4.0
1105	PROPYL GALLATE														(USCG, 1999)		1.135		68		(USCG, 1999)		201		760		(USCG, 1999)		108.5											ECF	Poison Inhalation Hazard|Flammable Liquid|Corrosive	C3H5ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	37.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1106	P-TOLUENE SULFONYLCHLORIDE (CORROSIVE SOLIDS, N.O.S.)	4-METHYLBENZENESULFONYL CHLORIDE|4-METHYLPHENYLSULFONYL CHLORIDE|P-METHYLBENZENESULFONYL CHLORIDE|P-METHYLPHENYLSULFONYL CHLORIDE|P-TOLUENE SULFONYLCHLORIDE (CORROSIVE SOLIDS, N.O.S.)|P-TOLUENESULFOCHLORIDE|P-TOLUENESULFONIC ACID CHLORIDE|P-TOLUENESULFONIC CHLORIDE|P-TOLUENESULFONYL CHLORIDE|P-TOLUENESULPHONYL CHLORIDE|P-TOLYLSULFONYL CHLORIDE|P-TOSYL CHLORIDE|TOLUENESULFONYL CHLORIDE|4-TOLUENESULFONYL CHLORIDE|TOSYL CHLORIDE|4-TOSYL CHLORIDE	98-59-9	A white to gray powdered solid with a distinctive odor. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	2517.0	244.0	860.0	387.0	297.0	484.0	49.0	169.0	79.0	55.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1107	P-TOLUIDINE	4-AMINO-1-METHYLBENZENE|1-AMINO-4-METHYLBENZENE|4-AMINOTOLUENE|C.I. 37107|C.I. AZOIC COUPLING COMPONENT 107|4-METHYL-1-AMINOBENZENE|4-METHYLANILINE|4-METHYLBENZENAMINE|4-METHYLBENZENEAMINE|4-METHYLPHENYLAMINE|NAPHTOL AS-KG|NAPHTOL AS-KGLL|P-AMINOTOLUENE|P-METHYLANILINE|P-METHYLBENZENAMINE|P-METHYLPHENYLAMINE|P-TOLUIDINE|P-TOLYLAMINE|4-TOLUIDINE|TOLYLAMINE|4-TOLYLAMINE	106-49-0	Colorless solid. Melting point 44Â°C (111Â°F). Specific gravity 1.046. Vapor heavier than air. Produces toxic oxides of nitrogen during combustion. May be absorbed through the skin. Used in dyes, and in organic chemical manufacturing.	1.0	2.5	5.0	2517.0	244.0	860.0	387.0	297.0	484.0	49.0	169.0	79.0	55.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorides. It will react with water or steam to produce heat, and toxic and corrosive fumes. In hot water, decomposes to hydrochloric acid and boric acid. Fumes and hydrolyzes in moist air to form hydrochloric acid and oily, irritating corrosives. Avoid aniline, hexafluoropropylene|dene amino lithium, nitrogen dioxide, phosphine, grease, organic matter, and oxygen. Nitrogen peroxide, phosphine, fat or grease react energetically with boron trichloride. Oxygen and boron trichloride react vigorously on sparking. Boron trichloride and aniline react violently in the absence of a coolant or diluent. Stable. (EPA, 1998)	It is not flammable. Use dry chemical, carbon dioxide, or dry sand to extinguish. If large quantities of combustibles are involved, use water in flooding quantities as spray and fog. Use water spray to absorb vapors. For large fires use water spray, fog, or foam. Do not get water on material itself. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Do not get water inside container. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Spray cooling water on containers that are exposed to flames until well after fire is out. Isolate area until gas has dispersed. (EPA, 1998)
1108	PYRAZINAMIDE	ALDINAMID|ALDINAMIDE|ALPHA-PYRAZINAMIDE|2-(AMINOCARBONYL)PYRAZINE|2-CARBAMYL PYRAZINE|2-CARBAMYLPYRAZINE|2-CARBOXAMIDOPYRAZINE|D50|EPRAZIN|FARMIZINA|MK56|NCI-C01785|NOVAMID|PIRAZIMIDA|PIRAZINAMID|PRAZINOIC ACID AMIDE|PYRAFAT|PYRAZINAMIDE|PYRAZINE CARBOXAMIDE|PYRAZINE CARBOXYLAMIDE|PYRAZINEAMIDE|PYRAZINECARBOXAMIDE|2-PYRAZINECARBOXAMIDE|PYRAZINECARBOXYLIC ACID AMIDE|PYRAZINOIC ACID AMIDE|TEBRAZID|UNIPYRANAMIDE|ZINAMIDE	98-96-4	PHYSICAL DESCRIPTION: White powder. Sublimes from 318Â°F. (NTP, 1992)	1.0	2.5	5.0	2521.0	244.0	860.0	387.0	297.0	485.0	49.0	169.0	79.0	55.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1109	PYRIDINE	AZABENZENE|AZINE|CP 32|NCI-C55301|PYRIDINE	110-86-1	A clear colorless to light yellow liquid with a penetrating nauseating odor. Density 0.978 g / cm3. Flash point 68Â°F. Vapors are heavier than air. Toxic by ingestion and inhalation. Combustion produces toxic oxides of nitrogen.	2.5	5.0	2.5	2525.0	244.0	864.0	387.0	297.0	486.0	49.0	170.0	79.0	55.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1110	PYRIDINE, 4-AMINO-	AMINO-4 PYRIDINE|4-AMINOPYRIDINE|4-AP|AVITROL|EL 970|FAMPRIDINE|GAMMA-AMINOPYRIDINE|MI-W-3|P-AMINOPYRIDINE|PHILLIPS 1861|4-PYRIDINAMINE|PYRIDINE, 4-AMINO-|4-PYRIDYLAMINE|VMI 10-3	504-24-5	White crystalline material with no odor. Used as an avicide, an intermediate and as a fixer for some textile dyes. (EPA, 1998) It has been approved by the FDA for use as a treatment for multiple sclerosis.	1.0	2.5	5.0	2529.0	244.0	864.0	387.0	297.0	487.0	49.0	170.0	79.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1106	P-TOLUENE SULFONYLCHLORIDE (CORROSIVE SOLIDS, N.O.S.)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ETHYL CROTONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1107	P-TOLUIDINE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Fumes in air, including moisture in air and soil, to form hydrochloric acid [Merck 11th ed. 1989]. Reacts vigorously with water and forms hydrochloric acid fumes and boric acid. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.13 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	BORON TRICHLORIDE vigorously attacks elastomers and packing materials. Contact with Viton, Tygon, Saran and natural and synthetic rubbers is not recommended. Highly corrosive to most metals in the presence of moisture. Reacts energetically with nitrogen dioxide/dinitrogen tetraoxide, aniline, phosphine, triethylsilane, or fat and grease [Mellor 5:132 1946-47]. Reacts exothermically with chemical bases (examples: amines, amides, inorganic hydroxides).	Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1741 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		-161	
1108	PYRAZINAMIDE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	In moist air forms dense white fumes pungent, corrosive to skin, avoid inhalation [Merck 11th ed. 1989]. Hydrolysis occurs with the formation of fluoboric and boric acids. Insoluble in water and denser than water.	A very corrosive, moisture-sensitive liquid, when heated to decomposition it emits toxic fumes of fluoride and oxides of boron. Reacts with incandescence when heated with alkali metals or alkaline earth metals except magnesium.	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1109	PYRIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A pyrethroid derivative.[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1110	PYRIDINE, 4-AMINO-		(BLOB)	No rapid reaction with air. No rapid reaction with water.	BROMACIL is incompatible with the following: Strong acids (decomposes slowly), oxidizers, heat, sparks, open flames (NIOSH, 1997).						0																					(NIOSH, 2003)	(Sublimes)	317	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1106	P-TOLUENE SULFONYLCHLORIDE (CORROSIVE SOLIDS, N.O.S.)																																								Flammable Liquid	C6H10O2	Dirt/Earth	14.0	1.0	41.0	3.0	4.0
1107	P-TOLUIDINE	(EPA, 1998)		760		54.86		mm Hg	(EPA, 1998)		4.03				(EPA, 1998)		1.35		53.6		(EPA, 1998)		54.5		760		(EPA, 1998)		117.19											BRT	Poison Gas|Corrosive	BCl3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	31.0	3.0	4.0
1108	PYRAZINAMIDE																																							Corrosive	C6H10BF2O4.F.2H	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	26.0	3.0	4.0
1109	PYRIDINE																																							Class 9	C22H26O3	Dirt/Earth	15.0	1.0	49.0	3.0	4.0
1110	PYRIDINE, 4-AMINO-	(NIOSH, 2003)		0.0008		212		mm Hg							(NIOSH, 2003)		1.55				(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		261.2						(NIOSH, 2003)	at 77Â° F	0.08		%			C9H13BrN2O2	Mineral-Based & Clay-Based Absorbents	12.0	1.0	43.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1111	PYROXYLIN SOLUTION	(BLOB)	9004-70-0	A solution in absolute ethanol or another organic solvent of cellulose nitrate (nitrocellulose) that contains 11.5-12.3% nitrogen (corresponding to incomplete nitration of the cellulose). The solvent may evaporate if the solution is spilled, leaving a plastic film that is easily ignited and burns very vigorously. Produces toxic oxides of nitrogen during combustion. Used in automobile lacquers and in various coatings.	2.5	5.0	2.5	2529.0	244.0	868.0	387.0	297.0	487.0	49.0	171.0	79.0	55.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1112	PYRROLIDINE	AZACYCLOPENTANE|AZOLIDINE|BUTYLENIMINE|PERHYDROPYRROLE|PROLAMINE|PYRROLE, TETRAHYDRO-|PYRROLIDINE|PYRROLIDINE RING|TETRAHYDROPYRROLE|TETRAMETHYLENIMINE	123-75-1	A colorless to pale yellow liquid with an ammonia-like odor. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	2529.0	244.0	868.0	387.0	297.0	487.0	49.0	171.0	79.0	55.0	(BLOB)		
1113	QUERCETIN	C.I. 75670|C.I. NATURAL RED 1|C.I. NATURAL YELLOW 10|C.I. NATURAL YELLOW 10 & 13|CYANIDELONON 1522|2-(3,4-DIHYDROXYPHENYL)-3,5,7-TRIHYDROXY-4H-1-BENZOPYRAN-4-ONE|2-(3,4-DIHYDROXYPHENYL)-4H-1-BENZOPYRAN-4-ONE|FLAVONE, 3,3',4',5,7-PENTAHYDROXY-|FLAVONE, 3,4',5,5,7-PENTAHYDROXY-|4H-1-BENZOPYRAN-4-ONE, 2-(3,4-DIHYDROXYPHENYL)-3,5,7-TRIHYDROXY-|MELETIN|NCI C60106|3,5,7,3',4'-PENTAHYDROXYFLAVON|3,3',4',5,7-PENTAHYDROXYFLAVONE|3,5,7,3',4'-PENTAHYDROXYFLAVONE|QUERCETIN|QUERCETINE|QUERCETOL|QUERCITIN|QUERTIN|QUERTINE|SOPHORETIN|T-GELB BZW. GRUN 1|3',4',5,7-TETRAHYDROXYFLAVAN-3-OL|XANTHAURINE	117-39-5	PHYSICAL DESCRIPTION: Yellow needles or yellow powder. Converts to anhydrous form at 203-207Â°F. Alcoholic solutions taste very bitter. (NTP, 1992)	1.0	2.5	5.0	2533.0	248.0	868.0	387.0	297.0	488.0	50.0	171.0	79.0	55.0	(BLOB)	Will cause ignition of organic materials spontaneous ignition possible when combined with potassium, phosphorus and tin and a wide variety of other chemicals. It reacts explosively with acetylene, acrylonitrile, ammonia, dimethyl formamide, ethyl phosphine, hydrogen, isobutyrophenone, nickel carbonyl, nitrogen triiodide, ozone, oxygen difluoride, phosphorus, potassium, silver azide, sodium and sodium carbide. When heated it emits highly toxic fumes and will react with water or steam to product toxic and corrosive fumes. Bromine is incompatible with a wide variety of materials including alkali hydroxides; arsenites; ferrous, mercurous salts; hypophosphites and other oxidizable substances. Vaporizes ragidly at room temperature. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Move containers from fire area. Cool containers that are exposed to flames with water. Nonflammable, but a strong oxidizer. Extinguish with dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
1114	QUINOLINE	1-AZANAPHTHALENE|1-AZANAPTHALENE|B 500|B-500|1-BENZAZINE|1-BENZINE|BENZO (B) PYRIDINE|BENZO(B)PYRIDINE|BENZOPYRIDINE|BENZO[B]PYRIDINE|CHINOLEINE|CHINOLINE|LEUCOL|LEUCOLINE|LEUKOL|QUINOLIN|QUINOLINE|USAF EK-218	91-22-5	A colorless liquid with a peculiar odor. Slightly denser than water. Contact may irritate to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	2533.0	248.0	868.0	391.0	297.0	488.0	50.0	171.0	80.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1115	REACTIVE BLUE 19	(BLOB)	2580-78-1	PHYSICAL DESCRIPTION: Fine blue-black powder. (NTP, 1992)	1.0	2.5	5.0	2537.0	248.0	868.0	391.0	297.0	489.0	50.0	171.0	80.0	55.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1116	REFRIGERANT GAS R-23	ARCTON 1|CARBON TRIFLUORIDE|ECOLO ACE 23|FC 23|FC 23 (FLUOROCARBON)|FLUOROFORM|FLUORYL|FREON 23|FRON 23|GENETRON 23|HCFC 23|HFC 23|METHYL TRIFLUORIDE|R 23|R 23 (HALOCARBON)|REFRIGERANT GAS R-23|TRIFLUOROMETHANE|TRIFLUOROMETHANE (CHF3)	75-46-7	Trifluoromethane is a colorless nonflammable gas. It is shipped as a liquid under pressure. It may be narcotic in high concentrations. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. It is used as a refrigerant.	5.0	1.0	1.0	2537.0	248.0	868.0	391.0	297.0	489.0	50.0	171.0	80.0	55.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1111	PYROXYLIN SOLUTION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	1-METHYLPIPERIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1112	PYRROLIDINE	SMALL SPILLS AND LEAKAGE: Dampen spilled material with alcohol to avoid dust, then transfer material to a suitable container. Use absorbent paper dampened with alcohol to pick up remaining material. Wash surface well with soap and water. Seal all wastes in vapor-tight plastic bags for eventual disposal. STORAGE PRECAUTIONS: Store in a refrigerator or in a cool, dry place. Protect from air for long term storage. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	RHODANINE may generate hydrogen sulfide with acids. May generate heat and hydrogen gas with alkali metals, nitrides, hydrides, and other strong reducing agents.					0																						(NTP, 1992)		335.3	
1113	QUERCETIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Fumes in air. Soluble in water.	(BLOB)	Strong Oxidizing Agent; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1744 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																(USCG, 1999)	Not flammable			(EPA, 1998)		19	
1114	QUINOLINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	RIBAVIRIN may be sensitive to prolonged exposure to light.					0																						(NTP, 1992)		345 to 349	
1115	REACTIVE BLUE 19	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	BROMINE SOLUTION is an oxidizing agent. Bromine disproportionates rapidly in basic water to give bromide ion and bromate ion. The latter is also an oxidizing agent. Dissolution lowers reactivity compared to pure bromine. Reacts with reducing reagents. Reacts with hydrogen, diethylzinc, dimethylformamide, ammonia, trimethylamine, nitromethane, metal azides (silver or sodium azide). Can react with Mg, Sr, B, Al, Hg, Ti, Sn, Sb in powder or sheet form, to form bromides. Can react with methanol, ethanol, aldehydes, ketones, carboxylic acids, diethyl ether, carbonyl compounds, tetrahydrofuran, acrylonitrile, ozone, phosphorus, natural rubber. Reactions with red phosphorus, metal azides, nitromethane, silane and its homologues may be vigorous.[Bretherick, 5th ed., 1995, p. 109].	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1744 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																									
1116	REFRIGERANT GAS R-23	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ZINC PYRITHIONE is a coordination compound where zinc is chelated by oxygen and sulfur donor atoms on the pyrithione ligand. It is a basic salt.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1111	PYROXYLIN SOLUTION																																								Flammable Liquid|Corrosive	C6H13N	Mineral-Based & Clay-Based Absorbents	18.0	1.0	39.0	3.0	4.0
1112	PYRROLIDINE														(NTP, 1992)		0.868										(NTP, 1992)		133.19						(NTP, 1992)	Very soluble						C3H3NOS2		12.0	1.0	30.0	3.0	4.0
1113	QUERCETIN	(EPA, 1998)		172		69.08		mm Hg	(EPA, 1998)		5.51		59		(EPA, 1998)		3.1023		77		(EPA, 1998)		139.2		760		(EPA, 1998)		159.81		(NIOSH, 2003)		3	ppm	(NIOSH, 2003)		4		%	BRX	Corrosive|Poison Inhalation Hazard	Br2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	10.0	1.0	46.0	3.0	4.0
1114	QUINOLINE																										(NTP, 1992)		244.24						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C8H12N4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	11.0	1.0	31.0	3.0	4.0
1115	REACTIVE BLUE 19																															(NIOSH, 2003)		3	ppm							Corrosive|Poison Inhalation Hazard	Br2 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	12.0	1.0	39.0	3.0	4.0
1116	REFRIGERANT GAS R-23																										(NTP, 1992)		317.69						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)					Poison	C10H8N2O2S2Zn		10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1117	RHODIUM (METAL FUME)	RHODIUM|RHODIUM (METAL FUME)|RHODIUM BLACK|RHODIUM METAL: ELEMENTAL RHODIUM|RHODIUM-103	7440-16-6	Rhodium metal fume is a reddish-gray to black dust-like powder. mp: 1966Â° C, bp: 3727Â°C. Insoluble in water. Bulk rhodium is a white or blueish-white, hard, ductile, malleable metal. The appearance and other properties of insoluble Rh compounds varies depending upon the specific compound.	1.0	2.5	5.0	2537.0	248.0	868.0	391.0	297.0	489.0	50.0	171.0	80.0	55.0	Call a physician. EYES: Hold eyelids open, flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes, flush affected areas with plenty of water for at least 15 minutes. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of Bromine (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1118	RIBAVIRIN	1-BETA-D-RIBOFURANOSYL-1,2,4-TRIAZOLE-3-CARBOXAMIDE|ICN 1229|ICN-1229|NSC 163039|RIBAMIDE|RIBAMIDIL|RIBAVIRIN|RTCA|TRIBAVIRIN|VILONA|VIRAMID|VIRAZOLE	36791-04-5	PHYSICAL DESCRIPTION: White powder. Exists in two polymorphic forms. (NTP, 1992)	1.0	2.5	5.0	2541.0	248.0	868.0	391.0	297.0	490.0	50.0	171.0	80.0	55.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1119	SACCHARIN (MANUFACTURING)	ANHYDRO-O-SULFAMINEBENZOIC ACID|1,2-BENZISOTHIAZOL-3(2H)-ONE, 1,1-DIOXIDE|1,2-BENZISOTHIAZOLIN-3-ONE, 1,1-DIOXIDE|3-BENZISOTHIAZOLINONE 1,1-DIOXIDE|BENZO-2-SULPHIMIDE|BENZOIC SULFIMIDE|BENZOIC SULPHIMIDE|BENZOSULFIMIDE|BENZOSULFINIDE|BENZOSULPHINIDE|1,2-DIHYDRO-2-KETOBENZISOSULFONAZOLE|2,3-DIHYDRO-3-OXOBENZISOSULFONAZOLE|1,1-DIOXO-1,2-BENZISOTHIAZOL-3(2H)-ONE|GARANTOSE|GLUCIDGLUSIDE|HERMESETAS|3-HYDROXYBENZISOTHIAZOLE-S,S-DIOXIDE|INSOLUBLE SACCHARIN|KANDISET|NATREEN|O-BENZOIC ACID SULFIMIDE|O-BENZOIC SULFIMIDE|O-BENZOIC SULPHIMIDE|O-	81-07-2	PHYSICAL DESCRIPTION: White crystals. Odorless or faintly aromatic odor. Sweet taste. (NTP, 1992)	1.0	2.5	5.0	2545.0	248.0	868.0	391.0	297.0	491.0	50.0	171.0	80.0	55.0	Excerpt from GUIDE 159 [Substances (Irritating)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects should disappear after individual has been exposed to fresh air for approximately 10 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1120	SACCHARIN, SODIUM SALT	ARTIFICIAL SWEETENING SUBSTANCE GENDORF 450|1,2-BENZISOTHIAZOLIN-3-ONE, 1,1-DIOXIDE, SODIUM DERIV.|1,2-BENZISOTHIAZOLIN-3-ONE, 1,1-DIOXIDE, SODIUM SALT|1,2-BENZOTHIAZOL-3(2H)-ONE 1,1-DIOXIDE SODIUM SALT|CRISTALLOSE|CRYSTALLOSE|DAGUTAN|KRISTALLOSE|MADHURIN|O-BENZOYLSULFIMIDE SODIUM SALT|O-SULFONBENZOIC ACID IMIDE SODIUM SALT|ODA|SACCHARIN SODIUM|SACCHARIN SODIUM SALT|SACCHARIN SOLUBLE|SACCHARIN, SODIUM|SACCHARIN, SODIUM DERIV.|SACCHARIN, SODIUM SALT|SACCHARINE, SOLUBLE|SACCHARINNATRIUM|SACCHAROIDUM NATRICUM|SAXIN|SODIUM	128-44-9	PHYSICAL DESCRIPTION: Odorless white crystals or crystalline powder. Aqueous solution is neutral or alkaline to litmus, but not alkaline to phenolphthalein. Effloresces in dry air. Intensely sweet taste. (NTP, 1992)	1.0	2.5	5.0	2549.0	248.0	868.0	391.0	297.0	492.0	50.0	171.0	80.0	55.0	INHALATION: remove victim from exposure; if breathing has stopped, give artificial respiration; call physician. EYES: flush with water for at least 15 min.; get medical attention if irritation persists. SKIN: flush with water, wash with soap and water. INGESTION: do NOT induce vomiting; call physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen are generated. Behavior in Fire: Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back; can decompose violently above 194Â°F; containers may explode in a fire. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1121	SALICYLAZOSULFAPYRIDINE	ACCUCOL|ASULFIDINE|AZOPYRIN|AZOPYRINE|AZULFIDINE|BENZOSULFA|5-((P-(2-PYRIDYLSULFAMOYL)PHENYL)AZO)SALICYLIC ACID|5-(P-(2-PYRIDYLSULFAMOYL)PHENYLAZO)SALICYLIC ACID|5-[P-(2-PYRIDYLSULFAMOYL)PHENYLAZO]SALICYLIC ACID|5-[P-(2-PYRIDYLSULFAMYL)PHENYLAZO]SALICYLIC ACID|4-(PYRIDYL-2-AMIDOSULFONYL)-3'-CARBOXY-4'-HYDROXYAZOBENZENE|5-(4(2-PYRIDYLSULFAMOYL)PHENYLAZO-2-HYDROXYBENZOIC ACID|REUPIRIN|RORASUL|S.A.S.-500|SALAZOPYRIDIN|SALAZOPYRIN|SALAZOPYRINE|SALAZOSULFAPYRIDIN|SALAZOSULFAPYRIDINE|SALICYLAZOSULFAPYRIDINE|SALIC	599-79-1	PHYSICAL DESCRIPTION: Odorless yellow or brownish-yellow to orange powder. Tasteless. (NTP, 1992) It is a sulfa drug used as an antibiotic.	1.0	2.5	5.0	2549.0	248.0	868.0	391.0	297.0	492.0	50.0	171.0	80.0	55.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1117	RHODIUM (METAL FUME)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, chemical-resistant gloves, rubber boots, full protective clothing. (USCG, 1999)	Highly flammable. Irritating fumes in air. Soluble in water.	BROMOACETONE decomposes on standing.	Highly Flammable; Air-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1569 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		124													(USCG, 1999)			-33.7	
1118	RIBAVIRIN	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Butyl rubber North B-174 0.64 mm 480 min PVA Edmont 25-545 0.25 mm 480 min Viton North F-091 0.23 mm 480	May be sensitive to prolonged exposure to air and light. Water soluble.	BROMOACETONITRILE may be sensitive to prolonged exposure to air and light. This chemical is incompatible with strong acids, strong bases, strong oxidizing agents and strong reducing agents. (NTP, 1992)			Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																		
1119	SACCHARIN (MANUFACTURING)	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	BROMOBENZYL CYANIDES may polymerize in the presence of metals and some metal compounds. Incompatible with acids. Mixing with strong oxidizing acids can lead to extremely violent reactions. Generally incompatible with other oxidizing agents such as peroxides and epoxides (peroxides convert nitriles to amides). Combination with bases can produce hydrogen cyanide. Hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Can react vigorously with reducing agents.		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: If this material is being used as a weapon, see ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1694 datasheet. Otherwise increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
1120	SACCHARIN, SODIUM SALT	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Vapors may ignite spontaneously and the reaction may reach explosive violence. Insoluble in water. Decomposes in water.	ETHYL NITRITE is a powerful oxidizing agent. Highly dangerous in contact with acid or acid fumes. Dangerous when heated. Decomposes spontaneously at 194Â°F. Decomposed by light.	Explosive; Strong Oxidizing Agent; Pyrophoric	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	4	8		(USCG, 1999)		-31		(USCG, 1999)		3		%	(USCG, 1999)		50		%	(USCG, 1999)		194		(USCG, 1999)		-58	
1121	SALICYLAZOSULFAPYRIDINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly water soluble (NTP, 1992).	BROMOCHLOROACETONITRILE may be sensitive to exposure to light. This compound reacts with steam and strong acids to produce hazardous vapors and fumes. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1117	RHODIUM (METAL FUME)														(USCG, 1999)		1.634		73.4		(USCG, 1999)		277		760		(USCG, 1999)		136.98											BRE	Poison Inhalation Hazard|Flammable Liquid	C3H5BrO		15.0	1.0	31.0	3.0	4.0
1118	RIBAVIRIN														(NTP, 1992)		1.722				(NTP, 1992)			302 to 304	752		(NTP, 1992)		119.95						(NTP, 1992)	at 70.7Â°F		50 to 100	mg/mL		Poison	C2H2BrN		10.0	1.0	34.0	3.0	4.0
1119	SACCHARIN (MANUFACTURING)																																								Poison	C8H6BrN		14.0	1.0	31.0	3.0	4.0
1120	SACCHARIN, SODIUM SALT														(USCG, 1999)		0.9		59		(USCG, 1999)		63		760		(USCG, 1999)		75.1											ETN	Flammable Liquid|Poison	C2H5ONO (in organic solvent)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	43.0	3.0	4.0
1121	SALICYLAZOSULFAPYRIDINE																											(NTP, 1992)		154.39						(NTP, 1992)	Slightly soluble					Corrosive	C2HBrClN		10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1122	SARCOSINE	ACETIC ACID, (METHYLAMINO)-|METHYL GLYCOCOLL|(METHYLAMIN O)ACETIC ACID|(METHYLAMINO)ETHA NOIC ACID|METHYLAMINOACETI C ACID|METHYLAMINOETHA NOIC ACID|2-METHYLAMINOETHANOIC ACID|METHYLGLYCINE|N-METHYL GLYCOCOLL|N-METHYLAMINOACETIC ACID|N-METHYLGLYCINE|SARCOSI N|SARCOSINE|SARCOSINIC ACID	107-97-1	PHYSICAL DESCRIPTION: Deliquescent crystals or powder. Has a sweetish taste. (NTP, 1992)	1.0	2.5	5.0	2553.0	248.0	872.0	391.0	297.0	493.0	50.0	172.0	80.0	55.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1123	SCOPOLAMINE HYDROBROMIDE	1-ALPHA-H,5-ALPHA-H-TROPAN-3-ALPHA-OL, 6-BETA,7-BETA-EPOXY-, (-)-TROPATE (ESTER), HYDROBROMIDE|1ALPHAH, 5ALPHAH-TROPAN-3ALPHA-OL, 6BETA,7BETA-EPOXY-, (-)-TROPATE (ESTER), HYDROBROMIDE|BELDAVRI N|BENZENEACETIC ACID, ALPHA-(HYDROXYMETHYL) , 9-METHYL-3-OXA-9-AZATRICYCLO[3.3.1.02,4]NO N-7-YL ESTER, HYDROBROMIDE, [7(S)-(1ALPHA,2BETA,4BETA,5ALP HA,7.BETA])-.|6-BETA,7-BETA-EPOXY-1-ALPHA-H,5-ALPHA-H-TROPAN-3-ALPHA-OL (-)-TROPATE (ESTER), HYDROBROMIDE|EUSCOPO L|HYDROSCINE HYDROBROMIDE|HYOCINE F HYDROBROMIDE|HYOSCINE BROMIDE|HYOSCINE HYDROBROMIDE|(-)-HYOSCINE HYDROBROMIDE|1-	114-49-8	PHYSICAL DESCRIPTION: Colorless crystals or white powder or solid. Has no odor. pH (of 5% solution): 4-5.5. Slightly efflorescent in dry air. Bitter, acrid taste. (NTP, 1992)	1.0	2.5	5.0	2553.0	248.0	872.0	391.0	297.0	493.0	50.0	172.0	80.0	55.0			
1124	SCOPOLAMINE HYDROBROMIDE TRIHYDRATE	BENZENEACETIC ACID, ALPHA-(HYDROXYMETHYL) , 9-METHYL-3-OXA-9-AZATRICYCLO[3.3.1.02,4]NO N-7-YL ESTER, HYDROBROMIDE, TRIHYDRATE, [7(S)-(1ALPHA,2BETA,4BETA,5ALP HA,7.BETA])-.|HYOSCINE HYDROBROMIDE TRIHYDRATE|3-OXA-9-AZATRICYCLO[3.3.1.02,4]NO NANE, BENZENEACETIC ACID DERIV.|SCOPOLAMINE HYDROBROMIDE TRIHYDRATE|SCOPOLAMM ONIUM BROMIDE TRIHYDRATE	6533-68-2	PHYSICAL DESCRIPTION: White orthorhombic sphenoidal crystals from water. pH of 0.05 molar solution: 5.85. (NTP, 1992)	1.0	2.5	5.0	2553.0	248.0	876.0	391.0	297.0	493.0	50.0	173.0	80.0	55.0	(BLOB)	Excerpt from GUIDE 160 [Halogenated Solvents]: Some of these materials may burn but none ignite readily. Most vapors are heavier than air. Air/vapor mixtures may explode when ignited. Container may explode in heat of fire. (ERG, 2012)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1125	SEC-BUTYL ALCOHOL	2-BUTANOL {SEC-BUTYL ALCOHOL}|(.+-.)-2-BUTANOL|2-BUTANOL|3-BUTANOL|BUTYLENE HYDRATE|CCS 30|DL-BUTAN-2-OL|DL-METHYLETHYLCARBINOL|D L-SEC-BUTANOL|ETHYLMETHYL CARBINOL|2-HYDROXYBUTANE|METHYL ETHYL CARBINOL|1-METHYL-1-PROPANOL|METHYLETHYL CARBINOL|1-METHYLPROPYL ALCOHOL|RACEMIC-2-BUTANOL|S-BUTANOL|S-BUTYL ALCOHOL|SEC-BUTANOL|SEC-BUTYL ALCOHOL	78-92-2	A clear colorless liquid with an alcohol odor. Flash point below 0Â° F. Less dense than water. Vapors heavier than air. Soluble in water. Moderately irritates the eyes and skin. Prolonged and repeated contact may cause defatting and drying of the skin. Vapors may irritate the nose, throat and respiratory tract. May be harmful by ingestion.	2.5	5.0	2.5	2557.0	248.0	876.0	391.0	297.0	494.0	50.0	173.0	80.0	55.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1126	SELENIUM DIOXIDE	SELENIOUS ANHYDRIDE|SELENIUM DIOXIDE|SELENIUM OXIDE	7446-08-4	A white or creamy-white volatile lustrous crystal or crystalline powder with a pungent sour smell. Melting point 340 deg C. Density 3.954 g / cm3 . Toxic by ingestion and inhalation.	1.0	2.5	5.0	2557.0	248.0	876.0	391.0	297.0	494.0	50.0	173.0	80.0	55.0	(BLOB)	The flash point of this chemical has not been determined. but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
1127	SEMICARBAZIDE HYDROCHLORIDE	AMIDOUREA HYDROCHLORIDE|AMINOU REA HYDROCHLORIDE|CARBAM YL HYDRAZINE HYDROCHLORIDE|CARBAM YLHYDRAZINE HYDROCHLORIDE|HYDRAZI NECARBOXAMIDE MONOHYDROCHLORIDE|HY DRAZINECARBOXAMIDE, HYDROCHLORIDE|HYDRAZI NECARBOXAMIDE, MONOHYDROCHLORIDE|SE MICARBAZIDE CHLORIDE|SEMICARBAZIDE HYDROCHLORIDE|SEMICAR BAZIDE, HYDROCHLORIDE|SEMICAR BAZIDE, MONOHYDROCHLORIDE	563-41-7	Snow white crystals. Used as a reagent for ketones and aldehydes with which it affords crystalline compounds having characteristic melting points. (EPA, 1998)	1.0	2.5	5.0	2561.0	248.0	876.0	391.0	297.0	495.0	50.0	173.0	80.0	55.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1122	SARCOSINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	ETHYL ORTHOFORMATE is an ether. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1123	SCOPOLAMINE HYDROBROMIDE			No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE decomposes violently or explosively at temperatures 0-10Å° C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156].	Explosive; Strong Oxidizing Agent						0																									
1124	SCOPOLAMINE HYDROBROMIDE TRIHYDRATE	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	BROMOCHLOROMETHANE is sensitive to light (may discolor). Incompatible with strong bases and strong oxidizing agents. Also incompatible with active metals, calcium, aluminum, magnesium, zinc and their alloys. Attacks some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		-126	
1125	SEC-BUTYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	This compound may react with oxidizing agents. (NTP, 1992). Very weak base in aqueous solution.						0																							(NTP, 1992)	(Decomposes)		greater than 572
1126	SELENIUM DIOXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ETHYL PHENYLPROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																									
1127	SEMICARBAZIDE HYDROCHLORIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Slightly soluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		352	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1122	SARCOSINE																																								Flammable Liquid	C7H16O3		10.0	1.0	18.0	3.0	4.0
1123	SCOPOLAMINE HYDROBROMIDE																																										C18H18O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	17.0	3.0	4.0
1124	SCOPOLAMINE HYDROBROMIDE TRIHYDRATE	(NTP, 1992)		117		68		mm Hg	(NTP, 1992)		4.46				(NTP, 1992)		1.93		77		(NTP, 1992)		154		760		(NTP, 1992)		129.39		(NIOSH, 2003)		2000	ppm	(NTP, 1992)	at 68Â° F		1 to 5	mg/mL		Poison	CH2BrCl		11.0	1.0	17.0	3.0	4.0
1125	SEC-BUTYL ALCOHOL																										(NTP, 1992)		205.17						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C7H5NO3S.Na	Mineral-Based & Clay-Based Absorbents	15.0	1.0	23.0	3.0	4.0
1126	SELENIUM DIOXIDE																				(NTP, 1992)		477		760		(NTP, 1992)		178.23						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C11H14O2		13.0	1.0	39.0	3.0	4.0
1127	SEMICARBAZIDE HYDROCHLORIDE														(USCG, 1999)			greater than 1	68								(NTP, 1992)		394.51											BRU	Poison	C23H26N2O4	Mineral-Based & Clay-Based Absorbents	13.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1128	SILANE	FLOTS 100SCO|MONOSILANE|MONOSILANE (SIH4)|SILANE|SILANE, COMPRESSED|SILICANE|SILICON HYDRIDE|SILICON HYDRIDE (SIH4)|SILICON TETRAHYDRIDE	7803-62-5	Silane is a colorless, flammable and poisonous gas, with a strong repulsive odor. It is easily ignited in air, reacts with oxidizing agents, is very toxic by inhalation, and is a strong irritant to skin, eyes and mucous membranes. Silane is lighter than air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. It is used in the production of amorphous silicon.	5.0	1.0	1.0	2561.0	248.0	876.0	391.0	297.0	495.0	50.0	173.0	80.0	55.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1129	SILICON	ELEMENTAL SILICON|HEXSIL|HGH 600|KDB 20|METASILICON 325A|POLYSILICON|SICOMILL 4C-P|SICOMILL GRADE 2|SILICON|SILICON ELEMENT|SILICON POWDER, AMORPHOUS|SILICON POWDER, [AMORPHOUS]|SILSO	7440-21-3	A dark brown powder. Insoluble in water and denser than water. Burns readily when exposed to heat or flames, and may be difficult to extinguish. Water may not be effective in extinguishing flames. Used to make computer microchips.	1.0	2.5	5.0	2565.0	248.0	880.0	391.0	297.0	496.0	50.0	174.0	80.0	55.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1130	SILVER ACETATE	SILVER ACETATE	563-63-3	White crystalline plates. Light sensitive. Density 3.26 g / cm3.	1.0	2.5	5.0	2565.0	248.0	880.0	391.0	297.0	496.0	50.0	174.0	80.0	55.0	(BLOB)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1131	SILVER CARBONATE	SILVER CARBONATE	534-16-7	Odorless yellow to brown solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2565.0	248.0	880.0	391.0	297.0	496.0	50.0	174.0	80.0	55.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors of unburned chemical may form in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1132	SILVER CYANIDE	SILVER CYANIDE|SILVER CYANIDE (AG2(CN)2)|SILVER(1+) CYANIDE|SILVER(I) CYANIDE	506-64-9	A white to gray odorless tasteless powder that darkens on exposure to light. Insoluble in water. Toxic by skin absorption through open wounds, ingestion and inhalation of dust. Toxic oxides of nitrogen are produced in fires.	1.0	2.5	5.0	2569.0	248.0	884.0	391.0	297.0	497.0	50.0	175.0	80.0	55.0	INHALATION: Move victim to fresh air and call a physician; give artificial respiration if necessary. INGESTION: Induce vomiting and call a physician. EYES: Flush with water for at least 15 minutes. SKIN: Flush with water; wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1128	SILANE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	"Trinitrophenol (picric acid), wetted, with not less than 10% water by mass" is a desensitized explosive. Can act as an oxidizing agent. If mixed with strong reducing agent, may explode on contact or begin a vigorous reaction that culminates in a detonation. Forms salts and other adducts with concrete, ammonia, and other bases and also with many metals (including copper, lead, mercury, zinc, nickel, iron). These materials may detonate when subjected to heat, friction, or impact inducing an explosion in the unreacted picric acid. Incompatible with strong oxidizing agents such as chlorates and nitrates. Can ignite and burn if dried out. Heat built up in confined spaces when large quantities burn can cause detonation. Emits highly toxic fumes of NOx and explodes when heated to decomposition.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	4	8																								
1129	SILICON	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Very slightly soluble in water.	BUTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Attacks many plastics. [Handling Chemicals Safely 1980. p. 233].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		72		(NTP, 1992)		1.7		%	(NTP, 1992)		7.6		%	(USCG, 1999)		760		(NTP, 1992)		-108.2	
1130	SILVER ACETATE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Very slightly soluble in water.	BUTYL ACRYLATE reacts exothermically with acids to liberate heat along with alcohols and acids. Reacts with strong oxidizing agents, perhaps sufficiently exothermically to ignite the reaction products. Mixing with basic solutions generates heat. Generates flammable hydrogen with alkali metals and hydrides. Attacks many plastics [Handling Chemicals Safely 1980. p. 233]. Polymerizes readily, generating much heat in a reaction that is favored by heat and light [Handling Chemicals Safely 1980. p. 235].	Highly Flammable; Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4		(NTP, 1992)		120		(NTP, 1992)		1.5		%	(NTP, 1992)		9.9		%	(USCG, 1999)		534		(NTP, 1992)		-84.3	
1131	SILVER CARBONATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Protective gloves and goggles (USCG, 1999)	Slightly soluble in water and slightly denser than water.	BUTYL BENZYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		390		(NTP, 1992)		at 451Â° F	1.2		%						(NTP, 1992)		451		(NTP, 1992)		less than -31	
1132	SILVER CYANIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	All-purpose canister mask or chemical cartridge respirator; glass or face (USCG, 1999)	Insoluble in water.	BUTYL BUTYRATE reacts with acids to liberate heat along with butyl alcohol and butyric acid. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. May attack some forms of plastics (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		128														(USCG, 1999)		-133	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1128	SILANE																													(NIOSH, 2003)		75	mg/m3							Flammable Solid	C6H3N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	30.0	3.0	4.0
1129	SILICON	(NTP, 1992)		10		68		mm Hg	(NTP, 1992)		4				(USCG, 1999)		0.875		68		(NTP, 1992)		259.7		760		(NTP, 1992)		116.18		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1700	ppm	(NTP, 1992)	at 68Â° F		1 to 5	mg/mL	BCN	Flammable Liquid	C6H12O2		12.0	1.0	34.0	3.0	4.0
1130	SILVER ACETATE	(NTP, 1992)	: 4 mm Hg at 68Â° F	10		95.9		mm Hg	(NTP, 1992)		4.42				(USCG, 1999)		0.899		68		(NTP, 1992)			295 to 298	760		(NTP, 1992)		128.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	BTC	Flammable Liquid	C7H12O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	24.0	3.0	4.0
1131	SILVER CARBONATE	(NTP, 1992)	: 1.9 mm Hg at 392Â° F	8.60E-06		68		mm Hg	(NTP, 1992)		10.8				(USCG, 1999)		1.12		68		(NTP, 1992)		698		760		(NTP, 1992)		312.39						(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL	BPH	Class 9	C19H20O4		13.0	1.0	28.0	3.0	4.0
1132	SILVER CYANIDE	(USCG, 1999)		10.34				mm Hg							(USCG, 1999)		0.872		68		(USCG, 1999)		332		760		(USCG, 1999)		144.21										BUB	Class 9	C8H16O2		13.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1133	SILVER SULFATE	SILVER SULFATE	10294-26-5	Odorless white to gray solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	2573.0	248.0	888.0	391.0	297.0	498.0	50.0	176.0	80.0	55.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1134	SODIUM	ATOMIC SODIUM|SODIUM ATOM|SODIUM METAL|SODIUM, METAL|SODIUM, [METAL]|SODIUM-23	7440-23-5	A silvery soft metal that becomes grayish white upon exposure to air. Shipped as a solid or molten liquid. Burns violently with explosions that may spatter the material. Used for making gasoline additives, electric power cable, sodium lamps, other chemicals.	1.0	2.5	5.0	2577.0	248.0	888.0	391.0	297.0	499.0	50.0	176.0	80.0	55.0	Call a physician. INHALATION: Remove from exposure. EYES: Flush with water. SKIN: Wash with soap and plenty of water. INGESTION: Dilute with water or milk. Give milk of magnesia. (USCG, 1999)	Behavior in Fire: Will not burn - sublimes above 626Â°F (331Â°C). May give off HCl fumes. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1135	SODIUM ALUMINATE, SOLID	ALUMINUM SODIUM DIOXIDE|ALUMINUM SODIUM OXIDE (AL2NA2O4)|ALUMINUM SODIUM OXIDE (ALNAO2)|BETA ALUMINA|BETA-ALUMINA|DYNAFLOCK L|J 242|KITAKURITO 10|MAXIFLOC 8010|MONOFRAX H|NA 150|NA 170|NALCO 680|SODIUM ALUMINATE|SODIUM ALUMINATE (NA2AL2O4)|SODIUM ALUMINATE (NAALO2)|SODIUM ALUMINATE, SOLID|SODIUM ALUMINATE, [SOLID]|SODIUM ALUMINUM DIOXIDE|SODIUM ALUMINUM OXIDE|SODIUM ALUMINUM OXIDE (NAALO2)|SODIUM BETA ALUMINA|SODIUM BETA''-ALUMINA|SODIUM BETA-ALUMINA|SODIUM POLYALUMINATE|VSA 45	1302-42-7	Odorless white powdered solid. Toxic by ingestion and corrosive to tissue. Used in water purification.	1.0	2.5	5.0	2577.0	248.0	888.0	391.0	297.0	499.0	50.0	176.0	80.0	55.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1136	SODIUM ALUMINATE, SOLUTION	BETA ALUMINA|BETA-ALUMINA|DYNAFLOCK L|J 242|MAXIFLOC 8010|MONOFRAX H|NA 150|NA 170|NALCO 680|SODIUM ALUMINATE|SODIUM ALUMINATE SOLUTION|SODIUM ALUMINATE SOLUTION (45% OR LESS)|SODIUM ALUMINATE, SOLUTION|SODIUM ALUMINUM OXIDE|SODIUM BETA ALUMINA|SODIUM BETA''-ALUMINA|SODIUM BETA-ALUMINA|SODIUM POLYALUMINATE|VSA 45	11138-49-1	Water solution of the white crystalline powder. Corrosive to metals and tissue.	1.0	2.5	5.0	2581.0	248.0	892.0	391.0	297.0	500.0	50.0	177.0	80.0	55.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1137	SODIUM ALUMINOSILICATE	ALUMI-SIL|ALUMINOSILICIC ACID, SODIUM SALT|ALUMINUM SILICON SODIUM OXIDE|ALUMINUM SODIUM SILICATE|ALUSIL AS|ALUSIL ET|CENAS 019FCLARFINA C|DECALSO|DECALSO F|DEGUSSA P 820|DIACHEM WHITE CARBON|FIXWOOL|GEOPOLYMITE PS 2|HYDREX|HYDREX (SILICATE)|KOVASAV N 20P|P 820|PASILEX P 820|SILTEG P 820|SODIUM ALUMINATE SILICATE|SODIUM ALUMINOSILICATE|SODIUM ALUMINUM SILICATE|SODIUM SILICOALUMINATE|SP 2300|SP 4-7936|TIXOLEX 25|TIXOLEX 28|VALFOR 950|VULKASIL A 1|ZEOLEX|ZEOLEX 100|ZEOLEX 17S|ZEOLEX 23|ZEOLEX 23A|ZEOLEX 23P|ZEOLEX 25|ZEOLEX	1344-00-9	PHYSICAL DESCRIPTION: Fine white powder. Many ordinary rocks (feldspars) are aluminosilicates. Aluminosilicates with more open three-dimensional structures than the feldspars are called zeolites. The openings in zeolites appear as polyhedral cavities connected by tunnels. Zeolites act as catalysts by absorbing small molecules in their interior cavities and holding them in proximity so that reaction among them occurs sooner.	1.0	2.5	5.0	2585.0	248.0	892.0	391.0	297.0	501.0	50.0	177.0	80.0	55.0	INHALATION: Remove to fresh air, give oxygen or artificial respiration as required. EYES: Flush with copious amounts of water for 15 min. and consult physician. SKIN: Wash with soap and water. INGESTION: Induce vomiting; call a physician. (USCG, 1999)	Behavior in Fire: Containers may explode. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1133	SILVER SULFATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164]. Less dense than water and slightly soluble in water.	BUTYL METHYL ETHER can act as a base to form salts or addition compounds with strong acids. May react violently with strong oxidizing agents. Oxidizes readily in air. Relatively unreactive in other reactions, which typically involve the breaking of the carbon-oxygen bond.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2	0	0	0																							
1134	SODIUM	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Helmet, self-contained breathing apparatus, rubber boots, gloves, bands around legs, arms and waist. Facemask as well as covering rest of head. (USCG, 1999)	Reacts vigorously with water forming hydrochloric acid with the evolution of heat.	ZIRCONIUM TETRACHLORIDE is corrosive to metals in the presence of moisture and to tissue. Behavior in Fire: Will not burn - sublimes above 626Â°F (331Â°C). May give off HCl fumes (USCG, 1999). It is incompatible with alcohols (ethanol), lithium metal, and tetrahydrofuran.	Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water													(USCG, 1999)	Not flammable			(USCG, 1999)	None, except under pressure, since it sublimes.		
1135	SODIUM ALUMINATE, SOLID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Insoluble in water.	ETHYL PROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can react with oxidizing agents, bases, and acids. Polymerization: Will not polymerize (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(USCG, 1999)		54		(USCG, 1999)		1.8		%	(USCG, 1999)		11		%	(USCG, 1999)		887		(USCG, 1999)		-99	
1136	SODIUM ALUMINATE, SOLUTION	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	Ethers, such as ETHYL PROPYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(NFPA, 2010)		less than - 4															
1137	SODIUM ALUMINOSILICATE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained respirator; impervious gloves; chemical splash goggles (USCG, 1999)	Insoluble in water.	BUTYL, DECYL, CETYL, EICOSYL METHACRYLATE is a mixture of four esters of methacrylic acid. Reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the reaction with basic (caustic) solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Polymerization may occur when heated, exposed to light or mixed with peroxides. Polymerization can generate large quantities of heat. (USCG, 1999).	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for butyl methacrylate, CAS number 97-88-1.	1	0	0	0																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1133	SILVER SULFATE																																								Flammable Liquid	C5H12O		14.0	1.0	40.0	3.0	4.0
1134	SODIUM														(USCG, 1999)		2.083		59		(USCG, 1999)	Sublimes 627.8Â° F					(USCG, 1999)		233.05		(NIOSH, 2003)	(as Zr)	50	mg/m3					ZCT	Corrosive	Cl4Zr		16.0	1.0	35.0	3.0	4.0
1135	SODIUM ALUMINATE, SOLID														(USCG, 1999)		0.891				(USCG, 1999)		210		760		(USCG, 1999)		102.13										EPR	Flammable Liquid	C5H10O2		19.0	1.0	40.0	3.0	4.0
1136	SODIUM ALUMINATE, SOLUTION																																								Flammable Liquid	C5H12O		19.0	1.0	40.0	3.0	4.0
1137	SODIUM ALUMINOSILICATE																																							DER	Flammable Liquid	C8H14O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1138	SODIUM ALUMINUM FLUORIDE	CRYOCIDE|CRYODUST|CRYOLITE|CRYOLITE (ALNA3F6)|CRYOLITE (NA3(ALF6))|KRIOLITJKRYOCIDE|KRYOLITH|SODIUM ALUMINOFLUORIDE|SODIUM ALUMINUM FLUORIDE|SODIUM FLUOALUMINATE|SODIUM HEXAFLUOROALUMINATE|SYNTHETIC CRYOLITE	15096-52-3	An odorless white solid or powder. mp: 1291Â°C. Density: 2.95 g/cm3. Dust irritates the eyes and skin; inhaled dust irritates the nose, mouth and lungs. Insoluble in water. Synthesized by fusion of sodium fluoride and aluminum fluoride as a electrolyte in the reduction of alumina to aluminum metal. Occurs in nature as the mineral cryolite. Aqueous suspensions of powdered sodium aluminum fluoride are used as insecticides.	1.0	2.5	5.0	2589.0	248.0	892.0	391.0	297.0	502.0	50.0	177.0	80.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1139	SODIUM BIFLUORIDE, SOLID	SODIUM BIFLUORIDE|SODIUM BIFLUORIDE, SOLID|SODIUM BIFLUORIDE, [SOLID]|SODIUM DIFLUORIDE|SODIUM HYDROGEN DIFLUORIDE|SODIUM HYDROGEN FLUORIDE|SODIUM HYDROGENDIFLUORIDE	1333-83-1	Sodium bifluoride is a white crystalline solid. It is soluble in water. It is corrosive to tissue. It is used as a preservative for anatomical and zoological specimens, in metal plating and for many other uses.	1.0	2.5	5.0	2593.0	248.0	892.0	399.0	297.0	503.0	50.0	177.0	82.0	55.0	(BLOB)	Special Hazards of Combustion Products: Irritating and toxic oxides of nitrogen may be formed. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. Containers may explode when heated. (USCG, 1999)	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1140	SODIUM BIFLUORIDE, SOLUTION	SODIUM BIFLUORIDE|SODIUM BIFLUORIDE (NAHF2)|SODIUM BIFLUORIDE, SOLUTION|SODIUM BIFLUORIDE, [SOLUTION]|SODIUM FLUORIDE (SODIUM(HF2))|SODIUM FLUORIDE HYDROFLUORIDE|SODIUM HYDROGEN DIFLUORIDE|SODIUM HYDROGEN FLUORIDE	1333-83-1	White crystalline powder, as an aqueous solution, corrosive irritant to tissues.	1.0	2.5	5.0	2593.0	248.0	896.0	399.0	297.0	503.0	50.0	178.0	82.0	55.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1141	SODIUM BISULFATE, SOLID	ACID SODIUM SULFATE|BIF|BISULFATE OF SODA|FANAL|MONOBASIC SODIUM SULFATE|MONOSODIUM HYDROGEN SULFATE|MONOSODIUM SULFATE|NITER CAKE|NITRE CAKE|SODIUM ACID SULFATE|SODIUM BISULFATE|SODIUM BISULFATE, SOLID|SODIUM BISULPHATE|SODIUM BISULPHATE, SOLID|SODIUM HYDROGEN SULFATE|SODIUM HYDROGEN SULFATE (NAHSO4)|SODIUM HYDROGEN SULFATE, SOLID|SODIUM HYDROGEN SULFATE, [SOLID]|SODIUM HYDROGEN SULPHATE, SOLID|SODIUM HYDROSULFATE|SULFURIC ACID SODIUM SALT (1:1)|WC 00|WC-KLOSETTREINIGER|WC-PERFECT|WC-SUPER	7681-38-1	Colorless crystals or white, fused lumps.	1.0	2.5	5.0	2593.0	248.0	896.0	399.0	297.0	503.0	50.0	178.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1142	SODIUM BISULFATE, SOLUTION	ACID SODIUM SULFATE|BIF|BISULFATE OF SODA|FANAL|MONOBASIC SODIUM SULFATE|MONOSODIUM HYDROGEN SULFATE|MONOSODIUM SULFATE|NITER CAKE|NITRE CAKE|SODIUM ACID SULFATE|SODIUM BISULFATE|SODIUM BISULFATE, SOLUTION|SODIUM BISULPHATE|SODIUM BISULPHATE, SOLUTION|SODIUM HYDROGEN SULFATE|SODIUM HYDROGEN SULFATE (NAHSO4)|SODIUM HYDROGEN SULFATE SOLUTION|SODIUM HYDROGEN SULFATE, SOLUTION|SODIUM HYDROGEN SULPHATE, SOLUTION|SODIUM HYDROSULFATE|SULFURIC ACID SODIUM SALT (1:1)|WC 00|WC-	7681-38-1	Bisulfate, aqueous solution is a white crystalline solid dissolved in water. It is corrosive to metals and tissue.	1.0	2.5	5.0	2597.0	248.0	900.0	399.0	297.0	504.0	50.0	179.0	82.0	55.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1138	SODIUM ALUMINUM FLUORIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Practically insoluble in water. Reacts slowly with water to form silica and ethyl alcohol [Merck].	ETHYL SILICATE reacts exothermically with acids Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. May generate with caustic solutions. May generate flammable hydrogen with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	0	0		(USCG, 1999)		99		(USCG, 1999)		1.3		%	(USCG, 1999)		23		%					(USCG, 1999)		-121.9	
1139	SODIUM BIFLUORIDE, SOLID	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	Sensitive to heat. Reacts vigorously with oxidizing agents. Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Incompatible with cellulose nitrate. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Also incompatible with oxidizing agents. A chemical base. Neutralizes acids to form salts plus water in an exothermic reaction Dissolves most paints, plastics and rubber (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(NTP, 1992)		less than 0		(NTP, 1992)		3.5		%	(NTP, 1992)		14		%	(USCG, 1999)		724		(NTP, 1992)		-114	
1140	SODIUM BIFLUORIDE, SOLUTION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	ETHYLAMINE is a base, neutralizing acids to form salts plus water in exothermic reactions. Dissolution in water moderates but does not nullify its reactivity. Sensitive to heat. Reacts vigorously with oxidizing materials. Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Incompatible with cellulose nitrate. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Also incompatible with oxidizing agents. A chemical base. Neutralizes acids to form salts plus water in an exothermic reaction Dissolves most paints, plastics and rubber. (NTP, 1992).		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethylamine, 70%.	3	0	0	0		(NFPA, 2010)		less than 0																		
1141	SODIUM BISULFATE, SOLID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air. (NTP, 1992). Insoluble in water.	An organometallic. Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.	Air-Reactive				1	0	0	0																						
1142	SODIUM BISULFATE, SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	ETHYLAMINOETHANOL is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	0	0		(NFPA, 2010)		160																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1138	SODIUM ALUMINUM FLUORIDE	(NIOSH, 2003)		1				mm Hg							(USCG, 1999)		0.933		68		(USCG, 1999)		336		760		(USCG, 1999)		208.3		(NIOSH, 2003)		700	ppm	(NIOSH, 2003)	Reacts with water				ESC	Flammable Liquid	C8H20O4Si		13.0	1.0	49.0	3.0	4.0
1139	SODIUM BIFLUORIDE, SOLID	(NTP, 1992)		400		68		mm Hg	(NTP, 1992)		1.56				(USCG, 1999)		0.687		59		(NTP, 1992)		61.9		760		(NTP, 1992)		45.09		(NIOSH, 2003)		600	ppm	(NTP, 1992)	Very soluble				EAM	Flammable Gas	C2H7N	Mineral-Based & Clay-Based Absorbents	12.0	1.0	31.0	3.0	4.0
1140	SODIUM BIFLUORIDE, SOLUTION																															(NIOSH, 2003)		600	ppm						Flammable Liquid|Corrosive	C2H7N (aqueous)	Mineral-Based & Clay-Based Absorbents	12.0	1.0	31.0	3.0	4.0
1141	SODIUM BISULFATE, SOLID																											(NTP, 1992)		785.87						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C34H66O6S3Sn		16.0	1.0	47.0	3.0	4.0
1142	SODIUM BISULFATE, SOLUTION																																								Combustible Liquid	C4H11NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	16.0	1.0	47.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1143	SODIUM BOROHYDRIDE	ANHYDROUS BORAX|BORATES, TETRA, SODIUM SALTS (ANHYDROUS)|BORAX DEHYDRATED|BOROHYDRIDE|BOROL|DISODIUM SALT OF BORIC ACID|DISODIUM TETRABROMATE|FUSED BORAX|HIDKITEX DF|NABH4|SODIUM BORATE (ANHYDROUS)|SODIUM BOROHYDRATE|SODIUM BOROHYDRIDE|SODIUM BOROHYDRIDE (NA(BH4))|SODIUM HYDROBORATE|SODIUM TETRABORATE|SODIUM TETRAHYDRIDOBORATE|SODIUM TETRAHYDROBORATE|SODIUM TETRAHYDROBORATE(1-)	16940-66-2	Sodium borohydride is a white to grayish crystalline powder. It is decomposed by water to form sodium hydroxide, a corrosive material, and hydrogen, a flammable gas. The heat of this reaction may be sufficient to ignite the hydrogen. The material itself is easily ignited and burns vigorously once ignited. It is used to make other chemicals, treat waste water, and for many other uses.	1.0	2.5	5.0	2597.0	248.0	900.0	399.0	297.0	504.0	50.0	179.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1144	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, WITH NOT MORE THAN 12% SODIUM BOROHYDRIDE AND NOT MORE THAN 40% SODIUM HYDROXIDE	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, WITH NOT MORE THAN 12% SODIUM BOROHYDRIDE AND NOT MORE THAN 40% SODIUM HYDROXIDE	16940-66-2	An off-white clear non-aqueous liquid with a slight hydrocarbon odor. Burns the skin, eyes and mucous membranes.	2.5	5.0	2.5	2601.0	248.0	900.0	399.0	297.0	505.0	50.0	179.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1145	SODIUM BROMATE	NEUTRALIZER K 126|NEUTRALIZER K 140|NEUTRALIZER K 938|SODIUM BROMATE|SODIUM BROMATE (NABRO3)	7789-38-0	A white crystalline solid. May explode under prolonged exposure to heat or fire. Used in chemical analysis.	1.0	2.5	5.0	2605.0	248.0	904.0	399.0	297.0	506.0	50.0	180.0	82.0	55.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to the source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1146	SODIUM CHLORITE	ALCIDE LD|NEO SILOX D|SODIUM CHLORITE|TEXTONE	7758-19-2	A white crystalline solid. Difficult to burn, but accelerates the burning of organic substances. Forms explosive mixtures with certain combustible materials. May explode under prolonged exposure to heat or fire. Used in water purification, to bleach wood pulp, textile, fats, oils; and for many other uses.	1.0	2.5	5.0	2609.0	248.0	904.0	399.0	297.0	507.0	50.0	180.0	82.0	55.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1147	SODIUM CHLORITE SOLUTION, [<= 42% SODIUM CHLORITE]	ALCIDE LD|CHLORITE SOLUTION|CHLORITE SOLUTION, WITH MORE THAN 5% AVAILABLE CHLORINE|NEO SILOX D|SODIUM CHLORITE|SODIUM CHLORITE SOLUTION, [<= 42% SODIUM CHLORITE]|SODIUM CHLORITE, SOLUTION, WITH MORE THAN 5% AVAILABLE CHLORINE|TEXTONE	7758-19-2	A colorless liquid consisting of sodium chlorite dissolved in water. Corrosive to skin and/or metals.	2.5	5.0	2.5	2609.0	248.0	904.0	399.0	297.0	507.0	50.0	180.0	82.0	55.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	prot_clothing	non_fire_resp	air_water_reactions	chemical_profile	special_hazards	isolation	hfpa_specific_code	hfpa_note	hfpa_health	hfpa_flam	hfpa_react	hfpa_specific	fp_source	fp_note	fp_value	fp_range	fp_source	hel_note	hel_value	hel_range	hel_unit	hel_source	hel_range	hel_unit	hel_note	hel_value	hel_range	hel_unit	al_note	al_source	al_range	al_value	mp_note	mp_source	mp_range	mp_value	mp_range
1143	SODIUM BOROHYDRIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An organometallic. Strongly reactive with many other groups. Incompatible with acids and bases; thermal decomposition products are good reducing agents and hydrogen. Often reactive with water to generate toxic or flammable gases.			3	1	2	3																										
1144	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, WITH NOT MORE THAN 12% SODIUM BOROHYDRIDE AND NOT MORE THAN 40% SODIUM HYDROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air; light and moisture. Water soluble.	SCOPOLAMINE HYDROBROMIDE is incompatible with acids; bases and oxidizing agents. (NTP, 1992).		3	1	2	3																										
1145	SODIUM BROMATE	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100A°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	SMALL SPILLS AND LEAKAGE: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012) Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Highly Flammable. Insoluble in water.	ETHYLBENZENE can react vigorously with strong oxidizing materials (NTP, 1992).	Highly Flammable	LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	2	1	1	2																										
1146	SODIUM CHLORITE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations where direct contact with the substance is possible. (ERG, 2012)		Reacts with water or moist air to form hydrochloric acid or fumes of hydrogen chloride.	ETHYLDICHLOROARSINE is a reducing agent. Reacts rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Likely to ignite on contact with alcohols. Incompatible with acids, alcohols, amines, and aldehydes. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished.	Strong Reducing Agent; Water-Reactive; Air-Reactive	As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1892 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	2	0	0	3																										
1147	SODIUM CHLORITE SOLUTION [<= 42% SODIUM CHLORITE]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then you should dampen the solid with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992) Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then you should dampen the solid with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992) Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Highly Flammable. Insoluble in water.	ETHYLBENZENE can react vigorously with strong oxidizing materials (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Flammable (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	2	0	0	0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_unit	vp_source	vd_note	vd_value	vd_range	vd_value_temp1Deg1	vd_range_temp1Deg1	vd_note	vd_source	sg_note	sg_source	sg_range_temp1Deg1	sg_value	sg_range	sg_value_temp2Deg1	sg_range_temp2Deg1	bp_note	bp_source	bp_value	bp_range	bp_value_pressMMH G	bp_range_pressMMH G	molwgt_source	molwgt_note	molwgt_n	molwgt_value	molwgt_range	molwgt_v	molwgt_f	adh_source	adh_note	adh_value	adh_unit	solbly_source	solbly_temp	solbly_note	solbly_value	solbly_unit	solbly_range	chris_code	dot_labels	formulas	incompatible_job sobents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1143	SODIUM BOROHYDRIDE																									(NTP, 1992)																				C57H45N 3O3Sn3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt, Earth	13.0	1.0	34.0	3.0	4.0
1144	SODIUM BOROHYDRIDE AND SODIUM HYDROXIDE SOLUTION, WITH NOT MORE THAN 12% SODIUM AND NOT MORE THAN 40% SODIUM HYDROXIDE																									(NTP, 1992)																				C17H21N O4.BrH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt, Earth	13.0	1.0	34.0	3.0	4.0
1145	SODIUM BROMATE	(NTP, 1992)	; 5 mm Hg at 27.0A° F; 760 mm Hg at 277.2A° F	10	85.1		mm Hg	(NTP, 1992)	3.66				0.867		68		(NTP, 1992)			277.2				760																										ClH10	Flammable liquid	ETB	mg/mL	less than 1		at 73A° F	(NTP, 1992)	ppm	800		Based on 10% of the lower explosive limit.	(NIOSH, 2003)			106.16		(NTP, 1992)																		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1148	SODIUM CHROMATE	CHROMIUM DISODIUM OXIDE|CHROMIUM SODIUM OXIDE (CRNA2O4)|DISODIUM CHROMATE|DISODIUM CHROMATE (NA2CRO4)|NEUTRAL SODIUM CHROMATE ANHYDROUS|SODIUM CHROMATE|SODIUM CHROMATE (NA2(CRO4))|SODIUM CHROMATE (NA2CRO4)|SODIUM CHROMATE (VI)|SODIUM CHROMIUM OXIDE (NA2CRO4)	7775-11-3	A yellow crystalline solid. Used to make pigments for paints and inks, other chemicals, and as a wood preservative.	1.0	2.5	5.0	2609.0	248.0	908.0	399.0	297.0	507.0	50.0	181.0	82.0	55.0	Remove victim to fresh air, give artificial respiration and oxygen if breathing has stopped, and call a physician. (USCG, 1999)	Special Hazards of Combustion Products: Vapors are anesthetic. Behavior in Fire: Container may explode. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1149	SODIUM CHROMATE SOLUTION	CHROMIUM DISODIUM OXIDE|CHROMIUM SODIUM OXIDE (CRNA2O4)|DISODIUM CHROMATE|DISODIUM CHROMATE (NA2CRO4)|SODIUM CHROMATE|SODIUM CHROMATE (NA2(CRO4))|SODIUM CHROMATE (NA2CRO4)|SODIUM CHROMATE SOLUTION|SODIUM CHROMIUM OXIDE (NA2CRO4)	7775-11-3	Sodium chromate is a yellow crystalline solid dissolved in a liquid medium, probably water. It is soluble in water. It is toxic by inhalation, ingestion and/or skin contact. It is noncombustible. It is used to make pigments for paints and inks, other chemicals, and as a wood preservative.	1.0	2.5	5.0	2613.0	248.0	908.0	399.0	297.0	508.0	50.0	181.0	82.0	55.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1150	SODIUM DICHLORO-S-TRIAZINETRIONE	ACL 56|ACL 60|ACTISAN|BASOLAN DC|CDB 63|CDB CLEARON|CLEARON|CLEARON CDB|CLEARON CDB 56|CRENTE|DICHLOROISOCYANURIC ACID SODIUM SALT|DIKONIT|FI CLOR 60S|FI CLOR CLEARON|HI-LITE 60C|HI-LITE 60G|HI-LITE G 60GW|IZOSAN G|NEOCHLOR 60P|ONIACHLOR 60|OXIDAN DCN/WSG|PRISEPT|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3-DICHLORO-, SODIUM SALT|SDIC 60P|SIMPLA|SODIUM DICHLORISOCYANURATE|SODIUM DICHLORO-S-TRIAZINETRIONE|SODIUM DICHLORO-S-TRIAZINETRIONE AND DIHYDRATE|SODIUM DICHLORO-S-TRIAZINETRIONE, [DRY, CONTAINING > 39% AVAILABLE CHLORINE]|SODIUM	2893-78-9	White solid with an odor of bleach-like odor. Mixes with water. (USCG, 1999)	1.0	2.5	5.0	2617.0	248.0	908.0	399.0	297.0	509.0	50.0	181.0	82.0	55.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1151	SODIUM DIETHYLDITHIOCARBAMATE	CARBAMIC ACID, DIETHYLDITHIO-, SODIUM SALT|CARBAMODITHIOIC ACID, DIETHYL-, SODIUM SALT|CUPRAL|DDC|DEDC|DEDK|DIETHYL SODIUM DITHIOCARBAMATE|DIETHYLCARBAMODITHIOIC ACID, SODIUM SALT|DIETHYLDITHIOCARBAMATE SODIUM|DIETHYLDITHIOCARBAMIC ACID SODIUM|DIETHYLDITHIOCARBAMIC ACID, SODIUM SALT|DIETHYLDITHIOCARBAMIC ACID, SODIUM SALT|DITHIOCARB|DITHIOCARBAMATE|DITIOCARB SODIUM|IMUTHIOL|KUPRAL|N,N-DIETHYLDITHIOCARBAMIC ACID, SODIUM SALT|NA-DDTC|NCI-C02285|NOCCELER SDC|SODIUM DEDT|SODIUM DIETHYLAMINOCARBODITHIOATE|SODIUM DIETHYLAMINOCARBODIT	148-18-5	PHYSICAL DESCRIPTION: Odorless white or slightly brown or slightly pink crystals. (NTP, 1992)	1.0	2.5	5.0	2621.0	248.0	908.0	399.0	297.0	510.0	50.0	181.0	82.0	55.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1152	SODIUM DIMETHYLDITHIOCARBAMATE	ACETO SDD 40|ALCOBAM NM|AMERSEP MP 3R|BROGDEX 555|CARBAM S|CARBAMIC ACID, DIMETHYLDITHIO-, SODIUM SALT|CARBON S|DDC|DIAPROSIM AB 13|DIBAM|DIBAM A|(DIMETHYLDITHIOCARBAMATO)SODIUM|DIMETHYLDITHIOCARBAMIC ACID SODIUM SALT|DIMETHYLDITHIOCARBAMIC ACID, SODIUM SALT|DMDK|METHAMSODIUM|METHYL NAMATE|MIDFLOC 1300L|MSL|MSL (CARBAMATE)|N,N-DIMETHYLDITHIOCARBAMIC ACID SODIUM SALT|NOCCELER S|SANCELER S|SDDC|SHARSTOP 204|SODAM|SODIUM DIMETHYLAMINOCARBODITHIOATE|SODIUM DIMETHYLAMINODITHIOCARBAMATE|SODIUM	128-04-1	PHYSICAL DESCRIPTION: Crystals or liquid. Becomes anhydrous at 266Â°F. (NTP, 1992)	1.0	2.5	5.0	2625.0	248.0	912.0	399.0	297.0	511.0	50.0	182.0	82.0	55.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1148	SODIUM CHROMATE	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Organic vapor canister or air-supplied mask. (USCG, 1999)	Highly flammable.	Peroxidizable monomer may initiate exothermic polymerization of the bulk material [Bretherick 1979. p. 160]. Ethylene in the presence of aluminum chloride may undergo a violent reaction [J. Inst. Pet. 33:254. 1947]. Ozone and ethylene react explosively [Berichte 38:3837]. Ethylene can polymerize at low pressure if catalyzed by titanium halides. (Sundaram, K. M, M. M. Shreehan, E. F. Olszewski. "Ethylene." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.)	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1		(USCG, 1999)	(approx.)	-213		(USCG, 1999)		2.75		%	(USCG, 1999)		28.6		%	(USCG, 1999)		842		(USCG, 1999)		-272.4	
1149	SODIUM CHROMATE SOLUTION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIAZINE PESTICIDE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Present in an carrier that may be combustible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	1	1																								
1150	SODIUM DICHLORO-S-TRIAZINETRIONE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus; rubber gloves; vapor- proof plastic goggles; impervious apron and boots (USCG, 1999)	Water soluble.	BUTYRIC ACID can react with oxidizing agents. Incandescent reactions occur with chromium trioxide above 212Â°F. Also incompatible with bases and reducing agents. May attack aluminum and other light metals (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		170		(NTP, 1992)		2		%	(NTP, 1992)		10		%	(USCG, 1999)		842		(NTP, 1992)		17.8	
1151	SODIUM DIETHYLDITHIOCARBAMATE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly reacts with water to form butyric acid.	BUTYRIC ANHYDRIDE reacts exothermically with water. The reaction is usually slow, but might become violent if local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NFPA, 2010)		180																	
1152	SODIUM DIMETHYLDITHIOCARBAMATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	THIOBENCARB is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1148	SODIUM CHROMATE														(USCG, 1999)		0.569		-154.84		(USCG, 1999)		-154.7		760		(USCG, 1999)		28.05											ETL	Flammable Gas	C2H4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	30.0	3.0	4.0
1149	SODIUM CHROMATE SOLUTION																																								Poison	C3H3N3		10.0	1.0	30.0	3.0	4.0
1150	SODIUM DICHLORO-S-TRIAZINETRIONE	(NTP, 1992)	; 1.4 mm Hg at 86Â° F	0.43		68		mm Hg	(NTP, 1992)		3.04				(USCG, 1999)		0.958		68		(NTP, 1992)		326.3		760		(NTP, 1992)		88.11						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	BRA	Corrosive	C4H8O2		10.0	1.0	39.0	3.0	4.0
1151	SODIUM DIETHYLDITHIOCARBAMATE																																							Corrosive	C8H14O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	37.0	3.0	4.0
1152	SODIUM DIMETHYLDITHIOCARBAMATE																																							Class 9	C12H16CINOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	13.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1153	SODIUM DODECYLBENZENESULFONATE (BRANCHED CHAIN)	(BLOB)	25155-30-0	Sodium dodecylbenzenesulfonate is a white to light yellow flakes, granules or powder. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a synthetic detergent.	1.0	2.5	5.0	2625.0	248.0	916.0	399.0	297.0	511.0	50.0	183.0	82.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic cyanide fumes (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1154	SODIUM HYDRIDE	SODIUM HYDRIDE|SODIUM MONOHYDRIDE	7646-69-7	A silvery to whitish powder or slurry in oil. Used to make other chemicals.	1.0	2.5	5.0	2625.0	248.0	916.0	399.0	297.0	511.0	50.0	183.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1155	SODIUM PERBORATE	PERBORIC ACID (HBO3), SODIUM SALT|PERBORN|SODIUM BORATE (NABO3)|SODIUM PERBORATE|SODIUM PERBORATE (NABO3)|SODIUM PEROXOBORATE	7632-04-4	Anhydrous sodium peroxoborate consists of white to yellowish free-flowing crystals. It is hygroscopic and forms a partial hydrate in damp air. It is noncombustible but mixtures of organic material are readily ignited and may burn fiercely.	1.0	2.5	5.0	2625.0	248.0	916.0	399.0	297.0	511.0	50.0	183.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1156	SODIUM PERCARBONATE	CARBONIC ACID DISODIUM SALT, COMPOUND WITH HYDROGEN PEROXIDE (2:3)|DISODIUM CARBONATE COMPOUND WITH HYDROGEN PEROXIDE (2:3)|DISODIUM CARBONATE COMPOUND WITH HYDROGEN PEROXIDE (NA2CO3.1.5 H2O2)|DISODIUM CARBONATE SESQUIPEROXIDE|ECOX-CJFB SODIUM PERCARBONATE|HYDROGEN PEROXIDE (H2O2), COMPOUND WITH DISODIUM CARBONATE (3:2)|HYDROGEN PEROXIDE, COMPOUND WITH DISODIUM CARBONATE (3:2)|OXYPER|PERDOX|PEROXY SODIUM CARBONATE|SODIUM CARBONATE PEROXIDE|SODIUM CARBONATE SESQUIPEROXIDE (2NA2CO3.3H2O2)|SODIUM	15630-89-4	A colorless, crystalline solid. Denser than water. May combust in contact with organic materials. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	2629.0	248.0	916.0	399.0	297.0	512.0	50.0	183.0	82.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Special Hazards of Combustion Products: Emits toxic fumes when heated upon decomposition. (USCG, 1999)	Fire Extinguishing Agents: Water, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
1157	SODIUM PEROXIDE	DISODIUM DIOXIDE|DISODIUM PEROXIDE|SODIUM OXIDE (NA2O2)|SODIUM PEROXIDE|SODIUM PEROXIDE (NA2O2)	1313-60-6	A yellow-white to yellow granular solid. Mixtures with combustible material are readily ignited by friction, heat, or contact with moisture. May vigorously decompose under prolonged exposure to heat, causing the rupture of the containers.	1.0	2.5	5.0	2629.0	248.0	916.0	399.0	297.0	512.0	50.0	183.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1158	SODIUM PERSULFATE	DISODIUM PEROXODISULFATE|DISODIUM PEROXYDISULFATE|DISODIUM PERSULFATE|SODIUM PEROXODISULFATE|SODIUM PEROXYDISULFATE|SODIUM PEROXYDISULFATE (NA2S2O8)|SODIUM PERSULFATE|SODIUM PERSULFATE (NA2S2O8)|SODIUM PERSULPHATE	7775-27-1	A white crystalline solid. Very irritating to skin and eyes. May be toxic by skin absorption. Used as a bleaching agent.	1.0	2.5	5.0	2633.0	248.0	920.0	399.0	297.0	513.0	50.0	184.0	82.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1153	SODIUM DODECYLBENZENESULFONATE (BRANCHED CHAIN)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	BUTYRONITRILE can react vigorously with oxidizing reagents, when heated to decomposition, it emits highly toxic fumes of cyanides and oxides of nitrogen [Sax, 9th ed., 1996, p. 609]. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(USCG, 1999)		62		(USCG, 1999)		1.65		%					(USCG, 1999)		910		(USCG, 1999)		-171	
1154	SODIUM HYDRIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Can be explosive when as a dust in air at certain concentrations. Moderately soluble in water.	C.I. ACID BLACK 1 may form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Reacts with iron to give a weaker, greener color (NTP, 1992).	Explosive					0																			(NTP, 1992)		greater than 662
1155	SODIUM PERBORATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Can be explosive as a dust in air at certain concentrations. Moderately soluble in water.	C.I. ACID RED 14 may form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																			(NTP, 1992)		greater than 572
1156	SODIUM PERCARBONATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Oxidizes in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Water soluble (NIOSH, 1997).	ETHYLENE GLYCOL ISOPROPYL ETHER acts both as an alcohol and ether. May react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(USCG, 1999)		91.4		(USCG, 1999)		0.9		%					(USCG, 1999)		645		(USCG, 1999)		-82.3	
1157	SODIUM PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weigÃ¨ed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes in powder form can be explosive when suspended in air at specific concentrations. Moderately soluble in water to give acidic solution.	Aqueous solutions react as acids to neutralize bases in weakly exothermic reactions. Toxic gases are formed by mixing with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																			(NTP, 1992)		greater than 572
1158	SODIUM PERSULFATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water soluble.	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE is incompatible with the following: Oxidizers (NIOSH, 1997). It is an ether-ester derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones.			(NFPA, 2010)		1	2	0	2		(USCG, 1999)		160		(USCG, 1999)		0.9		%	(USCG, 1999)		8.5		%	(USCG, 1999)		645		(USCG, 1999)		-82.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1153	SODIUM DODECYLBENZENESULFONATE (BRANCHED CHAIN)	(USCG, 1999)		20.68				mm Hg							(USCG, 1999)		0.7936		68		(USCG, 1999)		244		760		(USCG, 1999)		69.1						(NIOSH, 2003)	at 77Â° F	3		%	BNI	Flammable Liquid|Poison	C4H7N		19.0	1.0	39.0	3.0	4.0
1154	SODIUM HYDRIDE																											(NTP, 1992)		618.54						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL			C22H16N6O9S2.2Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	29.0	3.0	4.0
1155	SODIUM PERBORATE																											(NTP, 1992)		502.44						(NTP, 1992)	at 66Â° F		50 to 100	mg/mL			C20H14N2O7S2.2Na		11.0	1.0	22.0	3.0	4.0
1156	SODIUM PERCARBONATE	(NIOSH, 2003)		3				mm Hg							(USCG, 1999)		0.91				(USCG, 1999)		285.8		760		(USCG, 1999)		104.15						(NIOSH, 2003)	Miscible				EGI	Poison|Flammable Liquid	C5H12O2	Cellulose-Based Absorbents	12.0	1.0	36.0	3.0	4.0
1157	SODIUM PEROXIDE																											(NTP, 1992)		698.65						(NTP, 1992)	at 68Â° F		1 to 10	mg/mL			C32H22N4O8S2.2Na		11.0	1.0	12.0	3.0	4.0
1158	SODIUM PERSULFATE	(NIOSH, 2003)		0.3				mm Hg							(USCG, 1999)		0.942		68		(USCG, 1999)		378		760		(USCG, 1999)		160.21						(NIOSH, 2003)		1.5		%	EMA		C8H16O3		11.0	1.0	34.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1159	SODIUM THIOCYANATE	RHODANATE|SODIUM RHODANIDE|SODIUM SULFOCYANATE|SODIUM THIOCYANATE	540-72-7	Odorless white solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	2633.0	248.0	920.0	399.0	297.0	513.0	50.0	184.0	82.0	55.0	(BLOB)	Flash point data for this chemical are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1160	SODIUM THIOCYANATE SOLUTION (56% OR LESS)	RHODANATE|SODIUM RHODANIDE|SODIUM SULFOCYANATE|SODIUM THIOCYANATE SOLUTION (56% OR LESS)	540-72-7	Odorless clear to pale yellow liquid. (USCG, 1999)	2.5	5.0	2.5	2633.0	248.0	920.0	399.0	297.0	513.0	50.0	184.0	82.0	55.0	(BLOB)	When heated to decomposition it emits toxic fumes of selenium. Avoid heating. (EPA, 1998)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1161	SODIUM(2-ETHYLHEXYL)ALCOHOL SULFATE	AVIROL SA 4106|EMCOL D 5-10|EMERSAL 6465|ETHASULFATE SODIUM|2-ETHYL-1-HEXANOL HYDROGEN SULFATE SODIUM SALT|2-ETHYL-1-HEXANOL SODIUM SULFATE|2-ETHYL-1-HEXANOL SULFATE SODIUM SALT|2-ETHYLHEXYL SODIUM SULFATE|2-ETHYLHEXYL SULFATE SODIUM SALT|2-ETHYLHEXYLSULFATE SODIUM|1-HEXANOL, 2-ETHYL-, HYDROGEN SULFATE, SODIUM SALT|LUGALVAN TC-EHS|MONOQ|2-ETHYLHEXYL)SULFATE SODIUM SALT|NAS 08|NCI-C50204|NEWCOL 1000SN|NIAPROOF 08|NIAPROOF 08|NISSAN SINTREX EHR|PENTRONE ON|PROPASTE 6708|REWOPOL NEHS 40|RHODAPON BOS|SINOLIN SO 35|SINTREX EHR|SIPEX	126-92-1	PHYSICAL DESCRIPTION: Clear, colorless, slightly viscous liquid. (NTP, 1992)	2.5	5.0	2.5	2637.0	248.0	924.0	399.0	297.0	514.0	50.0	185.0	82.0	55.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1162	SPIRITS OF NITROGLYCERIN, [1 TO 10%]	GLYCERYL TRINITRATE|NG|NITROGLYCERIN|NITROGLYCERIN|1,2,3-PROPANETRIOL TRINITRATE|SPIRITS OF NITROGLYCERIN, [1 TO 10%]|TRINITROGLYCERINE	55-63-0	A mixture of nitroglycerine and ethanol. If ethanol evaporates the nitroglycerine becomes shock sensitive and may detonate by friction or impact.	2.5	5.0	2.5	2641.0	248.0	928.0	399.0	297.0	515.0	50.0	186.0	82.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1163	STARCH	(BLOB)	9005-25-8	Fine, white, odorless powder. Note that granules from different vegetable sources vary in shape, size, and general appearance. A mixture of the carbohydrate polymers amylose amylopectin varying according to the vegetable source. Principally used for food.	1.0	2.5	5.0	2641.0	248.0	928.0	399.0	297.0	515.0	50.0	186.0	82.0	55.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1164	STODDARD SOLVENT	DRY CLEANING SAFETY SOLVENT|DRYCLEANER NAPHTHA|NAPHTHA: STODDARD SOLVENT|ORGANIC SOLVENTS, STODDARD SOLVENT|SOLVENT NAPHTHA, STODDARD|SPOTTING NAPHTHA|STODDARD SOLVENT	8052-41-3	A clear colorless mixture with a strong odor. Insoluble in water and about the same density as water. Flash point over 100Â°F. Avoid exposure. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2641.0	248.0	928.0	399.0	297.0	515.0	50.0	186.0	82.0	55.0	INHALATION: remove from exposure; support respiration. INGESTION: do NOT induce vomiting. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1159	SODIUM THIOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Azo dyes can be explosive when suspended in air at specific concentrations.	C.I. DIRECT BLUE 218 is a diazo compound. Azo, diazo, azido compounds can detonate. The nitro groups would facilitate rapid decomposition. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																										
1160	SODIUM THIOCYANATE SOLUTION (56% OR LESS)	Avoid inhalation and skin contact. Ventilate area of spill. Collect spilled material in most convenient and safe manner and deposit in sealed containers for reclamation or disposal in a secured disposal landfill. Liquid containing selenium inorganic compounds should be absorbed in vermiculite, dry sand, earth or similar material. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	SELENIOUS ACID decomposes when heated to toxic and volatile selenium dioxide. Serves as an oxidizing agent. Reacts exothermically with many reducing agents including hydroiodic acid, sulfurous acid, sodium hyposulfite, hydroxylamine salts, hydrazine salts, hypophosphorous acid, phosphorous acid [Merck]. Oxidizes many organic substances. Is oxidized to selenic acid by strong oxidizing agents.	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)	Decomposes at 158Â° F		
1161	SODIUM(2-ETHYLHEXYL)ALCOHOL SULFATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	SELENIOUS ACID, DITHALLIUM(1+) SALT has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1162	SPIRITS OF NITROGLYCERIN, [1 TO 10%]	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	1-OCTANETHIOL is incompatible with the following: Oxidizers, reducing agents, strong acids & bases, alkali metals (NIOSH, 1997).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3	(NIOSH, 2003)		115													(NIOSH, 2003)		-57	
1163	STARCH	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	C.I. DIRECT ORANGE 6 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																										
1164	STODDARD SOLVENT	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic vapor canister; goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	1-OCTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3	(USCG, 1999)		70	(USCG, 1999)		0.9	%			(USCG, 1999)		493		(USCG, 1999)		-151	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1159	SODIUM THIOCYANATE																										(NTP, 1992)		1087.82						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL			C32H16Cu2N6O16S4.4Na		11.0	1.0	40.0	3.0	4.0
1160	SODIUM THIOCYANATE SOLUTION (56% OR LESS)	(EPA, 1998)		2		59		mm Hg							(EPA, 1998)		3.004		59								(EPA, 1998)		128.98												Poison	H2SeO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	40.0	3.0	4.0
1161	SODIUM(2-ETHYLHEXYL)ALCOHOL SULFATE																																							Class 9	O3Se.2Tl		13.0	1.0	20.0	3.0	4.0
1162	SPIRITS OF NITROGLYCERIN, [1 TO 10%]	(NIOSH, 2003)		3		212		mm Hg							(NIOSH, 2003)		0.84				(NIOSH, 2003)		390		760		(NIOSH, 2003)		146.3						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	C8H18S		16.0	1.0	23.0	3.0	4.0
1163	STARCH																										(NTP, 1992)		588.532						(NTP, 1992)	at 61Â° F		less than 1	mg/mL			C28H26N6O6S.2Na		14.0	1.0	19.0	3.0	4.0
1164	STODDARD SOLVENT														(USCG, 1999)		0.715		68		(USCG, 1999)		250.3		760		(USCG, 1999)		112.22										OTE	Flammable Liquid	C8H16	Dirt/Earth	14.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1165	STRONTIUM CHROMATE	C.I. 77839|C.I. PIGMENT YELLOW 32|CHROMIC ACID, STRONTIUM SALT (1:1)|DEEP LEMON YELLOW|PIGMENT YELLOW 32|STRONTIUM CHROMATE|STRONTIUM CHROMATE (1:1)|STRONTIUM CHROMATE (SRCRO4)|STRONTIUM CHROMATE 12170|STRONTIUM CHROMATE(VI)|STRONTIUM YELLOW|SUTOKURO T|X 2396	7789-06-2	Strontium chromate is a light yellow powder or granular solid. It is insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a pigment, a protective coating against corrosion, and in pyrotechnics.	1.0	2.5	5.0	2641.0	248.0	932.0	399.0	297.0	515.0	50.0	187.0	82.0	55.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
1166	SUCCINIC ANHYDRIDE	BUTANEDIOIC ANHYDRIDE|DIHYDRO-2,5-DIKETOTETRAHYDROFURAN|DIHYDRO-2,5-FURANDIONE|2,5-DIKETOTETRAHYDROFURAN|2,5-DIOXOTETRAHYDROFURAN|NCI-C55696|RUCACID SA|SUCCINIC ACID ANHYDRIDE|SUCCINIC ANHYDRIDE|SUCCINYL ANHYDRIDE|SUCCINYL OXIDE|SUCCINYL PEROXIDE|TETRAHYDRO-2,5-DIOXOFURAN|TETRAHYDRO-2,5-FURANDIONE	108-30-5	PHYSICAL DESCRIPTION: Colorless needles or white crystalline solid. Melting point 237Â°F. Sublimes at 239Â°F at 5 mm Hg pressure; and at 198Â°F and 1 mm Hg pressure. Moderately toxic and an irritant.	1.0	2.5	5.0	2645.0	248.0	932.0	407.0	297.0	516.0	50.0	187.0	84.0	55.0	(BLOB)	This chemical is combustible. (NTP, 1992)	
1167	SULFAMETHOXAZOLE	4-AMINO-N-(5-METHYL-3-ISOAZOLYL)BENZENESULFONAMIDE|AZO-GANTANOL|BACTRIM|CO-TRIMOXAZOLE|GANTANOL|5-METHYL-3-SULFANILAMIDOISOXAZOLE|MS 53|N'-(5-METHYL-3-ISOXAZOYLYL)SULFANILAMIDE|N1-(5-METHYL-3-ISOXAZOLYL)SULFANILAMIDE|3-(PARA-AMINOPHENYLSULPHONAMIDO)-5-METHYLISOXAZOLE|RADONIL|RO 4-2130|SINOMIN|SULFAMETHALAZOLE|SULFAMETHOXAZOL|SULFAMETHOXAZOLE|SULFANILAMIDE, N1-(5-METHYL-3-ISOXAZOLYL)-|3-SULFANILAMIDO-5-METHYLISOXAZOLE|SULFISOMEZOLE|SULPHAMETHOXAZOLE	723-46-6	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	2649.0	248.0	932.0	407.0	297.0	517.0	50.0	187.0	84.0	55.0	(BLOB)	Special Hazards of Combustion Products: May include nitrogen oxides. Behavior in Fire: When exposed to heat or flame, can react vigorously with oxidizing materials. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1168	SULFANILAMIDE	(BLOB)	63-74-1	PHYSICAL DESCRIPTION: White powder. pH of 0.5% aqueous solution: 5.8-6.1. (NTP, 1992)	1.0	2.5	5.0	2649.0	248.0	932.0	407.0	297.0	517.0	50.0	187.0	84.0	55.0	(BLOB)	Flash point data for this chemical are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
1169	SULFUR HEXAFLUORIDE	ELEGAS|HEXAFLUOROSULFUR|R 7146|SULFUR FLUORIDE|SULFUR FLUORIDE (SF6)|SULFUR HEXAFLUORIDE|SULPHUR HEXAFLUORIDE	2551-62-4	A colorless odorless gas. Noncombustible. Shipped as a liquefied gas under own vapor pressure. Contact may cause frostbite. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	2649.0	248.0	932.0	407.0	297.0	517.0	50.0	187.0	84.0	55.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1170	TALL OIL, FATTY ACID	TALL OIL FATTY OIL|TALL OIL, FATTY ACID	61790-12-3	Clear amber to yellow liquid with a characteristic odor: Floats on water. (USCG, 1999)	2.5	5.0	2.5	2653.0	248.0	932.0	407.0	297.0	518.0	50.0	187.0	84.0	55.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1165	STRONTIUM CHROMATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable	Peroxidizable monomer may initiate exothermic polymerization of the bulk material [Bretherick, 1979 p. 160]. Ethylene in the presence of aluminum chloride may undergo a violent reaction, [J. Inst. Pet. 33:254(1947]. Ozone and ethylene react explosively, [Berichte 38:3837]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container, [Handling Chemicals Safely 1980]. Ethylene can polymerize at low pressure if catalyzed by titanium halides. (Sundaram, K. M, M. M. Shreehan, E. F. Olszewski. "Ethylene." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.)	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6																									
1166	SUCCINIC ANHYDRIDE		Respirator, chemical safety goggles, rubber boots, heavy rubber gloves, and impervious apron. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)							0		(NTP, 1992)		260		(USCG, 1999)	at 370.4 Â°F	8.64		%	(USCG, 1999)	at 275Â° F	1.04		%	(USCG, 1999)		699		(NTP, 1992)		-117	
1167	SULFAMETHOXAZOLE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear safety goggles, rubber gloves and apron, respiratory protective equipment, non sparking shoes. (USCG, 1999)	Highly flammable. Insoluble in water.	ETHYL-N-BUTYLAMINE can react vigorously with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		65														(NTP, 1992)		-108	
1168	SULFANILAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	C.I. PIGMENT VIOLET 1 reacts as a base.						0																							
1169	SULFUR HEXAFLUORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as TRI-N-OCTYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This chemical is probably combustible. Producing noxious gases, i.e. phosphine, phosphorus oxides.(NTP, 1992).					0		(NTP, 1992)		greater than 200														(NTP, 1992)		-101	
1170	TALL OIL, FATTY ACID		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	SILICON CARBIDE is non-combustible. Generally unreactive. Soluble in molten alkalis (NaOH, KOH) and in molten iron.			0																						(NIOSH, 2003)	(Sublimes)	4892	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1165	STRONTIUM CHROMATE																																								Flammable Gas	C2H4	Mineral-Based & Clay-Based Absorbents	Dirt/ Earth	10.0	1.0	19.0	3.0	4.0
1166	SUCCINIC ANHYDRIDE														(USCG, 1999)		0.903				(NTP, 1992)		442		760		(NTP, 1992)		144.21						(NTP, 1992)	at 84Â° F		less than 1	mg/mL	EHO		C8H16O2		13.0	1.0	26.0	3.0	4.0
1167	SULFAMETHOXAZOLE														(USCG, 1999)		0.7398		68		(NTP, 1992)			226 to 228	760		(NTP, 1992)		101.19						(NTP, 1992)	Slightly soluble (1-10 mg/ml)				EBA	Flammable Liquid	Poison	C6H15N	Mineral-Based & Clay-Based Absorbents	15.0	1.0	31.0	3.0	4.0
1168	SULFANILAMIDE																																			(NTP, 1992)	at 63Â° F		less than 0.1	mg/mL			C112H127MoN8O23PW	Mineral-Based & Clay-Based Absorbents	12.0	1.0	29.0	3.0	4.0
1169	SULFUR HEXAFLUORIDE								(NTP, 1992)		14.95				(NTP, 1992)		434.63				(NTP, 1992)			428 to 446	8										(NTP, 1992)	Insoluble (<1 mg/ml)						(C8H17O)3PO		17.0	1.0	37.0	3.0	4.0
1170	TALL OIL, FATTY ACID	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		3.23				(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		40.1						(NIOSH, 2003)	Insoluble						SiC		11.0	1.0	23.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1171	TALLOW FATTY ALCOHOL	HIGHER FATTY ALCOHOL|STEARYL ALCOHOL, CRUDE|TALLOW FATTY ALCOHOL	67762-27-0	Waxy white solid with a mild soapy odor. Floats on water. (USCG, 1999)	1.0	2.5	5.0	2653.0	248.0	932.0	407.0	297.0	518.0	50.0	187.0	84.0	55.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1172	TANNIC ACID	CHINESE TANNIN|GALLOTANNIC ACID|GALLOTANNIN|GLYCERITE|TANNIC ACID|TANNIN	1401-55-4	Light yellow to tan solid with a faint odor. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	2653.0	248.0	932.0	407.0	297.0	518.0	50.0	187.0	84.0	55.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1173	TANTALUM (METAL AND OXIDE DUST)	C 606|JIS H4701 TAH|JIS TAH|TANTALIC ACID ANHYDRIDE|TANTALUM(TANTALUM (METAL AND OXIDE DUST)|TANTALUM METAL|TANTALUM METAL: TANTALUM-181|TANTALUM OXIDE|TANTALUM PENTOXIDE|TANTALUM-181	7440-25-7	Tantalum dust is a black odorless powder. mp: 2996Â° C, bp: approx. 5250Â°C. Density: 16.65 g/cm3. Insoluble in water. Tantalum oxide dust is a white, microcrystalline powder mp: 1800Â°C. Density: 7.6 g/cm3. Insoluble in water. The mixture is listed as a toxic inhalation hazard by OSHA.	1.0	2.5	5.0	2653.0	248.0	932.0	407.0	297.0	518.0	50.0	187.0	84.0	55.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1174	TELLURIUM	AURUM PARADOXUM|METALLUM PROBLEMATUM|TELLURIUM|TELLURIUM ELEMENT	13494-80-9	Grayish-white, lustrous, brittle, crystalline solid; dark-gray to brown, amorphous powder with metallic characteristics. Used as a coloring agent in chinaware, porcelains, enamels, glass; producing black finish on silverware; semiconductor devices and research; manufacturing special alloys of marked electrical resistance. Improves mechanical properties of lead; powerful carbide stabilizer in cast iron, tellurium vapor in "daylight" lamps, vulcanization of rubber. Blasting caps. Semiconductor research. (EPA, 1998)	1.0	2.5	5.0	2653.0	248.0	932.0	407.0	297.0	518.0	50.0	187.0	84.0	55.0	(BLOB)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1175	TERPINOLENE	4-ISOPROPYLIDENE-1-METHYLCYCLOHEXENE|ISOTERPINENE|NOFMER TP|P-MENTHA-1,4(8)-DIENE|TERPINOLEN|TERPINOLENE	586-62-9	A water-white to light amber colored liquid. Insoluble in water and less dense than water. Used to make plastics and resins.	2.5	5.0	2.5	2657.0	248.0	932.0	407.0	297.0	519.0	50.0	187.0	84.0	55.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1176	TERT-AMYL PEROXY-2-ETHYLHEXANOATE	LUPERSOL 575|LUPERSOL TA 75|PEROXYHEXANOIC ACID, 2-ETHYL-, TERT-PENTYL ESTER|TERT-AMYL 2-ETHYLPERHEXANOATE|TERT-AMYL 2-ETHYLPEROXYHEXANOATE|TERT-AMYL PEROXY-2-ETHYLHEXANOATE|TERT-AMYL PEROXY-2-ETHYLHEXANOATE, [TECHNICALLY PURE]|TERT-PENTYL ALCOHOL, 2-ETHYLPEROXYHEXANOATE|TERT-PENTYL PEROXY-2-ETHYLHEXANOATE|TRIGONOX 121|TRIGONOX 121-50	686-31-7	Colorless to pale yellow liquid. May explode if exposed to heat , shock, or friction. Material must be stored and transported in temperature controlled container. Insoluble in water.	2.5	5.0	2.5	2657.0	248.0	932.0	407.0	297.0	519.0	50.0	187.0	84.0	55.0	(BLOB)	Behavior in Fire: Increases flammability of combustibles. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1171	TALLOW FATTY ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	C.I. PIGMENT YELLOW 74 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																					(NTP, 1992)	(technical)	559	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)																														
1172	TANNIC ACID			Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																									
1173	TANTALUM (METAL AND OXIDE DUST)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Darkens and thickens on exposure to air. Also darkens with age. It may decompose on exposure to light. Insoluble in water.	EUGENOL is incompatible with strong oxidizers. This includes ferric chloride and potassium permanganate. It reacts with strong alkalis. It is incompatible with iron and zinc. (NTP, 1992)			(NFPA, 2010)		2	2	0	2		(NTP, 1992)		219														(NTP, 1992)		15.4 to 15.6
1174	TELLURIUM	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TERT-BUTYL PEROXYBENZOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Upon contact with organic matter, t-butyl peroxybenzoate can ignite or give rise to an explosion Haz. Chem. Data 1973 p. 79).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	3	6	Oxidizer	(NTP, 1992)		200														(NTP, 1992)		46	
1175	TERPINOLENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Decomposes slowly when moist, giving off hydrogen cyanide, which is toxic by inhalation.	SILVER CYANIDE is very rapidly decomposed by acids giving off hydrogen cyanide, a flammable poison gas. Soluble in aqueous ammonia, dilute boiling nitric acid, aqueous potassium cyanide solution and aqueous sodium thiosulfate solutions. Subject to explosive instability or violent oxidation under certain conditions. Fusion with metal chlorates, perchlorates, nitrates, or nitrites can cause a violent explosion [Bretherick 1979 p. 101]. Fluorine and silver cyanide react with explosive violence at ordinary temperatures [Mellor 2 Supp. 1:63 1956].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		608	
1176	TERT-AMYL PEROXY-2-ETHYLHEXANOATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Water soluble.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)	Not flammable			(NTP, 1992)		414	

id	name	vp_source	vp_note	vp_value	vp_range	vp_unit	vp_range_temp[Deg]	vp_value_temp[Deg]	vd_range	vd_value	vd_note	vd_source	vd_unit	vd_range_temp[Deg]	vd_value_temp[Deg]	vd_range_temp[Deg]	sg_source	sg_note	sg_value	sg_range	temp[Deg]	sg_value_temp[Deg]	sg_range_temp[Deg]	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMH G	bp_range_pressMMH G	molwgt_source	molwgt_n ote	molwgt_value	molwgt_V alue	molwgt_range	tdlh_source	tdlh_note	tdlh_value	tdlh_unit	solbly_source	solbly_no te	solbly_ra nge	solbly_va lue	solbly_un it	chris_code s	det_labels	formulas	#comparable sorbents	# of Katons Producing	Production Score	# of Distillations Sites	Distribution Score	Prob Score
1171	TALLOW FATTY ALCOHOL																																																			4.0
1172	TANNIC ACID																																																			4.0
1173	TANTALUM (METAL AND OXIDE DUST)	(NTP, 1992)	≥ 0.03 mm Hg at 77A° F	0.01	68	mm Hg	(NTP, 1992)		greater than 1.0			1.0652	68	(NTP, 1992)	(USCG, 1999)				489		164.2		(NTP, 1992)		760																		less than 1	mg/mL		Dirt/Earth	12.0	1.0	22.0	3.0	4.0
1174	TELLURIUM	(NTP, 1992)		0.33	122	mm Hg						1.04	77		(NTP, 1992)				234		194.25		(NTP, 1992)		760			at 68Å° F	(NTP, 1992)								less than 1	mg/mL		Organic Peroxide	C11H14O 3	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	10.0	1.0	21.0	3.0	4.0
1175	TERPINOLENE											3.95			(NTP, 1992)						133.84		(NTP, 1992)					at 73Å° F	(NTP, 1992)								less than 1	mg/mL		Poison	AgCN		10.0	1.0	21.0	3.0	4.0
1176	TERT-AMYL PEROXY-2-ETHYLHEXANOATE											4.35			(USCG, 1999)				824	(Decompo ses)			(NTP, 1992)		760			at 61Å° F	(NTP, 1992)								greater than or equal to 100	mg/mL	SVN	Oxidizer	AgNO3	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	11.0	1.0	16.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1177	TERT-BUTYL ALCOHOL	1,1-DIMETHYL ETHANOL|1,1-DIMETHYLETHANOL|2-METHYL-2-PROPANOL|TERT-BUTYL ALCOHOL|2-METHYL-2-PROPANOL|NCI-C55367|T-BUTANOL|T-BUTYL HYDROXIDE|TBA|TERT-BUTANOL|TERT-BUTYL ALCOHOL|TRIMETHYL CARBINOL|TRIMETHYL METHANOL|TRIMETHYLCARBINOL|TRIMETHYLMETHANOL	75-65-0	Colorless oily liquid with a sharp alcohol odor. Floats and mixes with water. Produces irritating vapor. Freezing point is 78Â°F. (USCG, 1999)	2.5	5.0	2.5	2661.0	248.0	932.0	407.0	297.0	520.0	50.0	187.0	84.0	55.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting; EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)		
1178	TERT-BUTYL HYDROPEROXIDE	BUTYL HYDROPEROXIDE (TERTIARY)|CADOX TBH|1,1-DIMETHYLETHYL HYDROPEROXIDE|1,1-DIMETHYLETHYLHYDROPEROXIDE|ETHYLDIETHYLPEROXIDE|2-HYDROPEROXY-2-METHYLPROPANE|KAYABUTYL H|PERBUTYL H|PERBUTYL H 69T|PERBUTYL H 80|T-BUTYL HYDROPEROXIDE|T-BUTYLHYDROPEROXIDE|TERT-BUTYL HYDROPEROXIDE|TRIGONOX|TRIGONOX A-75|TRIGONOX A-W 70	75-91-2	Watery odorless colorless liquid. Floats on and dissolves slowly in water. (USCG, 1999)	2.5	5.0	2.5	2661.0	252.0	932.0	411.0	301.0	520.0	51.0	187.0	85.0	56.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1179	TERT-BUTYL HYDROPEROXIDE, [> 72% BUT <=90% WITH WATER]	CADOX TBH|1,1-DIMETHYLETHYL HYDROPEROXIDE|2-HYDROPEROXY-2-METHYLPROPANE|KAYABUTYL H|PERBUTYL H|PERBUTYL H 69T|PERBUTYL H 80|T-BUTYL HYDROPEROXIDE|TERT-BUTYL HYDROPEROXIDE|TERT-BUTYL HYDROPEROXIDE, [> 72% BUT <=90% WITH WATER]|TRIGONOX A-W 70	75-91-2	Watery odorless colorless liquid. Floats and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	2665.0	252.0	932.0	411.0	301.0	521.0	51.0	187.0	85.0	56.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1180	TERT-BUTYL HYDROPEROXIDE, NOT MORE THAN 80% IN DI-TERT-BUTYL PEROXIDE AND/OR SOLVENT	CADOX TBH|1,1-DIMETHYLETHYL HYDROPEROXIDE|2-HYDROPEROXY-2-METHYLPROPANE|KAYABUTYL H|PERBUTYL H|PERBUTYL H 69T|PERBUTYL H 80|T-BUTYL HYDROPEROXIDE|TERT-BUTYL HYDROPEROXIDE|TERT-BUTYL HYDROPEROXIDE, NOT MORE THAN 80% IN DI-TERT-BUTYL PEROXIDE AND/OR SOLVENT|TERT-BUTYL HYDROPEROXIDE, [<= 80% IN DI-TERT-BUTYL PEROXIDE AND SOLVENT]|TRIGONOX A-W 70	75-91-2	Watery odorless colorless liquid. Floats and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	2665.0	252.0	932.0	411.0	301.0	521.0	51.0	187.0	85.0	56.0	SKIN: brush off any metal, then flood with water for at least 15 min.; treat as heat or caustic burn; call a doctor. (USCG, 1999)	Special Hazards of Combustion Products: Fumes of burning Na are highly irritating to skin, eyes, and mucous membranes. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
1181	TERT-BUTYL PEROXY-2-ETHYL- HEXANOATE, [WITH 2,2DI- (TERT-BUTYL PEROXY)- BUTANE]	CHALOXYD P 1310|CHALOXYD P 1327|ESPEROX 28|INTEROX TBPEH|LUPERSOL PDO|PERBUTYL O|PERCURE O|PEROXYHEXANOIC ACID, 2-ETHYL-, TERT-BUTYL ESTER|TERT-BUTYL 2-ETHYLHEXANEPEROXOATE|TERT-BUTYL 2-ETHYLPERHEXANOATE|TERT-BUTYL 2-ETHYLPEROXYHEXANOATE|TERT-BUTYL PEROXY-2-ETHYL- HEXANOATE, [WITH 2,2DI- (TERT-BUTYL PEROXY)- BUTANE]|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE|TRIGONOX 21|TRIGONOX 21S|TRIGONOX T 21S	3006-82-4	Particularly sensitive to temperature increases and contamination. Decomposes violently above a certain "Control Temperature". Generally, stored or transported with inert solids to mitigate explosion hazard.	1.0	2.5	5.0	2665.0	252.0	932.0	411.0	301.0	521.0	51.0	187.0	85.0	56.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1177	TERT-BUTYL ALCOHOL		Dust mask; goggles or face shield; protective gloves. (USCG, 1999)	Water soluble.	SILVER SULFATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.								0																					
1178	TERT-BUTYL HYDROPEROXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and away from mineral acids and bases. You should also protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	SIMAZINE is hydrolyzed by strong acids and alkalis (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)			437 to 441
1179	TERT-BUTYL HYDROPEROXIDE, [> 72% BUT <=90% WITH WATER]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with release of heat.	The reaction between hydrogen sulfide and soda lime is attended with incandescence in the presence of air. In oxygen there is an explosion. Mixtures of barium oxide with mercurous or nickel oxide also react vigorously with hydrogen sulfide in air. Explosions may result [Mellor 10:140 1946-47].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
1180	TERT-BUTYL HYDROPEROXIDE, NOT MORE THAN 80% IN DI-TERT-BUTYL PEROXIDE AND/OR SOLVENT	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Maximum protective clothing; goggles and face shield. (USCG, 1999)	May ignite spontaneously in air. Reacts violently with water to give sodium hydroxide and hydrogen, which ignites spontaneously [Merck, 11th ed. 1989)]. The ignition temperature of sodium in air depends on the area of surface exposed: vapor ignites at room temperature; droplets at about 250Â°F; an agitated pool at 400Â°F. In the absence of moisture and hydrogen, the reaction is insignificant [Mellor 2 Supp. 2:440 1961].	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water															(USCG, 1999)		250		(USCG, 1999)		207.5	
1181	TERT-BUTYL PEROXY-2-ETHYL- HEXANOATE, [WITH 2,2DI- (TERT-BUTYL PEROXY)- BUTANE]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	C.I. VAT YELLOW 4 reacts very readily with reducing agents to give a colorless or nearly colorless product. Subsequent oxidation then restores the color.						0		(NTP, 1992)		greater than 200															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1177	TERT-BUTYL ALCOHOL														(USCG, 1999)		5.45		68								(USCG, 1999)		311.8		(NIOSH, 2003)	(as Ag)	10	mg/m3						SVS		Ag2SO4		13.0	1.0	37.0	3.0	4.0
1178	TERT-BUTYL HYDROPEROXIDE	(NTP, 1992)		6.10E-09		68		mm Hg							(NTP, 1992)		1.302		68								(NTP, 1992)		201.69						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C7H12ClNS	Mineral-Based & Clay-Based Absorbents	15.0	1.0	39.0	3.0	4.0
1179	TERT-BUTYL HYDROPEROXIDE, [> 72% BUT <=90% WITH WATER]																																							Corrosive	Ca(OH)2 (calcium hydroxide)|NaOH (sodium hydroxide)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	15.0	1.0	39.0	3.0	4.0
1180	TERT-BUTYL HYDROPEROXIDE, NOT MORE THAN 80% IN DI-TERT-BUTYL PEROXIDE AND/OR SOLVENT														(USCG, 1999)		0.971		68		(USCG, 1999)		1621		760		(USCG, 1999)		22.49											SDU	Dangerous When Wet	Na		15.0	1.0	39.0	3.0	4.0
1181	TERT-BUTYL PEROXY-2-ETHYL- HEXANOATE, [WITH 2,2DI- (TERT-BUTYL PEROXY)- BUTANE]																											(NTP, 1992)		332.36						(NTP, 1992)	at 75Â° F		greater than or equal to 100	mg/mL			C24H12O2		13.0	1.0	25.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1182	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE	CHALOXYD P 1310|CHALOXYD P 1327|ESPEROX 28|INTEROX TBPEH|LUPERSOL PDO|PERBUTYL O|PERCURE O|PEROXYHEXANOIC ACID, 2-ETHYL-, TERT-BUTYL ESTER|TERT-BUTYL 2-ETHYLHEXANEPEROXOATE|TERT-BUTYL 2-ETHYLPERHEXANOATE|TERT-BUTYL 2-ETHYLPEROXYHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, [TECHNICALLY PURE]|TRIGONOX 21|TRIGONOX 21S|TRIGONOX T 21S	3006-82-4	This peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported with inert solids to mitigate the explosion hazard.	1.0	2.5	5.0	2665.0	252.0	932.0	411.0	301.0	521.0	51.0	187.0	85.0	56.0	(BLOB)	Behavior in Fire: May form toxic oxides of arsenic when heated. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1183	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, <= 12% WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, NOT <= 14% WITH >= 14% PHLEGMATIZER AND 60% [INERT ORGANIC SOLID]	CHALOXYD P 1310|CHALOXYD P 1327|ESPEROX 28|INTEROX TBPEH|LUPERSOL PDO|PERBUTYL O|PERCURE O|PEROXYHEXANOIC ACID, 2-ETHYL-, TERT-BUTYL ESTER|TERT-BUTYL 2-ETHYLHEXANEPEROXOATE|TERT-BUTYL 2-ETHYLPERHEXANOATE|TERT-BUTYL 2-ETHYLPEROXYHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, <= 12% WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, NOT <= 14% WITH >= 14% PHLEGMATIZER AND 60% [INERT ORGANIC SOLID]|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE|TRIGONOX 21|TRIGONOX 21S|TRIGONOX T 21S	3006-82-4	A peroxide particularly sensitive to temperature rises and contamination. May decompose violently above a certain control temperature. Generally stored or transported with inert solids to mitigate the explosion hazard.	1.0	2.5	5.0	2665.0	252.0	932.0	411.0	301.0	521.0	51.0	187.0	85.0	56.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1184	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, NOT MORE THAN 50%, WITH PHLEGMATIZER	CHALOXYD P 1310|CHALOXYD P 1327|ESPEROX 28|INTEROX TBPEH|LUPERSOL PDO|PERBUTYL O|PERCURE O|PEROXYHEXANOIC ACID, 2-ETHYL-, TERT-BUTYL ESTER|TERT-BUTYL 2-ETHYLHEXANEPEROXOATE|TERT-BUTYL 2-ETHYLPERHEXANOATE|TERT-BUTYL 2-ETHYLPEROXYHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, NOT MORE THAN 50%, WITH PHLEGMATIZER|TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, [<= 50% WITH PHLEGMATIZER]|TRIGONOX 21|TRIGONOX 21S|TRIGONOX T 21S	3006-82-4	This peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported with inert solids to mitigate the explosion hazard.	1.0	2.5	5.0	2669.0	256.0	932.0	419.0	301.0	522.0	52.0	187.0	87.0	56.0	(BLOB)	Flammable in powder form. Combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1185	TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE	LUPEROX 270|PERBUTYL 355|PEROXYHEXANOIC ACID, 3,5,5-TRIMETHYL-, TERT-BUTYL ESTER|TERT-BUTYL 3,5,5-TRIMETHYLHEXANEPEROXOATE|TERT-BUTYL 3,5,5-TRIMETHYLPEROXYHEXANOATE|TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE|TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE, [TECHNICALLY PURE]|TERT-BUTYL PEROXYISONONANOATE|TRIGONOX 42|TRIGONOX 42-50PS|TRIGONOX 42S	13122-18-4	This peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures.	1.0	2.5	5.0	2669.0	256.0	932.0	419.0	301.0	522.0	52.0	187.0	87.0	56.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1186	TERT-BUTYL PEROXYACETATE	ACETYL TERT-BUTYL PEROXIDE|BUTYL PEROXYACETATE, TERT.|(TERT-BUTYL)PERACETATE)|KAYABUTYL A|KAYABUTYL A 50T|LUPERSOL 70|PERBUTYL A|PEROXYACETIC ACID, TERT-BUTYL ESTER|TERT-BUTYL PERACETATE|TERT-BUTYL PEROXYACETATE|TRIGONOX F-C 50	107-71-1	This liquid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with an inert solid.	2.5	5.0	2.5	2673.0	256.0	932.0	419.0	301.0	523.0	52.0	187.0	87.0	56.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1182	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; goggles; protective clothing. (USCG, 1999)	Hygroscopic. Water soluble.	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)			383 to 385
1183	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, <= 12% WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, NOT <= 14% WITH >= 14% PHLEGMATIZER AND 60% [INERT ORGANIC SOLID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CADINENE is sensitive to prolonged exposure to light. This compound is incompatible with strong oxidizers. (NTP, 1992)				0		(NTP, 1992)		greater than 230																			
1184	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, NOT MORE THAN 50%, WITH PHLEGMATIZER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	The finely divided metal is pyrophoric. Slowly oxidized by moist air to form cadmium oxide. Insoluble in water.	A violent explosion occurred 30 minutes after placement of a CADMIUM rod into hydrazoic acid [Mellor 8 Supp. 2:50 1967]. Fused ammonium nitrate with powdered metal often produces a violent explosive reaction. Reactivity similar to zinc. May be incompatible with oxidants.	Pyrophoric	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		609.6	
1185	TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE		Wear chemical protective goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 1-PHENYL-1-XYLYL ETHANE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.						0		(USCG, 1999)		290																			
1186	TERT-BUTYL PEROXYACETATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organosulfides, such as THIOGLYCOL, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NFPA, 2010)		165		(NTP, 1992)		2.3		%	(NTP, 1992)		18		%					(NTP, 1992)		-148	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1182	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE														(USCG, 1999)	(est.)		greater than 1.1	68		(NTP, 1992)			greater than 392	760		(NTP, 1992)		138.01						(NTP, 1992)	Very soluble				CDA	Poison	(CH3)2As(O)OH		13.0	1.0	25.0	3.0	4.0
1183	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, <= 12% WITH 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, NOT <= 14% WITH >= 14% PHLEGMATIZER AND 60% [INERT ORGANIC SOLID]	(NTP, 1992)	: 1 mm Hg at 214.3Â° F; 760 mm Hg at 527Â° F	40		355.6		mm Hg							(NTP, 1992)			0.908 to 0.925	77		(NTP, 1992)		-184		9		(NTP, 1992)		208.34						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C15H26	Dirt/Earth	13.0	1.0	25.0	3.0	4.0
1184	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE, NOT MORE THAN 50%, WITH PHLEGMATIZER	(NTP, 1992)		1		741		mm Hg							(NTP, 1992)		8.642				(NTP, 1992)		1409		760		(NTP, 1992)		112.41		(NIOSH, 2003)	(as Cd); A potential human carcinogen.	9	mg/m3	(NIOSH, 2003)	Insoluble					Poison	Cd		13.0	1.0	25.0	3.0	4.0
1185	TERT-BUTYL PEROXY-3,5,5-TRIMETHYLHEXANOATE																										(USCG, 1999)		210.3											PXE		C16H18		13.0	1.0	18.0	3.0	4.0
1186	TERT-BUTYL PEROXYACETATE	(NTP, 1992)		1		68		mm Hg	(NTP, 1992)		2.69				(NTP, 1992)		1.1143		68		(NTP, 1992)	(decomposes)		315 to 316	742		(NTP, 1992)		78.13						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C2H6OS	Cellulose-Based Absorbents	12.0	1.0	17.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1187	TERT-BUTYL PEROXYBENZOATE, [<= 50% WITH INERT INORGANIC SOLID]	TERT-BUTYL PEROXYBENZOATE[TERT-BUTYL PEROXYBENZOATE, [<= 50% WITH INERT INORGANIC SOLID]	614-45-9	PHYSICAL DESCRIPTION: Clear, colorless to slightly yellow liquid with a mild, aromatic odor. Also stored and transported as a mixture with inert solids and as a solvent slurry, to mitigate the explosion hazard.	2.5	5.0	2.5	2677.0	256.0	932.0	419.0	301.0	524.0	52.0	187.0	87.0	56.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1188	TERT-BUTYL PEROXYBENZOATE, [<= 75% IN SOLUTION]	BENZOYL TERT-BUTYL PEROXIDE|CHALOXYD TBPB|CHALOXYD TBPB-HA-M 1|CP 02|CP 02 (CATALYST)|ESPEROX 10|INTEROX TBPB-HA-M 1|KAYABUTYL B|LUPEROX P|PERBUTYL Z|PEROXYBENZOIC ACID, TERT-BUTYL ESTER|TC 5|TC 5 (VULCANIZER)|TERT-BUTYL BENZOYL PEROXIDE|TERT-BUTYL PERBENZOATE|TERT-BUTYL PEROXYBENZOATE|TERT-BUTYL PEROXYBENZOATE, [<= 75% IN SOLUTION]|TRIGONOX C	614-45-9	PHYSICAL DESCRIPTION: Clear, colorless to slightly yellow liquid with a mild, aromatic odor. It also is stored and transported as a mixture with inert solids and as a solvent slurry, to mitigate the explosion hazard.	2.5	5.0	2.5	2677.0	256.0	932.0	423.0	301.0	524.0	52.0	187.0	88.0	56.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1189	TERT-BUTYL PEROXYBENZOATE, [TECHNICALLY PURE]	BENZOYL TERT-BUTYL PEROXIDE|BUTYL PERBENZOATE (TERTIARY)|CHALOXYD TBPB|CHALOXYD TBPB-HA-M 1|CP 02|CP 02 (CATALYST)|ESPEROX 10|INTEROX TBPB-HA-M 1|KAYABUTYL B|LUPEROX P|PERBENZOIC ACID, T-BUTYL ESTER|PERBUTYL Z|PEROXYBENZOIC ACID, T-BUTYL ESTER|PEROXYBENZOIC ACID, TERT-BUTYL ESTER|T-BUTYL PEROXY BENZOATE|TC 5|TC 5 (VULCANIZER)|TERT-BUTYL BENZOYL PEROXIDE|TERT-BUTYL PERBENZOATE|TERT-BUTYL PEROXYBENZOATE|TERT-BUTYL PEROXYBENZOATE, [TECHNICALLY PURE]|TRIGONOX C	614-45-9	PHYSICAL DESCRIPTION: Clear, colorless to slightly yellow liquid with a mild, aromatic odor. Also stored and transported as a mixture with inert solids and as a solvent slurry, to mitigate the explosion hazard.	2.5	5.0	2.5	2681.0	256.0	932.0	423.0	301.0	525.0	52.0	187.0	88.0	56.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1190	TERT-BUTYL PEROXYISOBUTYRATE, [<= 52% IN BENZENE SOLUTION]	ESPEROX 24M|KAYAESTER I|LUPERSOL 8|LUPERSOL 80|PERBUTYL IB|PEROXYISOBUTYRIC ACID, TERT-BUTYL ESTER|TERT-BUTYL 2-METHYLPROPANEPEROXOATE|TERT-BUTYL PERISOBUTYRATE|TERT-BUTYL PEROXYISOBUTYRATE|TERT-BUTYL PEROXYISOBUTYRATE, [<= 52% IN BENZENE SOLUTION]|TERT-BUTYL PEROXYISOBUTYRATE, [<= 52% IN SOLUTION]|TRIGONOX 41C75	109-13-7	This liquid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a solvent slurry. Solvent is usually benzene. Responders must regard hazards of the peroxide as well as the benzene solvent.	2.5	5.0	2.5	2681.0	256.0	932.0	423.0	301.0	525.0	52.0	187.0	88.0	56.0	INGESTION: induce vomiting and call a doctor. EYES OR SKIN: flush with copious amounts of water. (USCG, 1999)	Behavior in Fire: Irritating vapors may be generated. (USCG, 1999)	
1191	TERT-BUTYL PEROXYISOBUTYRATE, [> 52% BUT <= 77% IN BENZENE SOLUTION]	ESPEROX 24M|KAYAESTER I|LUPERSOL 8|LUPERSOL 80|PERBUTYL IB|PEROXYISOBUTYRIC ACID, TERT-BUTYL ESTER|TERT-BUTYL 2-METHYLPROPANEPEROXOATE|TERT-BUTYL PERISOBUTYRATE|TERT-BUTYL PEROXYISOBUTYRATE|TERT-BUTYL PEROXYISOBUTYRATE, [> 52% BUT <= 77% IN BENZENE SOLUTION]|TERT-BUTYL PEROXYISOBUTYRATE, [> 52% BUT <= 77% IN SOLUTION]|TRIGONOX 41C75	109-13-7	This liquid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a solvent slurry. Solvent is usually benzene. Responders must regard hazards of the peroxide as well as the benzene solvent.	2.5	5.0	2.5	2685.0	256.0	932.0	423.0	301.0	526.0	52.0	187.0	88.0	56.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1187	TERT-BUTYL PEROXYBENZOATE, [<= 50% WITH INERT INORGANIC SOLID]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Readily oxidized by air. Water soluble.	THIOGLYCOLIC ACID is readily oxidized by air (NTP, 1992). Reacts readily with other oxidizing agents as well in reactions that may generate toxic gases. Incompatible with diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials may generate heat and toxic and flammable gases. May react with acids to liberate hydrogen sulfide. Neutralizes bases in exothermic reactions. Reacts with cyanides, sulfites, nitrites, thiosulfates to generate flammable and toxic gases and heat. Reacts with carbonates and bicarbonates.	Air-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		235		(NIOSH, 2003)		5.9		%											(NTP, 1992)		2.3	
1188	TERT-BUTYL PEROXYBENZOATE, [<= 75% IN SOLUTION]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Discolors on exposure to air. Water soluble.	THIOGLYCOLIC ACID, SODIUM SALT is hygroscopic and sensitive to air. Discolors if exposed to iron (NTP, 1992). May generate flammable and toxic hydrogen sulfide with strong reducing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		greater than 572	
1189	TERT-BUTYL PEROXYBENZOATE, [TECHNICALLY PURE]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water and denser than water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1190	TERT-BUTYL PEROXYISOBUTYRATE, [<= 52% IN BENZENE SOLUTION]		Goggles or face shield; rubber gloves. (USCG, 1999)	Partially soluble in water. The resulting solutions are basic.	SODIUM ALKYLBENZENESULFONATES are detergents. Partially soluble in water. The resulting solutions are basic. They react as bases to neutralize acids. Usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																		(USCG, 1999)	Not flammable					
1191	TERT-BUTYL PEROXYISOBUTYRATE, [> 52% BUT <= 77% IN BENZENE SOLUTION]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. May generate heat when water is added.	SODIUM ALUMINATE, [SOLID] dissolves in water to produce a corrosive alkaline solution. Reacts exothermically with acids. Corrosive to metals. Not compatible with copper, tin, zinc, aluminum, acids, phosphorus, or chlorocarbons.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1187	TERT-BUTYL PEROXYBENZOATE, [<= 50% WITH INERT INORGANIC SOLID]	(NIOSH, 2003)		10		64		mm Hg							(NTP, 1992)		1.3253		68		(NTP, 1992)		248		20		(NTP, 1992)		92.12						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL		Corrosive	C2H4O2S		18.0	1.0	36.0	3.0	4.0
1188	TERT-BUTYL PEROXYBENZOATE, [<= 75% IN SOLUTION]																									(NTP, 1992)		114.1						(NTP, 1992)	Very soluble					Corrosive	HSCH2COO.Na		18.0	1.0	36.0	3.0	4.0
1189	TERT-BUTYL PERONYBENZOATE, [TECHNICALLY PURE]																																							Poison	C3H6O2S		18.0	1.0	36.0	3.0	4.0
1190	TERT-BUTYL PEROXYISOBUTYRATE, [<= 52% IN BENZENE SOLUTION]														(USCG, 1999)		1		68																					SAB				11.0	1.0	13.0	3.0	4.0
1191	TERT-BUTYL PEROXYISOBUTYRATE, [> 52% BUT <= 77% IN BENZENE SOLUTION]																																							Corrosive	AlO2.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	11.0	1.0	13.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1192	TERT-BUTYL PEROXYISOPROPYL CARBONATE	KAYACARBON BIC|LUPERSOL TBIC|LUPERSOL TBIC-M 75|OO-TERT-BUTYL O-ISOPROPYL PERCARBONATE|OO-TERT-BUTYL O-ISOPROPYL PEROXYCARBONATE|PERBUTYL I|PEROXYCARBONIC ACID, OO-TERT-BUTYL O-ISOPROPYL ESTER|TERT-BUTYL PEROXYISOPROPYL CARBONATE|TERT-BUTYL PEROXYISOPROPYL CARBONATE, [TECHNICALLY PURE]|TERT-BUTYLPEROXY ISOPROPYL CARBONATE|TRIGONOX 149|TRIGONOX BPIC	2372-21-6	Sensitive to heat. Must be stored with stringent maintenance of low temperature.	1.0	2.5	5.0	2685.0	256.0	932.0	423.0	301.0	526.0	52.0	187.0	88.0	56.0	EYES: flush with water for 15 minutes. (USCG, 1999)	Combustible. (USCG, 1999)	Extinguish with dry chemical, foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water. (USCG, 1999)
1193	TERT-BUTYL PEROXYNEODECANOATE, [<= 77% IN SOLUTION]	ESPEROX 33M|LUPERSOL 10|LUPERSOL 10M75|PERBUTYL ND|PEROXYNEODECANOIC ACID, TERT-BUTYL ESTER|TERT-BUTYL PERNEODECANOATE|TERT-BUTYL PEROXYNEODECANOATE|TERT-BUTYL PEROXYNEODECANOATE, [<= 77% IN SOLUTION]|TRIGONOX 23|TRIGONOX 23C75|TRIGONOX 23W50	26748-41-4	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide in an organic solvent slurry. Responders should try to identify solvent.	1.0	2.5	5.0	2689.0	260.0	932.0	423.0	305.0	527.0	53.0	187.0	88.0	57.0	INHALATION: remove patient to fresh air; seek medical attention. INGESTION: induce vomiting; allay GI irritation by giving milk or egg whites at frequent intervals; perform gastric lavage; seek medical attention. EYES: flush with water for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cadmium oxide fumes may form in fires. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1194	TERT-BUTYL PEROXYNEODECANOATE, [TECHNICALLY PURE]	ESPEROX 33M|LUPERSOL 10|LUPERSOL 10M75|PERBUTYL ND|PEROXYNEODECANOIC ACID, TERT-BUTYL ESTER|TERT-BUTYL PERNEODECANOATE|TERT-BUTYL PEROXYNEODECANOATE|TERT-BUTYL PEROXYNEODECANOATE, [TECHNICALLY PURE]|TRIGONOX 23|TRIGONOX 23C75|TRIGONOX 23W50	26748-41-4	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide in a solvent slurry.	1.0	2.5	5.0	2689.0	260.0	932.0	423.0	309.0	527.0	53.0	187.0	88.0	58.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1195	TERT-BUTYL PEROXYPIVALATE	BUTYL PEROXYPIVALATE (TERTIARY), <=77% IN SOLUTION|ESPEROX 31M|KAYAESTER PKAYAESTER P 70|LUPERSOL 11|PERBUTYL PV|PEROXYPIVALIC ACID, TERT-BUTYL ESTER|TERT-BUTYL 2,2-DIMETHYLPEROXYPROPIONATE|TERT-BUTYL 2,2-DIMETHYLPROPANEPEROXOATE|TERT-BUTYL PEROXYPIVALATE|TERT-BUTYL PEROXYPIVALATE, [<= 77% IN SOLUTION]|TERT-BUTYL PERPIVALATE|TERT-BUTYL TERT-VALERYL PEROXIDE|TERT-BUTYL TRIMETHYLPEROXYACETATE|TRIGONOX 25/75|TRIGONOX 25C75|TRIGONOX 25W33	927-07-1	Colorless liquid that solidifies below -19Â° C. Decomposes at 70Â°C. Flammable and a dangerous fire risk. Heating may cause explosion. Used as a polymerization initiator.	2.5	5.0	2.5	2689.0	260.0	932.0	423.0	309.0	527.0	53.0	187.0	88.0	58.0	(BLOB)	(Non-Specific -- Organic Phosphate Compound, Liquid, Poison B). This material may burn but does not ignite readily. (Non-Specific -- Organic Phosphate Compound, Liquid, Poison B). Fire may produce irritating or poisonous gases. (EPA, 1998)	(Non-Specific -- Organic Phosphate Compound, Liquid, Poison B). Extinguish with dry chemical, carbon dioxide, water spray, or foam. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Parathion) Extinguish fire using agent suitable for type of surrounding fire. Use water in flooding quantities as fog. Use foam, carbon dioxide, or dry chemicals. (EPA, 1998)
1196	TERT-BUTYLHYDROQUINONE	BANOX 20BA|1,4-BENZENEDIOL, 2-(1,1-DIMETHYLETHYL)-|2-(1,1-DIMETHYLETHYL)-1,4-BENZENEDIOL|2-(1,1-DIMETHYLETHYL)HYDROQUINONE|HYDROQUINONE, TERT-BUTYL-|MONO-TERT-BUTYLHYDROQUINONE|MONO-TERTIARYBUTYLHYDROQUINONE|MTBHQ|SUSTANE|T-BUTYLHYDROQUINONE|TBHQ|TENOX 20|TENOX TBHQ|2-(TERT-BUTYL)-P-HYDROQUINONE|TERT-BUTYL-1,4-BENZENEDIOL|2-TERT-BUTYL-1,4-BENZENEDIOL|2-TERT-BUTYL-1,4-DIHYDROXYBENZENE|2-TERT-BUTYL-1,4-HYDROQUINONE|TERT-BUTYLHYDROQUINONE|2-TERT-BUTYLHYDROQUINONE	1948-33-0	PHYSICAL DESCRIPTION: White to light tan crystalline powder or a fine beige powder. Very slight aromatic odor. (NTP, 1992)	1.0	2.5	5.0	2693.0	260.0	932.0	423.0	309.0	528.0	53.0	187.0	88.0	58.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1192	TERT-BUTYL PEROXYISOPROPYL CARBONATE	Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)		Insoluble in water.	1-TETRADECENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		230										(USCG, 1999)		455		(USCG, 1999)		8.8	
1193	TERT-BUTYL PEROXYNEODECANOATE, [<= 77% IN SOLUTION]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	CADMIUM BROMIDE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1194	TERT-BUTYL PEROXYNEODECANOATE, [TECHNICALLY PURE]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Safety glasses, rubber gloves, and respirator with proper filter. (USCG, 1999)	Water soluble.	Bromine trifluoride rapidly attacks the following salts: barium chloride, cadmium chloride, calcium chloride, cesium chloride, lithium chloride, silver chloride, rubidium chloride, potassium bromide, potassium chloride, potassium iodide, rhodium tetrabromide, sodium bromide, sodium chloride, and sodium iodide [Mellor 2 Supp. 1:164, 165 1956].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1195	TERT-BUTYL PEROXYPIVALATE	(Non-Specific -- Organic Phosphate Compound, Liquid, Poison B). Do not touch spilled material; stop leak if possible; use water spray to reduce vapors. Small spill: take up with sand or other noncombustible absorbent material and place into container for later disposal. Large spills: dike far ahead of spill for later disposal. (Non-Specific -- Parathion) Avoid breathing vapors. Avoid bodily contact with materials. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as THIONAZIN, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1196	TERT-BUTYLHYDROQUINONE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	Organothiophosphates, such as FAMPHUR, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1192	TERT-BUTYL PEROXYISOPROPYL CARBONATE	(USCG, 1999)		4.55		220		mm Hg							(USCG, 1999)		0.771		68		(USCG, 1999)		484		760		(USCG, 1999)		196.38													TTD		C14H28	Dirt/Earth	10.0	1.0	13.0	3.0	4.0
1193	TERT-BUTYL PEROXYNEODECANOATE, [<= 77% IN SOLUTION]														(USCG, 1999)			greater than 1.1	68								(USCG, 1999)		344.27													CMB	Poison	CdBr2		11.0	1.0	18.0	3.0	4.0
1194	TERT-BUTYL PEROXYNEODECANOATE, [TECHNICALLY PURE]	(NTP, 1992)	; 0 mm Hg at 68Â° F	10		1213		mm Hg							(USCG, 1999)		4.05		77		(NTP, 1992)		1760		760		(NTP, 1992)		183.32						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	CDC	Poison	CdCl2		11.0	1.0	18.0	3.0	4.0
1195	TERT-BUTYL PEROXYPIVALATE	(EPA, 1998)		0.003		86		mm Hg													(EPA, 1998)		176		0.001		(EPA, 1998)		248.26													Poison	C8H13N2O3PS	Mineral-Based & Clay-Based Absorbents	11.0	1.0	18.0	3.0	4.0
1196	TERT-BUTYLHYDROQUINONE																																								Poison	C10H16NO5PS2		12.0	1.0	47.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1197	TESTOSTERONE PROPIONATE	AGOVIRIN|ANDROGEN|ANDROLON|ANDROSAN|ANDROTEST P|ANDROTESTON|ANDRUSOL-P|ANERTAN|AQUAVIRON|17 BETA-HYDROXY-4-ANDROSTEN-3-ONE 17-PROPIONATE|BIO-TESTICULINA|DELTA(SUP 4)-ANDROSTENE-17-BETA-PROPIONATE-3-ONE|ENARMON|ENANTHON-OIL|HOMANDREN|HOMANDREN (AMPS)|HORMOTESTON|MASENATE|NASDOL|NEO-HOMBREOL|NSC 9166|OKASA-MASCUL|ORCHIOL|ORCHISTIN|ORETON|ORETON PROPIONATE|17-(1-OXOPROPOXY)-(17-BETA)-ANDROST-4-EN-3-ONE|PANTESTIN|PERANDREN|PRIMOTESTONE|PROPIOKAN|RECTHORMONE TESTOSTERONE|SOLVOTEST |STERANDRYL|SYNANDROL|	57-85-2	PHYSICAL DESCRIPTION: Odorless white or yellowish-white crystals or a white or creamy-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	2693.0	260.0	932.0	423.0	309.0	528.0	53.0	187.0	88.0	58.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1198	TETRABROMOBISPHENOL A	BA 59|BA 59P|2,2-BIS(3,5-DIBROMO-4-HYDROXY)PROPANE|2,2-BIS(3,5-DIBROMO-4-HYDROXYPHENYL)PROPANE|2,2-BIS(4-HYDROXY-3,5-DIBROMOPHENYL)PROPANE|BROMDIAN|FG 2000|FIREGUARD 2000|FIREMASTER BP 4A|FLAME CUT 120G|GLCBA 59P|4,4'-ISOPROPYLIDENEBIS[2,6-DIBROMOPHENOL]|4,4'-(1-METHYLETHYLIDENE)BIS[2,6-DIBROMOPHENOL]|PHENOL, 4,4'-ISOPROPYLIDENEBIS[2,6-DIBROMO-|SAYTEX RB 100|SAYTEX RB 100PC|TETRABROMOBISPHENOL A|2,2',6,6'-TETRABROMOBISPHENOL A|3,3',5,5'-TETRABROMOBISPHENOL A|3,5,3',5'-TETRABROMOBISPHENOL A|TETRABROMODIAN|TETRABROMODIPHENYLOLPROPANE	79-94-7	PHYSICAL DESCRIPTION: White powder. A monomer for flame-retardant epoxy, polyester and polycarboante resins.	1.0	2.5	5.0	2693.0	264.0	932.0	423.0	313.0	528.0	54.0	187.0	88.0	59.0	INHALATION: remove patient to fresh air; seek medical attention. INGESTION: call a physician at once; if victim is conscious, induce vomiting by giving a tablespoon of salt in a glass of warm water and repeat until vomit is clear; give milk or whites of eggs beaten with water; keep patient warm and quiet. EYES: flush with plenty of water and get medical attention. SKIN: flush with plenty of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen fluoride and cadmium oxide fumes may form in fires. (USCG, 1999)	
1199	TETRABUTYL TITANATE	B 1|B 1 (TITANATE)|1-BUTANOL TITANIUM SALT (4:1)|BUTYL ALCOHOL, TITANIUM(4+) SALT|BUTYL ORTHOTITANATE|BUTYL TITANATE|BUTYL TITANATE MONOMER|BUTYL TITANATE(IV)|BUTYL TITANATE(IV) ((BUO)4TI)|N-BUTANOL TITANIUM SALT|N-BUTYL TITANATE|ORGATIX T 25|ORGATIX TA 25|ORTHOTITANIC ACID, TETRABUTYL ESTER|TBT|TBT 100|TETRA-N-BUTOXYTITANIUM|TETRA-N-BUTYL ORTHOTITANATE|TETRA-N-BUTYL TITANATE|TETRABUTOXYTITANIUM|TETRABUTYL ORTHOTITANATE|TETRABUTYL TITANATE|TETRAKIS(BUTANOLATO)TITANIUM|TILCOM TNBT|TITANIUM BUTOXIDE|TITANIUM	5593-70-4	A water-white to pale-yellow liquid with an alcohol-like odor. About the same density as water. Flash point 170Â°F. Contact may irritate or cause burns.	2.5	5.0	2.5	2697.0	264.0	936.0	423.0	313.0	529.0	54.0	188.0	88.0	59.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1200	TETRACYCLINE HYDROCHLORIDE	ACHRO|ACHROMYCIN HYDROCHLORIDE|ACHROMYCIN V|ALA TET|AMBRACYN|ARTROMYCIN|BRISTACICLINA|BRISTACYCLINE|CANCYCLINE-250|CEFRACYCLINE TABLETS|CYCLOPAR|DIACYCLINE|4-(DIMETHYLAMINO)-1,4,4A,5,5A,6,11,12A-OCTAHYDRO-3,6,10,12,12A-PENTA-HYDROXY-6-METHYL-1,11-DIOXO-2-NAPHTHACENECARBOXAMIDE, MONO-HYRDOCHLORIDE|DUMOCYCLIN|FERMENTMYCIN|HOSTACYCLIN|HOSTACYCLINE|MEDAMYCIN|MEPHACYCLIN|2-NAPHTHACENECARBOXAMIDE, 4-(DIMETHYLAMINO)-1,4,4A,5,5A,6,11,12A-OCTAHYDRO-3,6,10,12,12A-PENTAHYDROXY-6-METHYL-1,11-DIOXO-, MONOHYDROCHLORIDE, (4S-(4ALPHA,4AALPHA,5AALPHA,6BETA,12A-ALPHA))-|2-	64-75-5	PHYSICAL DESCRIPTION: Crystals or fine bright yellow powder. pH of 2% aqueous solution: 2.1 - 2.3. (NTP, 1992)	1.0	2.5	5.0	2701.0	264.0	936.0	423.0	313.0	530.0	54.0	188.0	88.0	59.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Emits toxic fumes of nitrogen oxides, phosphorus oxides, and sulfur oxides when heated to decomposition. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire-control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1201	TETRADECANOIC ACID	CRODACID|EDENOR C 14|EMERY 655|HYDROFOL ACID 1495|HYSTRENE 9014|KORTACID 1499|MYRISTIC ACID|N-TETRADECAN-1-OIC ACID|N-TETRADECANOIC ACID|N-TETRADECOIC ACID|NAA 104|NAA 140|NEO-FAT 14|PHILACID 1400|PRIFAC 2942|TETRADECANOIC ACID|1-TRIDECANECARBOXYLIC ACID|UNIVOL U 3165|UNIVOL U 316S	544-63-8	PHYSICAL DESCRIPTION: Oily white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2705.0	264.0	940.0	423.0	313.0	531.0	54.0	189.0	88.0	59.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	proc_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	npa_source	npa_node	npa_phalf	npa_flam	npa_react	npa_spec ial	fp_source	fp_node	fp_value	fp_range	fp_noe	fp_source	fel_unit	fel_range	fel_value	fel_noe	fel_source	fel_unit	fel_range	fel_value	al_noe	al_source	al_unit	al_range	al_value	mp_source	mp_noe	mp_value	mp_range
1197	TESTOSTERONE PROPIONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the material is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves is compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			0																									
1198	TETRABROMOBISPHENOL A	Rubber gloves and apron; safety glasses and face shield (USCG, 1999)		Water soluble.	CADMIUM FLUOROBORATE acts as a weakly acidic inorganic salt, which is soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids. Inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.			0																									
1199	TETRAETHYL TITANATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Solid effloresces in air. Water soluble. SODIUM ALUMINUM SULPHATE gives acidic solutions in water.																											
1201	TETRADECANOIC ACID	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	FENARIMOL produces toxic gases when heated to decomposition. [Details on species of reactivity not yet available.]		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																											
1200	TETRACYCLINE HYDROCHLORIDE	Caution : Explosion potential is high; containers may explode in heat of fire. Avoid sources of extreme heat. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Remove and isolate contaminated clothing at the spray to reduce vapors. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Take up small, dry spills with clean shovel and place in clean, dry container. Dike far ahead of large spills for later disposal. (EPA, 1998)	(BLOB)	This compound is hydrolyzed by strong acids and strong alkalis. (NTP, 1992)	Organothiophosphates, such as FENAMIPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																										(EPA, 1998)	121

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1197	TESTOSTERONE PROPIONATE														(NTP, 1992)		0.8846		68		(NTP, 1992)			230 to 235	760		(NTP, 1992)		222.38													C15H26O2	Cellulose-Based Absorbents|Dirt/ Earth	11.0	1.0	27.0	3.0	4.0
1198	TETRABROMOBISPHENOL A														(USCG, 1999)		1.6		68								(USCG, 1999)	(solute)	286											CFB		BF4 . 1\2 Cd		10.0	1.0	20.0	3.0	4.0
1199	TETRABUTYL TITANATE																																								Class 9	AlNa(SO4)2.12H2O		10.0	1.0	29.0	3.0	4.0
1200	TETRACYCLINE HYDROCHLORIDE	(EPA, 1998)		9.80E-09		86		mm Hg							(NTP, 1992)		1.14		39-120	(NTP, 1992)	Decomposes						(EPA, 1998)		303.39						(NTP, 1992)	at 69Â° F		less than 1	mg/mL		Poison	C13H22N2O3PS	Mineral-Based & Clay-Based Absorbents	11.0	1.0	34.0	3.0	4.0
1201	TETRADECANOIC ACID																																								Poison|Flammable Liquid	C17H12CI2N2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	17.0	1.0	35.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1202	TETRADECANOL	MYRISTIC ALCOHOL|MYRISTYL ALCOHOL|N-TETRADECYL ALCOHOL|TETRADECANOL|1-TETRADECANOL	112-72-1	Colorless thick liquid (heated) with a faint alcohol odor. Solidifies and floats on water. (USCG, 1999)	1.0	2.5	5.0	2709.0	264.0	940.0	423.0	313.0	532.0	54.0	189.0	88.0	59.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1203	TETRAETHYLTHIURAM DISULFIDE	(BLOB)	97-77-8	PHYSICAL DESCRIPTION: Odorless or almost odorless white or almost white to tan powder. Unpleasant taste with metallic or garlic aftertaste. pH of a solution obtained by shaking 1 g with 30 mL of water is 6 to 8. (NTP, 1992)	1.0	2.5	5.0	2713.0	264.0	940.0	423.0	313.0	533.0	54.0	189.0	88.0	59.0	INHALATION: remove victim from exposure and consult a physician. INGESTION: induce vomiting, then allay irritation with milk or egg whites given at frequent intervals; perform gastric lavage; seek medical attention. EYES: flush with water for at least 10 min.; consult a physician. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cadmium oxide fume may form in fires. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1204	TETRAMETHYLAMMONIUM HYDROXIDE	AMMONIUM, TETRAMETHYL-, HYDROXIDE|MEGAPOSIT CD 14|NMD 3|NMW-W|OCG 945|OCG-OPD 262|OPD 262|TETRAMETHYLAMMONIUM HYDROXIDE|TETRAMETHYLAMMONIUM HYDROXIDE, [LIQUID]|TMAH|TOKUSO SD 20	75-59-2	Tetramethylammonium hydroxide is a solid in the hydrated form or a colorless liquid with a strong ammonia-like odor. It is soluble in water. It is corrosive to metals and tissue.	1.0	2.5	5.0	2717.0	264.0	944.0	423.0	313.0	534.0	54.0	190.0	88.0	59.0	(BLOB)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1205	THALIDOMIDE	(BLOB)	50-35-1	PHYSICAL DESCRIPTION: Needles or white powder. (NTP, 1992)	1.0	2.5	5.0	2717.0	268.0	944.0	423.0	317.0	534.0	55.0	190.0	88.0	60.0	(BLOB)	Fire may produce irritating or poisonous gases. When heated to decomposition, calcium arsenate produces toxic fumes of arsenic. Avoid heat. Hazardous polymerization may not occur. (EPA, 1998)	Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Not flammable. For small fires, use dry chemical, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1206	THEOPHYLLINE	AMINOPHYLLINE|ARMOPHYLLINE|ASMAX|AUSTYN|3,7-DIHYDRO-1,3-DIMETHYL-1H-PURINE-2,6-DIONE|1,3-DIMETHYLXANTHINE|DURAPHYL|EGIFILIN|ELAN|ELIXOPHYLLIN|ELIXOPHYLLINE|EUPHYLONG|1H-PURINE-2,6-DIONE|LANOPHYLLIN|LIQUOPHYLLINE|NSC 2066|NUELIN|OPTIPHYLLIN|PARKOPHYLLIN|PSEUDOTHEOPHYLLINE|QUIBRON T/SR|QUIBRON-TSLO-PHYLLIN|SOLOSIN|SPOPHYLLIN RETARD|TEONOVA|THEO-DUR|THEOCIN|THEODEL|THEOFOL|THEOGRAD|THEOLAIR|THEONAP|THEOPHYLLIN|THEOPHYLLINE|THEOPHYLLINE, ANHYDROUS|THEOTARD|UNIPHYLLIN	58-55-9	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Odorless. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	2717.0	268.0	944.0	423.0	317.0	534.0	55.0	190.0	88.0	60.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1202	TETRADECANOL	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Emits dense corrosive fumes in moist air. Violently reacts with water to liberate hydrochloric acid and sulfur dioxide [NFPA 10th ed. 1991]. Thionyl chloride reacts vigorously with water to generate gaseous HCl and SO2. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Sulfur Dioxide gas will be created in 0.25 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	THIONYL CHLORIDE reacts, potentially explosively, with dimethyl sulfoxide or dimethylformamide containing traces of iron or zinc [Spitulnik, M. J., Chem. Eng. News, 1977, 55(31), p. 31]. Undergoes violent reactions with bases (ammonia, sodium hydroxide, potassium hydroxide, amines), alkali metals (sodium, potassium), esters (ethyl acetate), toluene mixed with ethanol / water [Bretherick, 5th ed., 1995, p. 1325]. Has an expansion ratio from gas to liquid of nearly 1000:1. Hence may cause an explosion if heated while contained [MCA Case History No. 1808]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Perchloric acid ignites on contact with sulfinyl chloride. (Bailar, 1973, Vol. 2, 1442). SOCl2 reacts with esters, such as ethyl acetate, forming toxic SO2 gas and water soluble/toxic acyl chlorides, catalyzed by Fe or Zn (Spagnuolo, C.J. et al. 1992. Chemical and Engineering News 70(22):2.).	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1836 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	2	2	No Water																	(NIOSH, 2003)		-156	
1203	TETRAETHYLTHIURAM DISULFIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; safety goggles (USCG, 1999)	Water soluble.	CADMIUM SULFATE acts as a weakly acidic inorganic salt, which is soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1204	TETRAMETHYLAMMONIUM HYDROXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	THIOPHENE reacts violently with strong oxidizing agents and concentrated nitric acid causing fire and explosion hazards [Handling Chemicals Safely 1980. p. 899]. A mixture of thiophene and N-nitrosoacetanilide exploded at 0Â°C [Ber., 1887, 30, 367].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		30		(NTP, 1992)		at 63Â° F	2.1		%	(NTP, 1992)	at 86Â° F	17.25		%							(NTP, 1992)		-36.8	
1205	THALIDOMIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water.	Has only weak oxidizing power but redox reactions can still occur. Soluble in dilute acids. [Hawley]. Produces toxic fumes of arsenic when heated to decomposition (NIOSH, 1997). Reacts with acids to produce toxic arsine gas [International Chemical Safety Card 0765].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		2651	
1206	THEOPHYLLINE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Irradiation of aqueous solutions of the compound will liberate hydrocyanic acid.	FERRIC AMMONIUM FERROCYANIDE is an inorganic cyanide. Inorganic cyanides react slowly with water to evolve gaseous hydrogen cyanide (HCN). Acids cause the rapid evolution of HCN; carbon dioxide from the air is sufficiently acidic to liberate HCN from solutions of cyanides. Inorganic cyanides are incompatible with isocyanates, nitrides, and peroxides. Cyanides have been known to initiate polymerization reactions of epoxides. Cyanides form compounds with metal salts; heat and hydrogen production may accompany these reactions. Some cyanides can detonate when exposed to shock, heat, or friction. In the presence of strong acids or acid fumes may release highly toxic fumes of cyanides.							0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1202	TETRADECANOL	(NIOSH, 2003)		100		70		mm Hg							(NIOSH, 2003)		1.64				(NIOSH, 2003)		169		760		(NIOSH, 2003)		119						(NIOSH, 2003)	Reacts with water					Corrosive	SOCl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	14.0	1.0	26.0	3.0	4.0
1203	TETRAETHYLTHIURAM DISULFIDE														(USCG, 1999)		4.7		68								(USCG, 1999)		208.46											CMS	Poison	CdSO4		13.0	1.0	29.0	3.0	4.0
1204	TETRAMETHYLAMMONIUM HYDROXIDE	(NTP, 1992)	; 60 mm Hg at 68.2Â° F; 760 mm Hg at 183.9Â° F	20		32		mm Hg	(NTP, 1992)		2.9				(NTP, 1992)		1.0649		68		(NTP, 1992)		183.9		760		(NTP, 1992)		84.14						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Flammable Liquid	C4H4S		11.0	1.0	31.0	3.0	4.0
1205	THALIDOMIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(EPA, 1998)		3.62				(NIOSH, 2003)	Decomposes					(EPA, 1998)		398.08		(NIOSH, 2003)	(as As); A potential human carcinogen.	5	mg/m3	(NIOSH, 2003)	at 77Â° F	0.01		%	CCA	Poison	Ca3(AsO4)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	28.0	3.0	4.0
1206	THEOPHYLLINE																										(NTP, 1992)		285.84													C6FeN6.Fe.H4N		11.0	1.0	32.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1207	THIOGLYCOLIC ACID	ACETYL MERCAPTAN|ALPHA-MERCAPTOACETIC ACID|GLYCOLIC ACID, 2-THIO-|MERCAPTOACETATE|MERCAPTOACETIC ACID|2-MERCAPTOACETIC ACID|2-MERCAPTOETHANOIC ACID|SULFHYDRYLACETIC ACID|THIOGLYCOLIC ACID|2 THIOGLYCOLIC ACID|THIOGYCOLLIC ACID|THIOVANIC ACID|USAF CB-35	68-11-1	A colorless liquid with an unpleasant odor. Density 1.325 g / cm3. Used to make permanent wave solutions and depilatories. Corrosive to metals and tissue.	2.5	5.0	2.5	2721.0	268.0	944.0	423.0	317.0	535.0	55.0	190.0	88.0	60.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1208	THIOSEMICARBAZIDE	1-AMINO-2-THIOUREA|AMINOTHIOUREA|1-AMINOTHIOUREA|HYDRAZINECARBOTHIOAMIDE|ISOTHIOSEMICARBAZIDE|N-AMINO THIOUREA|N-AMINOTHIOUREA|SEMICARBAZIDE, THIO-|SEMICARBAZIDE,THIO-|SEMICARBIZIDE,3-THIO|THIASEMICARBAZIDE|THIOCARBAMOYLHYDRAZINE|THIOCARBAMYLHYDRAZINE|THIOSEMICARBAZIDE|2-THIOSEMICARBAZIDE|TSC|TSZ|USAF EK-1275	79-19-6	THIOSEMICARBAZIDE is a white crystalline powder and is odorless. This material is used as a reagent for ketones and certain metals, for photography and as a rodenticide. It is also effective for control of bacterial leaf blight of rice. Not a registered pesticide in the U.S. It is a chemical intermediate for herbicides and a reagent for detection of metals. (EPA, 1998)	1.0	2.5	5.0	2725.0	268.0	944.0	423.0	317.0	536.0	55.0	190.0	88.0	60.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1209	TIN	C.I. 77860|C.I. PIGMENT METAL 5|METALLIC TIN|SILVER MATT POWDER|SN-S 200|SNE 06PB|TIN|TIN ELEMENT|TIN FLAKE|TIN METAL|TIN PASTE 62-1177|TIN POWDER|TIN, AS SN (METAL)|WANG	7440-31-5	White TIN is an almost silver-white, ductile, malleable, lustrous solid. mp 232Â° C, bp: 2507Â°C. Density: 7.3 g/cm3. Pure white tin becomes non-metallic powdery gray tin if held for a sustained period at temperatures less than 13Â°C.	1.0	2.5	5.0	2729.0	268.0	944.0	423.0	317.0	537.0	55.0	190.0	88.0	60.0	EYES: Flush with plenty of water for at least 15 minutes. Get medical attention. SKIN: Flush with soap and water. INGESTION: Give water, milk, or activated charcoal and induce vomiting. Sodium sulfate catharsis. (USCG, 1999)	Behavior in Fire: May give off fumes or vapors of fluorides; hydrofluoric acid. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1210	TITANIUM POWDER, DRY	ALPASTE RTA 030|C.P. TITANIUM|DENTCRAFT TITAN INGOT|ELGARD 210|M 350|M 350 (METAL)|SMELLOFF-CUTTER TITANIUM|TG-TV|TIMET 115|TITANIUM ELEMENT|TITANIUM FULLERIDE (TIC20)|TITANIUM METAL POWDER, [DRY OR WET WITH < 20% WATER]|TITANIUM POWDER, DRY|TP270H|TPS 350|TR 28C|VENTRON 00901	7440-32-6	Titanium powder, dry is a gray lustrous powder. It can be easily ignited and burns with an intense flame. The very finely powdered material may be ignited by sparks.	1.0	2.5	5.0	2729.0	268.0	944.0	423.0	317.0	537.0	55.0	190.0	88.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.		
1211	TITANIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	ALPASTE RTA 030|C.P. TITANIUM|DENTCRAFT TITAN INGOT|ELGARD 210|M 350|M 350 (METAL)|SMELLOFF-CUTTER TITANIUM|TG-TV|TIMET 115|TITANIUM ELEMENT|TITANIUM FULLERIDE (TIC20)|TITANIUM METAL POWDER, [WET, WITH >= 20% WATER]|TITANIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER|TP270H|TPS 350|TR 28C|VENTRON 00901	7440-32-6	A gray lustrous sludge. Easily ignited when dry. Very finely powdered material may be ignited by sparks.	1.0	2.5	5.0	2733.0	268.0	944.0	423.0	317.0	538.0	55.0	190.0	88.0	60.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1207	THIOGLYCOLIC ACID	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	SODIUM CUPROCYANIDE reacts with acids to evolve hydrogen cyanide, which is a highly toxic and flammable gas.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1208	THIOSEMICARBAZIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	FERRIC ARSENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1209	TIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles, polyvinyl chloride or neoprene gloves, filter type respirator, chemical apron. (USCG, 1999)	Slightly soluble in water forming acidic solutions.	Acidic salts, such as FERRIC FLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. FERRIC FLUORIDE is used to catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(USCG, 1999)	Not flammable			(USCG, 1999)			greater than 1832
1210	TITANIUM POWDER, DRY		(BLOB)	Water soluble. The amount of heat generated by hydrolysis may be large.	The nitroparaffins, nitromethane, nitropropane, etc. form salts with inorganic bases such as CALCIUM HYDROXIDE. The dry salts are explosive [Chem. Eng. news 30:2344 1952]. Bases are chemically similar to sodium hydroxide (NaOH) or sodium oxide (Na2O). They neutralize acids exothermically to form salts plus water. When soluble in water they give solutions having a pH greater than 7.0. Mixing these materials with water can generate troublesome amounts of heat as the base is dissolved or diluted. Bases react with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. Bases may initiate polymerization reactions in polymerizable organic compounds, especially epoxides). They may generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. Materials of this group often serve as catalysts. A strong base. Forms caustic solution in water [Merck 11th ed. 1989].	Water-Reactive					0																							(USCG, 1999)	Not flammable			(NIOSH, 2003)	(Decomposes) (Loses H2O)	1076	
1211	TITANIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Slowly decomposed by water with the evolution of gaseous chlorine and heat. Experimental work at Argonne National Laboratory has determined that there is essentially no Cl2 gas formation; the substance is quite unreactive in water. This does not prevent Cl2 formation by a catalytic mechanism, but under normal conditions calcium hypochlorite is quite unreactive. The hydration reaction was rapid and quite exothermic. The small change in gas volume was attributed to this heating. (Argonne Report ANL/DIS-00-1, October 2000).	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1207	THIOGLYCOLIC ACID																																								Poison	C3CuN3.2Na		10.0	1.0	18.0	3.0	4.0
1208	THIOSEMICARBAZIDE																															(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3							Poison	AsH3O4.Fe		10.0	1.0	24.0	3.0	4.0
1209	TIN														(USCG, 1999)		3.87		68		(USCG, 1999)	Sublimes >1832.0Â° F					(USCG, 1999)		112.85										FFX	Corrosive	F3Fe	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	14.0	1.0	46.0	3.0	4.0
1210	TITANIUM POWDER, DRY	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		2.24		68		(NIOSH, 2003)	Decomposes					(USCG, 1999)		74.09						(NIOSH, 2003)	at 32Â° F	0.2		%	CAH		Ca(OH)2		14.0	1.0	31.0	3.0	4.0
1211	TITANIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER																																							Oxidizer	Ca(ClO)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	31.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1212	TITANIUM TETRACHLORIDE	TETRACHLOROTITANIUM|TITANIC CHLORIDE|TITANIUM CHLORIDE|TITANIUM CHLORIDE (TICL4)|TITANIUM CHLORIDE (TICL4) (T-4)-|TITANIUM CHLORIDE,(T-4)-|TITANIUM TETRACHLORIDE|TITANIUM (IV) CHLORIDE	7550-45-0	A colorless fuming liquid with a pungent odor. Corrosive to metals and tissue. Very toxic by inhalation.	2.5	5.0	2.5	2737.0	272.0	944.0	423.0	317.0	539.0	56.0	190.0	88.0	60.0	INGESTION: have victim drink water or milk; do NOT induce vomiting; call a doctor. SKIN OR EYE CONTACT: treat like acid burns; flush eyes with water for at least 15 min.; external lesions can be scrubbed with a 2% solution of sodium thiosulfate. (USCG, 1999)	Behavior in Fire: Decomposes to produce oxygen when heated. May ignite other combustibles upon contact. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1213	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	7550-45-0	A light-yellow powder with a pungent odor suspended in a mineral oil. Less dense than water and soluble in water. Corrosive to the skin and may cause severe damage to the eye. Vapors may severely irritate the upper respiratory system. Ingestion may cause irritation to the mouth, throat and gastrointestinal tract.	1.0	2.5	5.0	2741.0	272.0	944.0	423.0	317.0	540.0	56.0	190.0	88.0	60.0	(BLOB)	When heated to decomposition, it emits chloride and nitrogen oxides. No action on metals or other materials if material is kept dry. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1214	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX, ISOPENTANE (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX, ISOPENTANE (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	7550-45-0	A light-yellow powder with a pungent odor suspended in a mineral oil. Less dense than water and soluble in water. Corrosive to the skin and may cause severe damage to the eye. Vapors may severely irritate the upper respiratory system. Ingestion may cause irritation to the mouth, throat and gastrointestinal tract.	1.0	2.5	5.0	2741.0	272.0	944.0	423.0	317.0	540.0	56.0	190.0	88.0	60.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1215	TITANOCENE DICHLORIDE	BIS(CYCLOPENTADIENYL)DICHLOROTITANIUM|BIS(CYCLOPENTADIENYL)TITANIUM DICHLORIDE|BIS(ETA5-CYCLOPENTADIENYL)TITANIUM DICHLORIDE|BIS(PI-CYCLOPENTADIENYL)TITANIUM DICHLORIDE|BISCYCLOPENTADIENYLTITANIUM DICHLORIDE|BISCYCLOPENTADIENYLTITANIUM(IV) DICHLORIDE|DICHLOROBIS(1,3-CYCLOPENTADIENE)TITANIUM|DICHLOROBIS(CYCLOPENTADIENYL)TITANIUM|DICHLOROBIS(ETA(SUP 5)-2,4-CYCLOPENTADIEN-1-YL)TITANIUM)|DICHLOROBIS(ETA5-CYCLOPENTADIENYL)TITANIUM|DICHLOROBIS(PI-CYCLOPENTADIENYL)TITANIUM|DICHLORODI-PI-CYCLOPENTADIENYLTITANIUM|DICHLORODICYCLOPENTADIENYLTITANIUM|DICHLOROTITANOCENE|DICYCLOPENTADIENYLTITANIUM DICHLORIDE	1271-19-8	PHYSICAL DESCRIPTION: Red to red-orange crystals. (NTP, 1992)	1.0	2.5	5.0	2745.0	272.0	944.0	431.0	317.0	541.0	56.0	190.0	90.0	60.0	INGESTION: swallow immediately milk, egg white, starch paste, milk of magnesia, aluminum hydroxide gel, or magnesium trisilicate gel. Avoid sodium bicarbonate because of the release of carbon dioxide. Do not use acidic antidotes; cautious gastric lavage with tap water or a 1% solution of sodium thiosulfate; milk of magnesia (1 oz) left in the stomach is useful as a mild antacid, adsorbent, demulcent, and cathartic; demulcents, such as starch, egg white, milk, gruel; opiates for the control of pain. Treat shock vigorously with intravenous fluids. Prompt surgical intervention when indicated, e.g., tracheotomy, gastrectomy. SKIN: wash with liberal quantities of water and apply a paste of baking soda. (USCG, 1999)	Behavior in Fire: Poisonous gases may be produced when heated (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1216	TOLBUTAMIDE	AGLICID|ARKOZAL|ARTOSIN|ARTOZIN|BUTAMID|BUTAMIDE|1-BUTYL-3-(P-METHYLPHENYLSULFONYL)UREA|1-BUTYL-3-(P-TOLYLSULFONYL)UREA|1-BUTYL-3-TOSYLUREA|BZ 55|D 860|DIABEN|DIABETAMID|DIABETOL|DIABUTON|DOLIPOL|DRABET|HLS 831|IPOGLICONE|MOBENOL|N-((BUTYLAMINO)CARBONYL)-4-METHYLBENZENESULFONAMIDE|N-(4-METHYLBENZENESULFONYL)-N'-BUTYLUREA|N-(4-METHYLPHENYLSULFONYL)-N'-BUTYLUREA|N-(P-METHYLBENZENESULFONYL)-N'-BUTYLUREA|N-(P-TOLYLSULFONYL)-N'-BUTYLCARBAMIDE|N-(SULFONYL-P-METHYLBENZENE)-N'-N-BUTYLUREA|N-BUTYL-N'-(4-METHYLPHENYLSULFONYL	64-77-7	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	2749.0	272.0	944.0	431.0	317.0	542.0	56.0	190.0	90.0	60.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1212	TITANIUM TETRACHLORIDE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Approved dust mask; protective gloves; goggles or face shield. (USCG, 1999)	Deliquescent. Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)	Not flammable			(USCG, 1999)		675	
1213	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	Avoid inhalation and skin contact. (Non-Specific -- Poisonous Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Acts as a strong base in water.	When dissolved in water, it is a strong base; reacts violently with strong oxidants and acids ; attacks copper and copper compounds. [Handling Chemicals Safely 1980. p. 123]; reacts with hypochlorites to give N-chloroamines, some of which are explosives when isolated [Bretherick 1979. p. 108].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	High enough not to interfere with military use of the agent															(EPA, 1998)		25	
1214	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX, ISOPENTANE (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to air, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Unstable to heat, moisture and prolonged exposure to air. Decomposes in water.	TRIS(2-CHLOROETHYL)PHOSPHITE is unstable to heat, moisture and prolonged exposure to air. Hydrolyzes in water. Reacts vigorously with oxidizing agents. Undergoes vigorous isomerization (NTP, 1992).	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		280																			
1215	TITANOCENE DICHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Protective goggles, dust mask. (USCG, 1999)	Water soluble. Slowly decomposed by water with the evolution of gaseous chlorine and heat. Experimental work at Argonne National Laboratory has determined that there is essentially no Cl2 gas formation; the substance is quite unreactive in water. This does not prevent Cl2 formation by a catalytic mechanism, but under normal conditions calcium hypochlorite is quite unreactive. The hydration reaction was rapid and quite exothermic. The small change in gas volume was attributed to this heating. (Argonne Report ANL/DIS-00-1, October 2000).	CALCIUM HYPOCHLORITE is a powerful oxidizing agent, particularly in the presence of water or at higher temperature as it decomposes to release oxygen and chlorine gases. As strong oxidant it may react with vigor in combination with carbon, especially finely divided is explosive; acetylene, leads to creation of explosive chloroacetylenes; organic matter, oil, hydrocarbons; alcohols may cause explosion, methanol, ethanol, etc.; nitromethane caused delayed violent reaction; organic sulfur compounds, sulfides tend toward ignition and sometimes explosion; with iron oxide in metal containers catalyze oxygen evolving decomposition of the oxidant. It forms highly explosive NCl3 on contact with urea or ammonia. Produces highly toxic gaseous chlorine gas when heated or on contact with acids [Sax, 9th ed., 1996, p. 1905]. Mixture of damp sulfur with hypochlorite caused a violent reaction, that ejected molten sulfur, Chem Eng. News, 1965, 46(29), 6.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	1	1	Oxidizer	(NFPA, 2010)															(USCG, 1999)	Not flammable						
1216	TOLBUTAMIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Slowly decomposed by water with the evolution of gaseous chlorine and heat. Experimental work at Argonne National Laboratory has determined that there is essentially no Cl2 gas formation; the substance is quite unreactive in water. This does not prevent Cl2 formation by a catalytic mechanism, but under normal conditions calcium hypochlorite is quite unreactive. The hydration reaction was rapid and quite exothermic. The small change in gas volume was attributed to this heating. (Argonne Report ANL/DIS-00-1, October 2000).	CALCIUM HYPOCHLORITE is a powerful oxidizing agent, particularly in the presence of water or at higher temperature as it decomposes to release oxygen and chlorine gases. As strong oxidant it may react with vigor in combination with carbon, especially finely divided is explosive; acetylene, leads to creation of explosive chloroacetylenes; organic matter, oil, hydrocarbons; alcohols may cause explosion, methanol, ethanol, etc.; nitromethane caused delayed violent reaction; organic sulfur compounds, sulfides tend toward ignition and sometimes explosion; with iron oxide in metal containers catalyze oxygen evolving decomposition of the oxidant. It forms highly explosive NCl3 on contact with urea. Produces highly toxic gaseous chlorine gas when heated or on contact with acids [Sax, 9th ed., 1996, p. 1905]. Mixture of damp sulfur with hypochlorite caused a violent reaction, that ejected molten sulfur, Chem Eng. News, 1965, 46(29), 6.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	1	1	Oxidizer	(NFPA, 2010)																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1212	TITANIUM TETRACHLORIDE														(USCG, 1999)		2.35		77								(USCG, 1999)		262.01		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3						SCR	Oxidizer|Poison	Na2Cr2O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	15.0	1.0	25.0	3.0	4.0
1213	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	(EPA, 1998)		0.0109		77		mm Hg	(EPA, 1998)		7.1				(EPA, 1998)		1.2347				(EPA, 1998)	calculated, decomposes	493		760		(EPA, 1998)		204.54												Poison	C6H12Cl3N	Mineral-Based & Clay-Based Absorbents	15.0	1.0	25.0	3.0	4.0
1214	TITANIUM TETRACHLORIDE/MAGNESIUM CHLORIDE COMPLEX, ISOPENTANE (CORROSIVE LIQUIDS, FLAMMABLE, N.O.S.)	(NTP, 1992)			greater than 1	68		mm Hg	(NTP, 1992)		9.32				(NTP, 1992)		1.353		68		(NTP, 1992)			257 to 275	7		(NTP, 1992)		269.49						(NTP, 1992)	Decomposes					Poison	C6H12Cl3O3P		15.0	1.0	25.0	3.0	4.0
1215	TITANOCENE DICHLORIDE														(USCG, 1999)		2.35		68								(USCG, 1999)		174.98											CHY	Oxidizer|Corrosive	Ca(ClO)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	13.0	1.0	25.0	3.0	4.0
1216	TOLBUTAMIDE																																							Oxidizer|Corrosive	Ca(ClO)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	11.0	1.0	18.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1217	TOLNAFTATE	CARBAMOTHIOIC ACID, METHYL(3-METHYLPHENYL)-,0-2-NAPHTHALENYL ESTER (9CI)|CARBANILIC ACID, M,N-DEMETHYLTHIO-, 0-2-NAPHTHYL ESTER|CARBANILIC ACID, M,N-DIMETHYLTHIO-, O-2-NAPHTHYL ESTER|DERMOXIN|FOCUSAN|HI-ALAZIN|NAPHTHOMATE T|0-2-NAPHTHYL M,N-DIMETHYLTHIOCARBANILATE|2-NAPHTHYL N-METHYL-N-(3-TOLYL)THIONOCARBAMATE|O-2-NAPHTHYL M,N-DIMETHYLTHIOCARBANILATE|PHYTODERM|PITREX|SPORILINE|TINACTIN|TINADERM|TOLNAFTATE|TOLNAPHTHATE|TOLSANIL|TONOFTAL	2398-96-1	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	2749.0	272.0	944.0	431.0	317.0	542.0	56.0	190.0	90.0	60.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as phosphorus oxides or phosporic acid, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1218	TOLUENE-2,4-DIISOCYANATE	(BLOB)	584-84-9	Colorless to yellow or dark liquid or solid with a sweet, fruity, pungent odor. Melting point 68Â°F (20Â° C). Evolves CO2 when moist. This can cause over-pressurization in an enclosed space.Toxic and carcinogenic. Used in polyurethane foams, coatings in floor and wood finishes, sealers, paints, concrete sealers for aircraft and tank trucks, elastomers in clay pipe seals, elastomers and coatings, and crosslinking agent for nylon. Rate of onset: Immediate Persistence: Hours - weeks Odor threshold: 0.4 - 2 ppm Source/use/other hazard: Polyurethane (wood coatings, foam), nylon industries; skin irritant.	2.5	5.0	2.5	2753.0	272.0	944.0	431.0	317.0	543.0	56.0	190.0	90.0	60.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1219	TOLYLTRIAZOLE	COBRATEC TT 100|COBRATEC TT 35|COBRATEC TT-100|1H-BENZOTRIAZOLE, METHYL-|1-H-BENZOTRIAZOLE, METHYL|5-METHYL-1,2,3-BENZOTRIAZOLE|METHYL-1H-BENZOTRIAZOLE|METHYLBENZOTRIAZOLE|5-METHYLBENZOTRIAZOLE|TOLUTRIAZOLE|TOLYLTRIAZOLE|TOLYTRIAZOLE|TTZ	29385-43-1	PHYSICAL DESCRIPTION: Tan to light brown granules or beige pellets with a characteristic odor. (NTP, 1992)	1.0	2.5	5.0	2753.0	272.0	944.0	431.0	317.0	543.0	56.0	190.0	90.0	60.0	(BLOB)	Flash point data for this chenical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1220	TRIAMTERENE	ADEMIN(E)|ADEMINE|DIRENIUM|DITAK|DIURENE|DYREN|DYRENIUM|DYTAC|JATROPUR|NCI-C56042|NORIDIL|NORIDYL|NSC-77625|6-PHENYL-2,4,7-PTERIDINETRIAMINE|6-PHENYL-2,4,7-TRIAMINOPTERIDINE|PTERIDINE, 2,4,7-TRIAMINO-6-PHENYL-|2,4,7-PTERIDINETRIAMINE, 6-PHENYL-|PTEROFEN|PTEROPHENE|SKF 8542|TATURIL|TERIAM|TERIDIN|TRI-SPAN|2,4,7-TRIAMINO-6-PHENYLPTERIDINE|TRIAMPUR|TRIAMTEREN|TRIAMTERENE|TRIAMTERIL|TRIAMTERIL COMPLEX|TRITEREN|UROCAUDAL	396-01-0	PHYSICAL DESCRIPTION: Odorless yellow powder or crystalline solid. Melting point 316Â°C. Almost tasteless at first and with a slightly bitter aftertaste. Acidified solutions give a blue fluorescence. Used as a diuretic drug.	1.0	2.5	5.0	2753.0	272.0	944.0	431.0	317.0	543.0	56.0	190.0	90.0	60.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
1221	TRIBUTYL PHOSPHATE	BUTYL PHOSPHATE|BUTYL PHOSPHATE ((BUO)3PO)|BUTYL PHOSPHATE, TRI-|CELLUPHOS 4|DISFLAMOLL TB|PHOSPHORIC ACID, TRI-BUTYL ESTER|PHOSPHORIC ACID, TRIBUTYL ESTER|TBP|TBPA|TRI-N-BUTYL PHOSPHATE|TRIBUTOXYPHOSPHINE OXIDE|TRIBUTYL ESTER OF PHOSPHORIC ACID|TRIBUTYL PHOSPHATE	126-73-8	Odorless colorless to yellow liquid. Toxic by ingestion and inhalation.	2.5	5.0	2.5	2757.0	272.0	944.0	431.0	317.0	544.0	56.0	190.0	90.0	60.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1217	TOLNAFTATE		Wear protective clothing to prevent contact with dust. Use approved respirator to protect against dust. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	FERROPHOSPHORUS, a less reactive metal alloy, is a reducing agent. Can react exothermically with oxidizing acids to form noxious gases. May catalyze polymerization and other reactions, particularly when finely divided. May react with halogenated hydrocarbons, sometimes forming explosive compounds Less reactive in bulk form (sheet, rod, or drop) than when finely divided. May form irritating vapors and toxic gases, such as phosphorus oxides or phosphoric acid when involved in fire.	Strong Reducing Agent; Known Catalytic Activity						0																							
1218	TOLUENE-2,4-DIISOCYANATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. The liquid decomposes in water to form phosphoric acid and hydrochloric acid (hydrogen chloride). It can also form hydrogen sulfide (H2S), a toxic flammable gas, in reaction with water.	THIOPHOSPHORYL CHLORIDE is acidic. Incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1219	TOLYLTRIAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Isocyanates and thioisocyanates, such as 2-(2-BUTOXYETHOXY)ETHYL THIOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1220	TRIAMTERENE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYDIETHYLACETATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Upon contact with organic matter, t-butyl peroxybenzoate can ignite or give rise to an explosion [Haz. Chem. Data 1973 p. 79].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1221	TRIBUTYL PHOSPHATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	(BLOB)	Inorganic reducing agents, such as SODIUM HYDROSULFITE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Sulfites and hydrosulfites (dithionites) can react explosively with strong oxidizing agents (sodium chlorite). Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1384 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	2	3																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1217	TOLNAFTATE																																							FPS		Fe.P		10.0	1.0	22.0	3.0	4.0
1218	TOLUENE-2,4-DIISOCYANATE																																								Corrosive	Cl3PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	20.0	3.0	4.0
1219	TOLYLTRIAZOLE														(NTP, 1992)		1.01		68		(NTP, 1992)			248 to 257	0.25		(NTP, 1992)		203.3						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C9H17NO2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	39.0	3.0	4.0
1220	TRIAMTERENE																																								Organic Peroxide		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	13.0	3.0	4.0
1221	TRIBUTYL PHOSPHATE																																								Spontaneously Combustible	Na2S2O4		10.0	1.0	37.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1222	TRICAPRYLIN	CAPRYLIC ACID TRIGLYCERIDE|CAPTEX 8000|CRODAMOL GTCC|GLYCERIN TRICAPRYLATE|GLYCERIN TRIOCTANOATE|GLYCEROL TRICAPRYLATE|GLYCEROL TRIOCTANOATE|GLYCERYL TRICAPRYLATE|GLYCERYL TRIOCTANOATE|MCT|NI 01|OCTANOIC ACID TRIGLYCERIDE|OCTANOIC ACID, 1,2,3-PROPANETRIYL ESTER|OCTANOIN, TRI- |PANACET 800|PANACETE 800|RATO|SEFSOL 810|TRICAPRYL GLYCERIDE|TRICAPRYLIC GLYCERIDE|TRICAPRYLIN|T RICAPRYLOYLGLYCEROL|T RICAPRYLYL GLYCERIN|TRIOCTANOIN|T RIOCTANOYLGLYCERIDE|T RIOCTANOYLGLYCEROL	538-23-8	PHYSICAL DESCRIPTION: Odorless viscous clear colorless to amber-brown liquid. (NTP, 1992)	2.5	5.0	2.5	2757.0	272.0	944.0	431.0	317.0	544.0	56.0	190.0	90.0	60.0	INGESTION: Do NOT induce vomiting; give dilute vinegar, lemon juice, milk, or olive oil; call a doctor. SKIN AND EYES: Flood with large amount of water. (USCG, 1999)	Behavior in Fire: May decompose and produce highly flammable hydrogen gas. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1223	TRICHLOROACETIC ACID	ACETIC ACID, TRICHLORO- |ACETO-CAUSTIN|AMCHEM GRASS KILLER|DOW SODIUM TCA INHIBITED|KONESTA|NA TA|SODIUM TCA SOLUTION|TCA|TCA (ACID)|TKHU|TKHUK|TRICH LORACETIC ACID|TRICHLOROACETIC ACID|TRICHLOROACETIC ACID, [SOLID]|TRICHLOROETHAN OIC ACID|VARITOX	76-03-9	Trichloroacetic acid, solid is a colorless crystalline solid. It absorbs moisture from air and forms a syrup. It is soluble in water with release of heat. It is corrosive to metals and tissue.	1.0	2.5	5.0	2761.0	272.0	948.0	431.0	317.0	545.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1224	TRICHLOROACETIC ACID, SOLUTION	ACETO-CAUSTIN|AMCHEM GRASS KILLER|TCA|TCA (ACID)|TKHU|TKHUK|TRICH LORACETIC ACID|TRICHLOROACETIC ACID|TRICHLOROACETIC ACID SOLUTION|TRICHLOROACET IC ACID, SOLUTION|TRICHLOROETH ANOIC ACID	76-03-9	Clear colorless crystals dissolved in water. Corrosive to metals and tissue.	1.0	2.5	5.0	2765.0	272.0	948.0	431.0	317.0	546.0	56.0	191.0	90.0	60.0	INHALATION: move to clean air; see physician in case of persistent coughing, expectoration, chest pain, or shortness of breath. INGESTION: get medical attention quickly; induce vomiting by giving large amounts of water or warm salty water, or by tickling back of patient's throat; continue until vomitus is clear; follow with milk, eggs, or olive oil to soothe stomach. EYES: immediately flush with large quantities of running water for at least 15 min., holding eyelids apart to insure thorough flushing of eyes and lids; do not attempt to neutralize with chemical agents; get medical attention quickly; if physician is (USCG, 1999)		
1225	TRICHLORO-S-TRIAZINETRIONE, DRY	ACL 85|ACL 90|ACL 90 PLUS|CDB 90|CHLOREAL|FI CLOR 91|HI-LITE 90|HI-LITE 90G|ISOCYANURIC CHLORIDE|N,N',N"-TRICHLOROISOCYANURIC ACID|NEOCHLOR 90|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRICHLORO-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRICHLORO- |SYMCLOSEN|SYMCLOSENE| TRICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRICHLORO-S-TRIAZINE-2,4,6-(1H, 3H, 5H)-TRIONE|TRICHLORO-S-TRIAZINETRIONE|TRICHLOR O-S-TRIAZINETRIONE {TRICHLOROISOCYANURIC ACID}|TRICHLORO-S-TRIAZINETRIONE, DRY|TRICHLORO-S-TRIAZINETRIONE, [DRY, CONTAINING > 39% AVAILABLE CHLORINE]|TRICHLOROCYA NURIC ACID|TRICHLOROIMINO|SO	87-90-1	A white slightly hygroscopic crystalline powder or lump solid with a mild chlorine-like odor. Said to have 85 percent available chlorine. Decomposes at 225Â°C. Moderately toxic by ingestion. May irritate skin and eyes. Active ingredient in household dry bleaches. Used in swimming pools as a disinfectant .	1.0	2.5	5.0	2765.0	272.0	948.0	431.0	317.0	546.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1226	TRICLOCARBAN	CARBANILIDE, 3,4,4'-TRICHLORO-|1-(4-CHLOROPHENYL)-3-(3,4-DICHLOROPHENYL) UREA|CUSITER|CUTISAN|1-(3',4'-DICHLOROPHENYL)-3-(4'-CHLOROPHENYL)UREA|ENT 26925|GENOFACE|N-(3,4-DICHLOROPHENYL)-N'-(4-CHLOROPHENYL)UREA|N-(4-CHLOROPHENYL)-N'-(3,4-DICHLOROPHENYL)UREA|P ROCUTENE|SOLUBACTER|T CC|3,4,4'-TRICHLOROCARBANILIDE|3,4,4'-TRICHLORODIPHENYLUREA |TRICLOCARBAN	101-20-2	PHYSICAL DESCRIPTION: Fine white plates or white powder. (NTP, 1992)	1.0	2.5	5.0	2769.0	272.0	948.0	431.0	317.0	547.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1222	TRICAPRYLIN	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute acetic acid or vinegar. (USCG, 1999)	Goggles, rubber gloves, and protective clothing. (USCG, 1999)	When sodium borohydride is in a strongly basic solution (at or above pH 10), it is stabilized against reaction with water, although addition of water may still be exothermic due to heat of solvation. At lower pH levels, sodium borohydride reacts exothermically with water to generate flammable hydrogen gas. The heat may ignite the hydrogen, the solvent, and surrounding combustible materials [Haz. Chem. Data 1966].	SODIUM BOROHYDRIDE is a powerful reducing agent. A chemical base. Absorbs moisture readily forming caustic solution. which attacks aluminum and zinc. A violent polymerization of acetaldehyde results from the reactions of acetaldehyde with alkaline materials such as sodium hydroxide. Calcium oxide or sodium hydroxide react with phosphorus pentaoxide extremely violently when initiated by local heating [Mellor 8 Supp.3:406 (1971]. Using potassium hydroxide to dry impure tetrahydrofuran, which contains peroxides, may be hazardous. Explosions have occurred in the past. Sodium hydroxide behaves in a similar way as potassium hydroxide [NSC Newsletter, Chem. Soc. 1967]. Ignition occurs if a mixture of the hydride and sulfuric acid is not cooled. Contact of glycerol and sodium borohydride leads to ignition, other glycols and methanol are exothermic but do not ignite.	Strong Reducing Agent	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1223	TRICHLOROACETIC ACID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	FLUAZIFOP BUTYL is a trimethyl phenoxy pyridine ester. May react with acids to liberate heat. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. May generate heat with caustic solutions. Genreates flammable hydrogen with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1224	TRICHLOROACETIC ACID, SOLUTION	Neutralizing Agents for Acids and Caustics: Flush with water (USCG, 1999)	Dust mask, goggles, and gloves (USCG, 1999)	Water soluble.	Some calcium phosphates form acid solutions in water. These may attack metals with formation of flammable hydrogen gas, which may collect in enclosed spaces (USCG, 1999).								0																								
1225	TRICHLORO-S-TRIAZINETRIONE, DRY	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYISOBUTYRATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1226	TRICLOCARBAN	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The solid decomposes on contact with water or moisture in air to form flammable gaseous hydrogen. Insoluble in cold water; decomposes in hot water [Hawley].	CALCIUM SILICIDE reacts with acids to form gaseous silicon hydride, which ignites spontaneously in air [Lab. Gov. Chemist 1965]. Burns readily in fluorine [Mellor 6:663 1946-47].	Strong Reducing Agent; Water-Reactive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1222	TRICAPRYLIN																																							SBX	Corrosive	NaOH (sodium hydroxide)|NaBH4 (sodium borohydride)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	10.0	1.0	13.0	3.0	4.0
1223	TRICHLOROACETIC ACID																																								Class 9	C19H20F3NO4	Mineral-Based & Clay-Based Absorbents	10.0	1.0	34.0	3.0	4.0
1224	TRICHLOROACETIC ACID, SOLUTION														(USCG, 1999)			2 to 3	68								(USCG, 1999)	Monocalcium phosphate: 252.16; Dicalcium phosphate: 136.06; Calcium pyrophosphate: 254													CAL		Ca3(PO4)2		10.0	1.0	34.0	3.0	4.0
1225	TRICHLORO-S-TRIAZINETRIONE, DRY																																								Organic Peroxide Explosive	C8H16O3 (solution in benzene)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	14.0	1.0	46.0	3.0	4.0
1226	TRICLOCARBAN																																								Dangerous When Wet	CaSi2		10.0	1.0	27.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1227	TRIETHANOLAMINE DODECYLBENZENESULFONATE	ARMOSTAT 800|BENZENESULFONIC ACID, DODECYL-, COMPOUND WITH 2,2',2"-NITRILOTRIETHANOL (1:1)|BIO-SOFT N 300|CALSOFT T 60|CONCO AAS SPECIAL|DECOL T 70|DESULF DBS 60T|DODECYLBENZENESULFONIC ACID TRIETHANOLAMINE SALT|DODECYLBENZENESULFONIC ACID, TRIETHANOLAMINE SALT|ELFAN WAT|ETHANOL, 2,2',2"-NITRILOTRI-, DODECYLBENZENESULFONATE (SALT)|ETHANOL, 2,2',2"-NITRILOTRIS-, DODECYLBENZENESULFONATE (SALT)|LAURYLBENZENESULFONIC ACID TRIETHANOLAMINE SALT|NEOGEN T|PILOT TS 60|RUNOX S 40T|SINNOZON NT 45|STEPANTAN DT	27323-41-7	This material contains triethanolamine dodecylbenzenesulfonate, a white- colored, waxy solid dissolved in a liquid carrier. The primary hazard of this material is its potential threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams.	1.0	2.5	5.0	2773.0	272.0	948.0	431.0	317.0	548.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
1228	TRIETHYL PHOSPHATE	ETHYL ACID PHOSPHATE|ETHYL PHOSPHATE|LEVAGARD TEP|PHOSPHORIC ACID, TRIETHYL ESTER|TEP|TRIETHOXYPHOSPHINE OXIDE|TRIETHYL PHOSPHATE	78-40-0	A colorless, corrosive liquid. Combustible. Slowly dissolves in water and sinks in water. Severely irritates skin, eyes and mucous membranes.	2.5	5.0	2.5	2777.0	272.0	948.0	431.0	317.0	549.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: May ignite combustibles (wood, paper, oil, clothing, etc.). React vigorously and/or explosively with water. Produce toxic and/or corrosive substances on contact with water. Flammable/toxic gases may accumulate in tanks and hopper cars. Some may produce flammable hydrogen gas upon contact with metals. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash or lime. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1229	TRIETHYLAMINE	(DIETHYLAMINO)ETHANE|N,N-DIETHYLETHANAMINE|TEA|TEN|TRIETHYLAMINE	121-44-8	A clear colorless liquid with a strong ammonia to fish-like odor. Flash point 20Â°F. Vapors irritate the eyes and mucous membranes. Less dense (6.1 lb / gal) than water. Vapors heavier than air. Produces toxic oxides of nitrogen when burned.	2.5	5.0	2.5	2777.0	272.0	948.0	431.0	317.0	549.0	56.0	191.0	90.0	60.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1230	TRIETHYLENETETRAMINE	ARALDITE HARDENER HY 951|ARALDITE HY 951|DEH 24|1,8-DIAMINO-3,6-DIAZAOCTANE|3,6-DIAZAOCTANE-1,8-DIAMINE|HY 951|N,N'-BIS(2-AMINOETHYL)-1,2-DIAMINOETHANE|N,N'-BIS(2-AMINOETHYL)-1,2-ETHANEDIAMINE|N,N'-BIS(2-AMINOETHYL)ETHANEDIAMINE|N,N'-BIS(2-AMINOETHYL)ETHYLENEDIAMINE|N,N'-BIS(AMINOETHYL)ETHYLENEDIAMINE|N,N'-BIS-(2-AMINOETHYL)ETHYLENEDIAMINE|RT 1AX|RUTAPOX VE 2896|TECZA|TETA|TETA (CROSSLINKING AGENT)|1,4,7,10-TETRAAZADECANE|TRIEN|TRIENTINE|TRIETHYLENE TETRAMINE|TRIETHYLENETETRAMINE|VE 2896|Z1	112-24-3	A yellowish liquid. Less dense than water. Combustible, though may be difficult to ignite. Corrosive to metals and tissue. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used in detergents and in the synthesis of dyes, pharmaceuticals and other chemicals.	2.5	5.0	2.5	2777.0	272.0	948.0	431.0	317.0	549.0	56.0	191.0	90.0	60.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1231	TRIFLUOROMETHANE, REFRIGERATED LIQUID	FLUOROFORM|TRIFLUOROMETHANE, REFRIGERATED LIQUID|TRIFLUOROMETHANE, [CRYOGENIC LIQUID]	75-46-7	A colorless odorless gas. Heavier than air. Contact may irritate mucous membranes. May asphyxiate by displacing air. Contact may cause frost bite. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	2777.0	272.0	952.0	431.0	317.0	549.0	56.0	192.0	90.0	60.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1227	TRIETHANOLAMINE DODECYLBENZENESULFONATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water. May decompose on exposure to moist air or water.	Thiourea dioxide is a reducing agent and a derivative of sulfinic acid (a weak inorganic acid). Decolorizes and bleaches materials by chemical reduction. Stable under normal temperatures and pressures. May decompose on exposure to moist air or water. Incompatible with strong oxidizing agents, strong bases. Aqueous solutions are acidic and corrosive.		Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1228	TRIETHYL PHOSPHATE	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts vigorously with water, large amounts react explosively [Haz. Chem. Data 1969. p. 201].	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																							
1229	TRIETHYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hygroscopic. May be sensitive to prolonged exposure to air. Water soluble. Aqueous solutions are unstable, but may be kept at or below 50Â°F for a few days.	SODIUM PHENOBARBITAL can react with strong oxidizing agents. Incompatible with ammonium salts and chloral hydrate. Also incompatible with acids and acidic substances (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		347	
1230	TRIETHYLENETETRAMINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. This material will spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite surrounding combustible materials. It is soluble in water.	Inorganic reducing agents, such as SODIUM RESINATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1231	TRIFLUOROMETHANE, REFRIGERATED LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as TRIPHENYL PHOSPHITE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	1	2		(NTP, 1992)		425																	(NTP, 1992)		72 to 75	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1227	TRIETHANOLAMINE DODECYLBENZENESULFONATE																																								Spontaneously Combustible	CH4N2O2S		10.0	1.0	15.0	3.0	4.0
1228	TRIETHYL PHOSPHATE																																									Oxidizer	Na2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	38.0	3.0	4.0
1229	TRIETHYLAMINE																										(NTP, 1992)		254.24						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C12H12N2O3.Na		17.0	1.0	46.0	3.0	4.0
1230	TRIETHYLENETETRAMINE																																								Flammable Solid	C20H29NaO3		10.0	1.0	19.0	3.0	4.0
1231	TRIFLUOROMETHANE, REFRIGERATED LIQUID															(NTP, 1992)		1.1844		68		(NTP, 1992)		680		760		(NTP, 1992)		310.29						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL		Poison	C18H15O3P		10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1232	TRIFLURALIN	(BLOB)	1582-09-8	Yellow-orange crystalline solid. Denser than water and not soluble in water. Hence sinks in water. Melting point 48.5-49Â°C. Used as a selective pre-emergence herbicide.	1.0	2.5	5.0	2781.0	272.0	952.0	431.0	317.0	550.0	56.0	192.0	90.0	60.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1233	TRIISOBUTYL ALUMINUM	ALUMINUM TRIISOBUTYL,|TIBA|TIBAL|TRIISOBUTYL ALUMINUM,|TRIISOBUTYLALUMINUM	100-99-2	A colorless liquid.	2.5	5.0	2.5	2781.0	272.0	952.0	431.0	317.0	550.0	56.0	192.0	90.0	60.0	(BLOB)	May burn but will not ignite readily. When heated to decomposition, may emit toxic fumes of selenium and sodium oxide. Stable in air. (EPA, 1998)	Small fires: dry chemical carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
1234	TRIMELLITIC ANHYDRIDE	ANHYDROTRIMELLITIC ACID|1,2,4-BENZENETRICARBOXYLIC ACID 1,2-ANHYDRIDE|1,2,4-BENZENETRICARBOXYLIC ACID ANHYDRIDE|1,2,4-BENZENETRICARBOXYLIC ACID, ANHYDRIDE|1,2,4-BENZENETRICARBOXYLIC ACID, CYCLIC 1,2-ANHYDRIDE|1,2,4-BENZENETRICARBOXYLIC ANHYDRIDE|4-CARBOXYPHTHALIC ANHYDRIDE|1,3-DIHYDRO-1,3-DIOXO-5-ISOBENZOFURANCARBOXYLIC ACID|1,3-DIOXO-5-PHTHALANCARBOXYLIC ACID|DIPHENYLMETHANE-4,4'-DIISOCYANATE-TRIMELLIC ANHYDRIDE|EPON 9150|ETHOMID HT POLYMER|NCI-C56633|TMA|TMAN|TRIMELLI ACID 1,2-ANHYDRIDE|TRIMELLIC ACID	552-30-7	PHYSICAL DESCRIPTION: Crystals or off-white flakes. (NTP, 1992)	1.0	2.5	5.0	2781.0	272.0	952.0	431.0	317.0	550.0	56.0	192.0	90.0	60.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1235	TRIMETHOPRIM	BW 56-72|2,4-DIAMINO-5-(3',4',5'-TRIMETHOXYBENZYL)PYRIMIDINE|2,4-DIAMINO-5-(3,4,5-TRIMETHOXYBENZYL)PYRIMIDINE|NIH 204|NSC-106568|PYRIMIDINE, 2,4-DIAMINO-5-(3,4,5-TRIMETHOXYBENZYL)-|SYRAPRIM|TRIMETHIOPRIM|TRIMETHOPRIM|5-(3,4,5-TRIMETHOXYBENZYL)-2,4-DIAMINOPYRIMIDINE|5-((3,4,5-TRIMETHOXYPHENYL)-METHYL-2,4-PYRIMIDINEDIAMINE|TRIMETOPRIM|TRIMPEX	738-70-5	PHYSICAL DESCRIPTION: Odorless white powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	2781.0	272.0	952.0	431.0	317.0	550.0	56.0	192.0	90.0	60.0	(BLOB)	When heated to decomposition it emits acrid smoke and irritating fumes. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1236	TRIMETHYL BORATE	BORESTER O|BORIC ACID TRIMETHYL ESTER|BORON TRIMETHOXIDE|METHYL BORATE ((MEO)3B)|TMB|TRIMETHOXYBORANE|TRIMETHOXYBORINE|TRIMETHOXYBORON|TRIMETHYL BORATE|TRIMETHYLBORATE	121-43-7	A water-white liquid. Denser than water. Vapors heavier than air. Used as a solvent and fungicide for fruit.	2.5	5.0	2.5	2785.0	272.0	956.0	431.0	317.0	551.0	56.0	193.0	90.0	60.0	INHALATION: move to fresh air; if exposure has been great, get medical attention. INGESTION: consult physician; hemodialysis is recommended as the treatment of choice. EYES or SKIN: flush with water for 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Irritating oxides of sulfur and nitrogen may form in fire. (USCG, 1999)	
1237	TRIMETHYLCHLOROSILANE	CHLOROTRIMETHYLSILANE|CHLOROTRIMETHYLSILICANE|KA 31|MONOCHLOROTRIMETHYLSILANE|MONOCHLOROTRIMETHYLSILICON|SILANE, CHLOROTRIMETHYL-|SILANE, TRIMETHYLCHLORO-|SILICANE, CHLOROTRIMETHYL-|SILYLIUM, TRIMETHYL-, CHLORIDE|TL 1163|TRIMETHYL CHLOROSILANE|TRIMETHYLCHLOROSILANE|TRIMETHYLSILANE CHLORIDE|TRIMETHYLSILICON CHLORIDE|TRIMETHYLSILYL CHLORIDE|TSL 8031	75-77-4	A colorless fuming liquid with a pungent odor. Boiling point 135Â° F, Flash point -18Â°F. Density 0.854 g / cm3. The vapor and liquid may cause burns. Vapors are heavier than air.	2.5	5.0	2.5	2785.0	272.0	956.0	431.0	317.0	551.0	56.0	193.0	90.0	60.0	(BLOB)	This chemical is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1232	TRIFLURALIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with release of heat.	FLUOBORIC ACID is a strong acid. Reacts exothermically with chemical bases (examples: amines, amides, and inorganic hydroxides). These reactions can generate dangerously large amounts of heat in small spaces. Dissolution in water or the dilution of a concentrated aqueous solution may generate significant heat. Reacts with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. Generates flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. May catalyze (increase the rate of) chemical reactions. Attempted drying of the acid with acetic anhydride caused an explosion at 0Â°C [J. Organomet. Chem., 1975, '94, 319].	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																									
1233	TRIISOBUTYL ALUMINUM	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water.	SODIUM SELENITE is incompatible with strong acids. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)	(decomposes)	1310	
1234	TRIMELLITIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	CANNABINOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.					0																								(NTP, 1992)			169 to 171
1235	TRIMETHOPRIM	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organic anhydrides, such as CANTHARIDIN, are incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(EPA, 1998)		424	
1236	TRIMETHYL BORATE		Rubber or plastic gloves; standard goggles; rubber or plastic apron (USCG, 1999)	Water soluble.	Nitric acid violently oxidized a thiocyanate solution [Bretherick 1979 p. 121]. Caution should be exercised in treating a thiocyanate with an oxidizing agent such as a peroxide or chlorate as such mixtures have been known to explode. Special Hazards of Combustion Products: Irritating oxides of sulfur and nitrogen may form in fire (USCG, 1999). Carbonyl sulfide is produced in a violent reaction by the mixture of sulfuric acid and sodium thiocyanate.	Strong Reducing Agent						0																								(USCG, 1999)		572	
1237	TRIMETHYLCHLOROSILANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]					0		(NTP, 1992)		greater than 200																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1232	TRIFLURALIN																																								Corrosive	HBF4		12.0	1.0	26.0	3.0	4.0
1233	TRIISOBUTYL ALUMINUM	(NTP, 1992)			less than 0.001	68		mm Hg							(NTP, 1992)		3.1				(NTP, 1992)	Decomposes					(EPA, 1998)		172.92						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL	SSE	Poison	H2O3Se.2Na		10.0	1.0	14.0	3.0	4.0
1234	TRIMELLITIC ANHYDRIDE																				(NTP, 1992)		365		0.05		(NTP, 1992)		310.44													C21H26O2	Cellulose-Based Absorbents	10.0	1.0	26.0	3.0	4.0
1235	TRIMETHOPRIM																				(EPA, 1998)	Sublimes at 230Â° F					(EPA, 1998)		196.21												Poison	C10H12O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	44.0	3.0	4.0
1236	TRIMETHYL BORATE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		81.08											SCY		NaSCN		12.0	1.0	31.0	3.0	4.0
1237	TRIMETHYLCHLOROSILANE	(NTP, 1992)		22.5		77		mm Hg							(NTP, 1992)		1.114		71.1		(NTP, 1992)			205 to 219	760		(NTP, 1992)		232.28						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C8H18O4S. Na		11.0	1.0	38.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1238	TRINITROTOLUENE	ALPHA-TNT|ALPHA-TRINITROTOLUOL|ENTSUFON|GRADETOL|2-METHYL-1,3,5-TRINITROBENZENE|1-METHYL-2,4,6-TRINITROBENZENE|METHYLTRINITROBENZENE|S-TRINITROTOLUENE|S-TRINITROTOLUOL|SYM-TRINITROTOLUENE|SYM-TRINITROTOLUOL|TNT|TOLIT|TOLITE|TOLUENE, 2,4,6-TRINITRO-|TRILIT|TRINITROTOLUENE|2,4,6-TRINITROTOLUENE|TRINITROTOLUOL|TRITOL|TRITOL (EXPLOSIVE)|TRITON|TROTYL|TROTYL OIL	118-96-7	An explosive solid. Primary hazard is from effects of a blast. Not designed to produce significant fragmentation or throw projectiles. May explode under exposure to intense heat or fire.	1.0	2.5	5.0	2789.0	272.0	960.0	431.0	317.0	552.0	56.0	194.0	90.0	60.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1239	TRIPHENYL PHOSPHITE	ADK STAB TPP|ADVANCE TPP|EFED|JP 360|MARK TPP|MELLITE 310|PHENYL PHOSPHITE ((C6H5O)3P)|PHOSCLERE T 36|PHOSPHOROUS ACID, TRIPHENYL ESTER|SUMILIZER TPP-R|SUMILIZER TTP-R|TP 1|TP 1 (PLASTICIZER)|TPP|TPP (PLASTICIZER)|TPP-R|TRIPHENOXYPHOSPHINE|TRIPHENYL PHOSPHITE|TRIS(PHENOXY) PHOSPHINE|WESTON TPP	101-02-0	PHYSICAL DESCRIPTION: Clear, pale yellow liquid with a clean, pleasant odor. (NTP, 1992)	2.5	5.0	2.5	2793.0	272.0	960.0	431.0	317.0	553.0	56.0	194.0	90.0	60.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
1240	TRIS(2-ETHYLHEXYL) TRIMELLITATE	ADEKACIZER TOTM|ADK CIZER TOTM|1,2,4-BENZENETRICARBOXYLIC ACID, TRIS(2-ETHYLHEXYL) ESTER|BISOFLEX TOT|HATCOL 200|KODAFLEX TOTM|MONOCIZER W 710L|MORFLEX 510|NUOPLAZ 6959|OCTYL TRIMELLITATE|PLASTHALL TOTM|REOMOL OTM|SANSOCIZER TOTM|STAFLEX TOTM|TOTM|TRI-2-ETHYLHEXYL TRIMELLITATE|TRIMEX T 08|TRIOCTYL TRIMELLITATE|TRIS(2-ETHYLHEXYL) ESTER 1,2,4-BENZENETRICARBOXYLIC ACID|TRIS(2-ETHYLHEXYL) TRIMELLITATE	3319-31-1	PHYSICAL DESCRIPTION: Yellow oily liquid. (NTP, 1992)	2.5	5.0	2.5	2797.0	272.0	960.0	431.0	317.0	554.0	56.0	194.0	90.0	60.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1241	TUNGSTEN	B 10|B 10 (METAL)|BIO|BIO (METAL)|C 50H|D 100|D 100 (METAL)|D 20|D 20 (METAL)|GE-U 10-4795|5N-W|SG 50W|TUNGSTEN|TUNGSTEN ELEMENT|TUNGSTEN METAL|VA|VA (TUNGSTEN)|VENTRON 00620|W 3KD|W 3N8|WOLFRAM	7440-33-7	Dull gray powder or hard, brittle, steel-gray to white metal. Difficult to melt. Mp: 3410Â°C; bp; 5900Â°C. Density: 19.3 g/cm3. Used in alloys, light bulb filaments, and cutting tools. Tungsten Dust (for example, from grinding) may present a moderate fire hazard if allowed to accumulate and exposed to an ignition source.	1.0	2.5	5.0	2801.0	272.0	964.0	431.0	317.0	555.0	56.0	195.0	90.0	60.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1242	UREA HYDROGEN PEROXIDE	CARBAMIDE PEROXIDE|CARBONYL DIAMINE PEROXIDE|GLY-OXIDE|HYDROGEN PEROXIDE (H2O2), COMPOUND WITH UREA (1:1)|HYDROGEN PEROXIDE (H2O2), COMPOUNDED WITH UREA (1:1)|HYDROGEN PEROXIDE CARBAMIDE|HYDROGEN PEROXIDE, COMPOUND WITH UREA (1:1)|HYDROGEN PEROXIDE, COMPOUNDED WITH UREA (1:1)|HYDROGEN PEROXIDE-UREA ADDUCT (1:1)|HYDROGEN PEROXIDE-UREA COMPOUND (1:1)|HYDROPERIT|HYDROPERITE|HYPEROL|OPALESCENCE|ORTIZON|PERCARBAMID|PERCARBAMIDE|PERHYDRIT|PERHYDROL-UREA|THENARDOL|UREA DIOXIDE|UREA HYDROGEN PEROXIDE|UREA HYDROGEN PEROXIDE SALT|UREA	124-43-6	A solid or paste-like semisolid. Used to make plastics.	1.0	2.5	5.0	2801.0	272.0	968.0	431.0	317.0	555.0	56.0	196.0	90.0	60.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1238	TRINITROTOLUENE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1239	TRIPHENYL PHOSPHITE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Experiments conducted at Argonne showed that no gas is generated upon mixing with water. "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	STANNIC PHOSPHIDE is a reducing agent. It slowly generates flammable or noxious gases in contact with water. Reacts quickly upon contact with acids to give the very toxic gas phosphine. Can react vigorously with oxidizing materials.	Strong Reducing Agent	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1240	TRIS(2-ETHYLHEXYL) TRIMELLITATE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	STRONTIUM CHLORATE is a strong oxidizing agent. Forms a flammable mixture with combustible materials (can be ignited by friction). Such mixtures may be explosive Contact with concentrated sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Liberates explosive chlorine dioxide gas in the presence of strong acid; heating with a dibasic organic acid in the presence of moisture liberates chlorine dioxide and carbon dioxide [Bretherick 1979 p. 100]. Mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1241	TUNGSTEN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CARBOFURAN PHENOL, Compounds in this group do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing agents such as hydrides, nitrides, alkali metals, and inorganic sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1242	UREA HYDROGEN PEROXIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Carbon dioxide is water soluble, and forms carbonic acid, a mild acid in water.	(BLOB)	Highly Flammable; Explosive; Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1238	TRINITROTOLUENE																																								Class 9	C14H21NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	17.0	3.0	4.0
1239	TRIPHENYL PHOSPHITE																																							Dangerous When Wet(Poison	PSn		13.0	1.0	36.0	3.0	4.0
1240	TRIS(2-ETHYLHEXYL) TRIMELLITATE																																							Oxidizer	Sr(ClO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	16.0	1.0	28.0	3.0	4.0
1241	TUNGSTEN																																							Class 9	C10H12O2		15.0	1.0	28.0	3.0	4.0
1242	UREA HYDROGEN PEROXIDE																																							Non-Flammable Gas	CO2 (carbon dioxide)|C2H4O (ethylene oxide)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	13.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1243	URETHANE	A 11032|CARBAMIC ACID, ETHYL ESTER|ETHYL AMINOFORMATE|ETHYL CARBAMATE|ETHYL ESTER OF CARBAMIC ACID|ETHYL URETHANE|ETHYLURETHAN|ETHYLURETHANE|LEUCETHANE|LEUCOTHANE|NSC 746|O-ETHYLURETHANE|PRACARBAMIN|PRACARBAMINE|U-COMPOUND|URETAN|URETHAN|URETHANE|X 41	51-79-6	Odorless colorless crystals or white powder. Sublimes readily at 217Â°F and 54 mm Hg. Cooling saline taste.	1.0	2.5	5.0	2805.0	272.0	968.0	431.0	317.0	556.0	56.0	196.0	90.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1244	VALPROIC ACID	ABBOTT 44090|ACETIC ACID, DIPROPYL-|DEPAKENE|DEPAKINE|DI-N-PROPYLACETIC ACID|DIPROPYLACETIC ACID|DPA|EPILIM|ERGENYL|4-HEPTANECARBOXYLIC ACID|N-DIPROPYLACETIC ACID|N-DPA|2-PROPYLPENTANOIC ACID|2-PROPYLVALERIC ACID|VALERIC ACID, 2-PROPYL-|VALPROATE|VALPROIC ACID	99-66-1	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	2809.0	272.0	968.0	431.0	317.0	557.0	56.0	196.0	90.0	60.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1245	VANADIUM PENTOXIDE	C.I. 77938|CI 77938|DIVANADIUM PENTAOXIDE|DIVANADIUM PENTOXIDE|DIVANADIUM PENTOXIDE FUME|PENTAOXODIVANADIUM|VANADIA|VANADIC ANHYDRIDE|VANADIC ANHYDRIDE FUME|VANADIUM (5) OXIDE|VANADIUM (V) OXIDE|VANADIUM FUME|VANADIUM OXIDE|VANADIUM OXIDE (V2O5)|VANADIUM OXIDE (V4O10)|VANADIUM OXIDE FUME|VANADIUM PENTAOXIDE|VANADIUM PENTAOXIDE FUME|VANADIUM PENTOXIDE|VANADIUM PENTOXIDE DUST|VANADIUM(V) OXIDE	1314-62-1	A yellow to red crystalline powder. Slightly soluble in water and denser than water. Contact may cause severe irritation to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	2813.0	272.0	968.0	431.0	317.0	558.0	56.0	196.0	90.0	60.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1246	VAT BLUE 4	(BLOB)	81-77-6	PHYSICAL DESCRIPTION: Blue needles with a metallic luster or fine fluffy deep blue powder. (NTP, 1992)	1.0	2.5	5.0	2817.0	272.0	968.0	431.0	317.0	559.0	56.0	196.0	90.0	60.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 168 [Carbon Monoxide (Refrigerated Liquid)]: EXTREMELY FLAMMABLE. May be ignited by heat, sparks or flames. Flame may be invisible. Containers may explode when heated. Vapor explosion and poison hazard indoors, outdoors or in sewers. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 168 [Carbon Monoxide (Refrigerated Liquid)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1247	VERATRALDEHYDE	3,4-DIMETHOXYBENZALDEHYDE|3,4-DIMETHOXYBENZENECARBONAL|METHYLVANILLIN|40-METHYLVANILLIN|4-O-METHYLVANILLIN|P-VERATRIC ALDEHYDE|PROTOCATECHUALDEHYDE DIMETHYL ETHER|PROTOCATECHUICALDEHYDE DIMETHYL ETHER|VANILLIN METHYL ETHER|VERATRAL|VERATRALDEHYDE|VERATRIC ALDEHYDE|VERATRUM ALDEHYDE|VERATRYL ALDEHYDE	120-14-9	PHYSICAL DESCRIPTION: Needles or chunky light peach powder. Has an odor of vanilla beans. (NTP, 1992)	1.0	2.5	5.0	2821.0	272.0	968.0	431.0	317.0	560.0	56.0	196.0	90.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1243	URETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	FLUOROXENE is non-flammable but combustible. Can form explosive mixtures with air. Reacts with strong oxidizing agents.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
1244	VALPROIC ACID	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly water soluble.	STRYCHNINE is an alkaloid derivative. It is a base and forms water soluble salts with acids. Avoid alkalis, alkali carbonates and bicarbonates, benzoates, dichromates, bromides, iodides, tannic and picric acids, salicylates, borax, gold chloride and other alkaloid precipitants, piperazine, potassium-mercuric iodide. Protect from light. [EPA, 1998]. This compound is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
1245	VANADIUM PENTOXIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	FLUVALINATE is a trifluoromethyl pyrethroid. May react with acids to liberate heat. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated in contact with caustic solutions. Flammable or toxic gases may be generated by mixing with alkali metals and hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
1246	VAT BLUE 4	Excerpt from GUIDE 168 [Carbon Monoxide (Refrigerated Liquid)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	Contact of very cold liquefied gas with water may result in vigorous or violent boiling and extremely rapid vaporization. If the water is hot, a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if the liquid contacts water in a closed container [Handling Chemicals Safely 1980]. Reacts explosively with bromine trifluoride at high temperatures or concentrations [Mellor 2, Supp. 1:166 1956]. The same is true for various oxidizers such as: chlorine dioxide, oxygen (liquid), peroxodisulfuryl difluoride. Reacts with lithium to give lithium carbonyl, which detonates violently with water, igniting the gaseous products [Mellor 2, Supp 2:84 1961]. Potassium and sodium metals behave similarly. Cesium oxide, iron(III) oxide, and silver oxide all react, in the presence of moisture, at ambient temperatures with carbon monoxide causing ignition, [Mellor, 1941, vol. 2, 487].	Highly Flammable	Excerpt from GUIDE 168 [Carbon Monoxide (Refrigerated Liquid)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9202 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4						(NIOSH, 2003)		12.5		%	(NIOSH, 2003)		74		%						(NIOSH, 2003)		-337	
1247	VERATRALDEHYDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water.	CARBON TETRABROMIDE is incompatible with the following: Strong oxidizers, hexacyclohexyldilead, lithium (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1243	URETHANE	(NIOSH, 2003)		286				mm Hg							(NIOSH, 2003)		1.14				(NIOSH, 2003)		109		760		(NIOSH, 2003)		126.1													Combustible Liquid	CF3CH2OCH=CH2	Dirt/Earth	10.0	1.0	16.0	3.0	4.0
1244	VALPROIC ACID																														(NIOSH, 2003)	(as strychnine)	3	mg/m3							Poison	C21H22N2O2		15.0	1.0	30.0	3.0	4.0
1245	VANADIUM PENTOXIDE																																								Poison	C26H22CIF3N2O3	Mineral-Based & Clay-Based Absorbents	13.0	1.0	39.0	3.0	4.0
1246	VAT BLUE 4	(NIOSH, 2003)			greater than 35			atm													(NIOSH, 2003)		-313		760		(NIOSH, 2003)		28		(NIOSH, 2003)		1200	ppm	(NIOSH, 2003)		2		%		Poison Gas	Flammable Gas	CO		11.0	1.0	26.0	3.0	4.0
1247	VERATRALDEHYDE	(NIOSH, 2003)		40		205		mm Hg							(NIOSH, 2003)		3.42				(NIOSH, 2003)		374		760		(NIOSH, 2003)		331.7						(NIOSH, 2003)		0.02		%		Poison	CBr4		10.0	1.0	44.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1248	VINBLASTINE SULFATE	EXAL|2H-3,7-METHANOAZACYCLOUNDECINO[5,4-B]INDOLE, VINCALEUKOBLASTINE DERIV.|1H-INDOLIZINO[8,1-CD]CARBAZOLE, VINCALEUKOBLASTINE DERIV.|29060LE|29060 LE|NSC 49842|VELBAN|VELBE|VINBLASTINE SULFATE|VINCALEUCOBLASTINE SULFATE|VINCALEUKOBLASTINE SULFATE|VINCALEUKOBLASTINE SULFATE (1:1) (SALT)	143-67-9	PHYSICAL DESCRIPTION: An anticancer drug. White to slightly yellow crystalline powder. (NTP, 1992)	1.0	2.5	5.0	2821.0	272.0	968.0	431.0	317.0	560.0	56.0	196.0	90.0	60.0	(BLOB)	Moderate explosion hazard when exposed to heat or by spontaneous chemical reaction in the presence of alkalies if uninhibited. When heated to decomposition, it emits highly toxic fumes of cyanide and nitrogen oxides. Unstable, may explode on standing. Hazardous polymerization may occur. avoid the presence of alkalis, and exposure to heat. (EPA, 1998)	(Non-Specific -- Acetonitrile) Cool containers with flooding quantities of water. Apply water from as far away as possible. Avoid breathing vapors. Keep upwind. Wear self-contained breathing apparatus. Avoid bodily contact with the material. Wear boots, protective gloves, and goggles. (Non-Specific -- Acetonitrile) Do not extinguish fire if material is leaking and flow cannot be stopped. Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
1249	VINCRISTINE SULFATE	37231|DES-NA-METHYL-NA-FORMYLVINBLASTINE SULPHATE|2H-3,7-METHANOAZACYCLOUNDECINO[5,4-B]INDOLE, VINCALEUKOBLASTINE DERIV.|1H-INDOLIZINO[8,1-CD]CARBAZOLE, VINCALEUKOBLASTINE DERIV.|KYOCRISTINE|LCR SULPHATE|LEUROCRISTINE SULFATE|LEUROCRISTINE SULFATE (1:1)|LEUROCRISTINE SULFATE (1:1) (SALT)|LEUROCRISTINE SULPHATE|LEUROCRISTINE, SULFATE (1:1) (SALT)|LILLY 37231|NSC 67574|ONCOVIN|ONKOVIN|22-OXOVINCALEUKOBLASTINE SULFATE (1:1) (SALT)|22-OXOVINCALEUKOBLASTINE SULFATE|VCR SULFATE|VCR SULPHATE|VINCRISTINE SULFATE|VINCRISUL	2068-78-2	PHYSICAL DESCRIPTION: An anticancer drug. White to slightly yellow, amorphous or crystalline powder. Sensitive to light. Odorless. pH (0.1% solution) 3.5 - 4.5. (NTP, 1992)	1.0	2.5	5.0	2821.0	272.0	972.0	431.0	317.0	560.0	56.0	197.0	90.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1250	VINYL ACETATE	ACETIC ACID ETHENYL ESTER|ACETIC ACID VINYL ESTER|ACETIC ACID, ETHENYL ESTER|ACETIC ACID, VINYL ESTER|ACETOXYETHENE|ACETOXYETHYLENE|1-ACETOXYETHYLENE|ETHENYL ACETATE|ETHENYL ETHANOATE|PONAL|RP 251|RP 251 (ESTER)|VAC|VAM|VINYL A MONOMER|VINYL ACETATE|VINYL ACETATE HQ|VINYL ACETATE MONOMER|VINYL ACETATE, INHIBITED|VINYL ETHANOATE|VYAC|ZESET T	108-05-4	A clear colorless liquid. Flash point 18Â°F. Density 7.8 lb / gal. Slightly soluble in water. Vapors are heavier than air. Vapors irritate the eyes and respiratory system. May polymerize if heated or contaminated. If polymerization occurs inside a container, the container may violently rupture. Used to make adhesives, paints, and plastics.	2.5	5.0	2.5	2821.0	272.0	972.0	431.0	317.0	560.0	56.0	197.0	90.0	60.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1251	VINYL CHLORIDE	CHLORETHYLENE|CHLOROETHENE|1-CHLOROETHENE|CHLOROETHYLENE|1-CHLOROETHYLENE|ETHENE, CHLORO-|ETHYLENE MONOCHLORIDE|ETHYLENE, CHLORO-|MONOCHLOROETHENE|MONOCHLOROETHYLENE|MONOCHOROETHENE|VC|VCL|VCM|VINYL C MONOMER|VINYL CHLORIDE|VINYL CHLORIDE MONOMER|VINYL CHLORIDE MONOMER (VCM)|VINYL CHLORIDE, INHIBITED|VINYL CHLORIDE, STABILIZED	75-01-4	A colorless gas with a sweet odor. Easily ignited. Shipped as a liquefied gas under own vapor pressure. Contact with the unconfined liquid may cause frostbite by evaporative cooling. Leaks may be liquid or vapor. Vapors are heavier than air. May asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Suspected carcinogen. Used to make plastics, adhesives, and other chemicals.	5.0	1.0	1.0	2825.0	272.0	972.0	431.0	317.0	561.0	56.0	197.0	90.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
1252	WARFARIN SODIUM	3-(ALPHA-ACETONYLBENZYL)-4-HYDROXYCOUMARIN SODIUM SALT|3-(ALPHA-ACETONYLBENZYL)-4-HYDROXYCOUMARIN SODIUM|ATHROMBIN|COUMADIN|COUMADIN SODIUM|COUMAFENE SODIUM|COUMARIN, 3-(ALPHA-ACETONYLBENZYL)-4-HYDROXY-, SODIUM SALT|CUMADIN|2H-1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(3-OXO-1-PHENYLBUTYL)-, SODIUM SALT|MAREVAN|MAREVAN(SODIUM SALT)|PANIVARFIN|PANWARFIN|PROTHROMADIN|RATSOL SOLUBLE|SODIUM COUMADIN|SODIUM WARFARIN|SODIUM, [[2-OXO-3-(3-OXO-1-PHENYLBUTYL)-2H-1-BENZOPYRAN-4-YL]OXY]-|SODIUM,([3-(ALPHA-ACETONYLBENZYL)-2-OXO-	129-06-6	Slightly bitter crystalline powder. An anticoagulant used as a rodenticide. (EPA, 1998)	1.0	2.5	5.0	2829.0	272.0	972.0	431.0	317.0	562.0	56.0	197.0	90.0	60.0	(BLOB)	This material may burn but does not ignite readily. Container may explode in heat of fire. Hydrolyzed at pH less than 4 (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Wear self-contained breathing apparatus when fighting fire involving this material. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Carbamates Pesticide, Solid, n.o.s.) Extinguish fire using agent suitable for type of surrounding fire, as the material itself does not burn or burns with difficulty. Use water in flooding quantities as a fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1248	VINBLASTINE SULFATE	(Non-Specific -- Acetonitrile) Build dikes to contain flow as necessary. Use water spray to disperse vapors and dilute standing pools of liquid. Avoid breathing vapors. Keep upwind. Avoid bodily contact with the material. (EPA, 1998)	(BLOB)	Water soluble.	FORMALDEHYDE CYANOHYDRIN may undergo spontaneous and violent decomposition. Traces of alkali (base) promote violent polymerization [Lewis].	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200															(EPA, 1998)	Less than 98Â° F		
		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)																																	
1249	VINCRISTINE SULFATE		(BLOB)	The solution gives up formaldehyde vapors readily. These vapors are flammable over a wide vapor-air concentration range.	FORMALDEHYDE SOLUTION reacts violently with strong oxidizers (hydrogen peroxide, performic acid, perchloric acid in the presence of aniline, potassium permanganate, nitromethane). Reacts with bases (sodium hydroxide, potassium hydroxide, ammonia), and with nitrogen dioxide (explosive reaction around 180Â° C). Reacts with hydrochloric acid to form highly toxic bis(chloromethyl) ether. Polymerization reaction with phenol may develop sudden destructive pressure [Bretherick, 5th ed., 1995, p.168].	Polymerizable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NIOSH, 2003)		185		(NIOSH, 2003)		7		%	(NIOSH, 2003)		73		%								
1250	VINYL ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. Keep it away from oxidizing materials, acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	STYRENE OXIDE is incompatible with oxidizing agents. Also incompatible with acids and bases. Reacts with 4-(4'-nitrobenzyl)pyridine. Polymerizes exothermally and reacts vigorously with compounds possessing a labile hydrogen (e.g. alcohols and amines) in the presence of catalysts such as acids, bases and certain salts (NTP, 1992).	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		175															(NTP, 1992)		-35	
1251	VINYL CHLORIDE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	Highly flammable. May ignite on contact with air or moist air. Small amounts of water may greatly accelerate combustion. May burn rapidly with flare-burning effect. The severity of the fire depends on the size of the zirconium particles. Finely divided zirconium reacts with the most vigor. The initiation of a explosion has occurred by spark and by electrostatic ignition.	ZIRCONIUM, METAL, [LIQUID, SUSPENSION] is a reducing agent. Likely to react with oxidizing agents such as chromates, dichromates, sulfates, molybdates, and tungstates of lithium, sodium, potassium, rubdium, and cesium [Ellern 1968. p.249]. A mixture of hydrated borax and zirconium explodes when heated [Mellor 7:116 1946-47]. An explosion occurred when zirconium sponge was placed in a beaker of carbon tetrachloride [Allison 1969]. Zirconium explodes violently with cupric oxide or lead oxide [Mellor 7:116 1946-47]. A mixture of powdered zirconium and potassium nitrate explodes when heated above the melting point [Mellor 7:116 1946-47].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NIOSH, 2003)		3375	
1252	WARFARIN SODIUM	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard areas and deny entry. Stay upwind and keep out of low areas. Do not touch spilled material or breathe the dusts, vapors, or fumes from burning materials. Do not handle broken packages without protective equipment. Wash away any material that may have contacted the body with soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzed at pH less than 4 [EPA, 1998].	FORMETANATE HYDROCHLORIDE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(EPA, 1998)	decomposes		392 to 396

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1248	VINBLASTINE SULFATE	(EPA, 1998)		1		145.4		mm Hg	(EPA, 1998)		1.96				(NIOSH, 2003)		1.1		66		(EPA, 1998)	with slight decomposition	361		760		(EPA, 1998)		57.06						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C2H3NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	10.0	1.0	25.0	3.0	4.0
1249	VINCRISTINE SULFATE	(NIOSH, 2003)		1				mm Hg													(NIOSH, 2003)		214		760		(NIOSH, 2003)	Varies			(NIOSH, 2003)	; A potential human carcinogen.	20	ppm	(NIOSH, 2003)	Miscible					Corrosive	CH2O (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	11.0	1.0	24.0	3.0	4.0
1250	VINYL ACETATE	(NTP, 1992)		0.3		68		mm Hg	(NTP, 1992)		4.14				(NTP, 1992)		1.0523		61		(NTP, 1992)		381		760		(NTP, 1992)		120.15						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL		Poison	C8H8O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	53.0	4.0	4.0
1251	VINYL CHLORIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(Metal)	6.51				(NIOSH, 2003)		6471		760		(NIOSH, 2003)		91.2		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Liquid	Zr		6.0	0.0	63.0	4.0	4.0
1252	WARFARIN SODIUM	(EPA, 1998)		2.00E-08				mm Hg													(EPA, 1998)		257.8																	Poison	C11H15N3O2.ClH		14.0	1.0	50.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1253	WATER	DIHYDROGEN OXIDE|WATER	7732-18-5	A clear, nontoxic liquid composed of hydrogen and oxygen, essential for life and the most widely used solvent. Include water in a mixture to learn how it could react with other chemicals in the mixture.	2.5	5.0	2.5	2833.0	272.0	972.0	431.0	317.0	563.0	56.0	197.0	90.0	60.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1254	WOOD TURPENTINE (FLAMMABLE LIQUIDS, N.O.S.)	WOOD TURPENTINE (FLAMMABLE LIQUIDS, N.O.S.)	8006-64-2	A clear colorless liquid with a characteristic odor. Flash point 90-115Â°F. Obtained from naphtha-extraction of pine stumps. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	2833.0	272.0	976.0	431.0	317.0	563.0	56.0	198.0	90.0	60.0	(BLOB)	Flash point data for this chemical are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1255	ZINC AMMONIUM CHLORIDE	AMMONIUM CHLOROZINCATE ((NH4)2[ZNCL4])|AMMONIUM PENTACHLOROZINCATE|AMMONIUM TETRACHLOROZINCATE|AMMONIUM TETRACHLOROZINCATE(2-)|AMMONIUM ZINC CHLORIDE|AMMONIUM ZINC CHLORIDE ((NH4)3ZNCL5)|AMMONIUM ZINC CHLORIDE (2NH4CL.ZNCL2)|DIAMMONIUM TETRACHLOROZINCATE|DIAMMONIUM TETRACHLOROZINCATE(2-)|TRIAMMONIUM PENTACHLOROZINCATE|ZINC AMMONIUM CHLORIDE|ZINC CHLORIDE-AMMONIUM CHLORIDE COMPLEX (1:2)|ZINCATE(2-), TETRACHLORO-, DIAMMONIUM	14639-97-5	A complex salt. Composition varies. A white crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in welding and soldering fluxes and in galvanizing steel.	1.0	2.5	5.0	2833.0	272.0	976.0	431.0	317.0	563.0	56.0	198.0	90.0	60.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides, phosphorus oxides and sulfur oxides. This compound is a liquid organophosphorus insecticide. Container may explode in heat of fire. (EPA, 1998)	This compound is a liquid organophosphorus insecticide. Stay upwind; keep out of low areas. Move containers from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1256	ZINC BORATE	ALCANEX FR 100|BONREX FC|FRC 600|IS 9502|XPI 187|ZB 112|ZB 237|ZB 467 LITE|ZN 100	1332-07-6	A white powder of variable composition. (typically 45% ZnO, 34% B2O3 and 20% H2O). Slightly soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a fungus and mildew inhibitor, to fire proof textiles, and for other uses.	1.0	2.5	5.0	2833.0	272.0	976.0	431.0	317.0	563.0	56.0	198.0	90.0	60.0	(BLOB)	Combustible. POISONOUS GASES MAY BE PRODUCED WHEN HEATED. May form toxic fumes at high temperatures. (USCG, 1999)	Extinguish with dry chemicals, alcohol foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water. (USCG, 1999)
1257	ZINC SELENITE	ZINC SELENITE|ZINC SELENITE (ZNSE2O5)	54497-43-7		1.0	2.5	5.0	2833.0	272.0	976.0	431.0	317.0	563.0	56.0	198.0	90.0	60.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Combustible. Irritating fumes of hydrochloric acid may form in fire. Volatilizes with steam. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1253	WATER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Moderately soluble in water [Hawley].	SULFAMIC ACID reacts exothermically with bases. Aqueous solutions are acidic and corrosive.	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1254	WOOD TURPENTINE (FLAMMABLE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this container from exposure to light. Keep the container tightly closed under an inert atmosphere and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be unstable if exposed for long periods air and light (NTP, 1992). Slightly water soluble.	SULFANILAMIDE is an amino acid. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May react with azo and diazo compounds to generate toxic gases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		329 to 331
1255	ZINC AMMONIUM CHLORIDE	This compound is a liquid organophosphorus insecticide. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as FOSTHIETAN, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
1256	ZINC BORATE	Avoid contact with solid and dust. Keep people away. Wear rubber overclothing (including gloves). Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Turns brown on exposure to air and light, especially when moist. Water soluble. Aqueous solutions soon turn brown on exposure to air and light.	POISONOUS GASES MAY BE PRODUCED WHEN HEATED. CATECHOL may form toxic fumes at high temperatures. (USCG, 1999). This compound can react with acid chlorides, acid anhydrides, bases and oxidizing agents. It reacts violently on contact with concentrated nitric acid. It acts as a reducing agent (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		261		(USCG, 1999)	Not Applicable. Combustible solid.				(USCG, 1999)	Not Applicable. Combustible solid									(NTP, 1992)		221	
1257	ZINC SELENITE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water. Reacts slowly in water to form hydrochloric and pyruvic acids.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		46	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1253	WATER																																								Corrosive	HSO3NH2		16.0	1.0	37.0	3.0	4.0
1254	WOOD TURPENTINE (FLAMMABLE LIQUIDS, N.O.S.)														(NTP, 1992)		1.08		68								(NTP, 1992)		172.22						(NTP, 1992)	at 72Â° F		0.1 to 1.0	mg/mL		Corrosive	C6H8N2O2S		11.0	1.0	17.0	3.0	4.0
1255	ZINC AMMONIUM CHLORIDE	(EPA, 1998)		6.50E-06		77		mm Hg							(EPA, 1998)		1.3		77								(EPA, 1998)		241.28												Poison	C6H12N O3PS2	Mineral-Based & Clay-Based Absorbents	11.0	1.0	16.0	3.0	4.0
1256	ZINC BORATE	(NTP, 1992)	; 10 mm Hg at 244.9Â° F	5		219		mm Hg	(NTP, 1992)		3.79				(USCG, 1999)		1.344		68		(NTP, 1992)	(sublimes)	473		760		(NTP, 1992)		110.11						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL	CTC	Poison	C6H6O2		11.0	1.0	32.0	3.0	4.0
1257	ZINC SELENITE	(USCG, 1999)		5.07		160		mm Hg	(USCG, 1999)		4.9										(USCG, 1999)		374		760		(USCG, 1999)		143						(NIOSH, 2003)		50		%	DLP	Corrosive	C3H4Cl2O2		11.0	1.0	20.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1258	ZINC SULFIDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	ZINC SULFIDE|ZINC SULFIDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)|ZINC SULPHIDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	1314-98-3	A yellowish-white powder in a liquid. Insoluble in water and denser than water. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.	1.0	2.5	5.0	2837.0	272.0	976.0	431.0	317.0	564.0	56.0	198.0	90.0	60.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating oxides of sulfur are formed. Carbon disulfide may be formed from unburned material. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1259	ZIRAM	(BLOB)	137-30-4	PHYSICAL DESCRIPTION: Odorless white powder. (NTP, 1992)	1.0	2.5	5.0	2837.0	272.0	976.0	435.0	317.0	564.0	56.0	198.0	91.0	60.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1260	ZIRCONIUM METAL, LIQUID, SUSPENSION	ZIRCONIUM ELEMENT|ZIRCONIUM METAL, LIQUID, SUSPENSION|ZIRCONIUM SUSPENDED IN A FLAMMABLE LIQUID|ZIRCONIUM SUSPENDED IN A LIQUID (FLAMMABLE)|ZIRCONIUM, METAL, [LIQUID, SUSPENSIONS]	7440-67-7	Powdered or finely divided metal suspended in a flammable organic solvent. Dry powder left after the evaporation of the solvent is easily ignited. Static electricity may be sufficient to ignite the powder.	1.0	2.5	5.0	2841.0	272.0	976.0	435.0	317.0	565.0	56.0	198.0	91.0	60.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1261	ZIRCONIUM POWDER WET	ZIRCONIUM ELEMENT|ZIRCONIUM METAL, [WET, CHEMICALLY PRODUCED, FINER THAN 20 MESH PARTICLE SIZE]|ZIRCONIUM METAL, [WET, MECHANICALLY PRODUCED, FINER THAN 270 MESH PARTICLE SIZE]|ZIRCONIUM METAL: ZIRCONIUM|ZIRCONIUM POWDER WET|ZIRCONIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	7440-67-7	A gray amorphous sludge with not less than 25% water.	1.0	2.5	5.0	2841.0	272.0	976.0	435.0	317.0	565.0	56.0	198.0	91.0	60.0			
1262	ZIRCONIUM POWDER, DRY	ZIRCONIUM ELEMENT|ZIRCONIUM METAL, [DRY, CHEMICALLY PRODUCED, FINER THAN 20 MESH PARTICLE SIZE]|ZIRCONIUM METAL: ZIRCONIUM|ZIRCONIUM POWDER, DRY	7440-67-7	A gray amorphous powder. May ignite spontaneously and burn with explosive violence. Ignitable by static electricity. Small amounts of moisture may promote the ignition of zirconium. Continues to burn despite immersion in water and does so with greater intensity than in air. Used to make corrosion-resistant alloys, in pyrotechnics, and for many other uses.	1.0	2.5	5.0	2841.0	272.0	976.0	435.0	317.0	565.0	56.0	198.0	91.0	60.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1258	ZINC SULFIDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water. Decomposes in acidic media to give toxic products. Decomposes to an extent on prolonged exposure to heat, air or moisture.	THIRAM is incompatible with oxidizing materials and strong acids. Also incompatible with strong alkalis and nitrating agents (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		280														(NTP, 1992)			311 to 313
1259	ZIRAM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Freely soluble in water.	[[Details on specifics of reactivity not yet available.]]						0																							
1260	ZIRCONIUM METAL, LIQUID, SUSPENSION	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Likely to be water soluble.	CHLORATE, [WET] is an oxidizing agent. In the presence of strong acid can liberate explosive chlorine dioxide gas. Heating a moist metal chlorate and a dibasic organic acid liberates chlorine dioxide and carbon dioxide [Bretherick 1979 p. 100]. Mixtures of chlorates with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination of finely divided aluminum with finely divided chlorates of barium, calcium, magnesium, potassium, sodium or zinc can explode by heat, percussion, and friction [Mellor 2:310 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1261	ZIRCONIUM POWDER WET			No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,2-DIHYDROPEROXYPROPANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent						0																							
1262	ZIRCONIUM POWDER, DRY	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	Acidic salt of an amine. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1258	ZINC SULFIDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	(NTP, 1992)	approximately	0		68		mm Hg							(USCG, 1999)		1.43		68		(NTP, 1992)		264		20		(NTP, 1992)		240.44		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	at 72Â° F		less than 1	mg/mL	THR	Poison	C6H12N2S4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	12.0	1.0	18.0	3.0	4.0
1259	ZIRAM																									(NTP, 1992)		445.21						(NTP, 1992)	at 68.9Â° F		greater than or equal to 100	mg/mL			C15H16C12N2O8.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	30.0	3.0	4.0
1260	ZIRCONIUM METAL, LIQUID, SUSPENSION																																								Oxidizer	ClO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0
1261	ZIRCONIUM POWDER WET																																									C3H8O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0
1262	ZIRCONIUM POWDER, DRY																									(NTP, 1992)		336.22						(NTP, 1992)	at 66Â° F		1 to 5	mg/mL			C16H14ClN3O.ClH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	10.0	1.0	19.0	3.0	4.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1263	ZIRCONIUM SCRAP	ZIRCONIUM SCRAP	7440-67-7	A lustrous, grayish metallic solid. May ignite spontaneously and burn with explosive violence. May ignite by static electricity. Burns immersed in water and does so with greater intensity than if burned in air.	1.0	2.5	5.0	2845.0	272.0	976.0	435.0	317.0	566.0	56.0	198.0	91.0	60.0	(BLOB)	This chemical will burn when subject to direct flame, but is self-extinguishing when the flame is removed. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1264	ZIRCONIUM, DRY, COILED WIRE, FINISHED METAL SHEETS OR STRIPS	ZIRCONIUM ELEMENT|ZIRCONIUM, DRY, COILED WIRE, FINISHED METAL SHEETS OR STRIPS	7440-67-7	A grayish-white hard lustrous metal. Specific gravity 6.4. Melting point about 3362Â°F (1850Â°C). Insoluble in water. Low toxicity.	1.0	2.5	5.0	2845.0	272.0	976.0	435.0	317.0	566.0	56.0	198.0	91.0	60.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1265	ZIRCONIUM, DRY, FINISHED SHEETS, STRIPS OR COILED WIRE	ZIRCONIUM ELEMENT|ZIRCONIUM, DRY, FINISHED SHEETS, STRIPS OR COILED WIRE	7440-67-7	Hard lustrous grayish crystalline scales or gray amorphous powder.	1.0	2.5	5.0	2849.0	272.0	976.0	435.0	317.0	567.0	56.0	198.0	91.0	60.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1266	(-)-NICOTINE	BETA-PYRIDYL-ALPHA-N-METHYLPYRROLIDINE|BLACK LEAF|BLACK LEAF 40|DESTRUXOL ORCHID SPRAY|EMO-NIK|ENT 3,424|FLUX MAAG|FUMETOBAC|FUMETOBAC|L-3-(1-METHYL-2-PYRROLIDYL)PYRIDINE|L-NICOTINE|MACH-NIC|MACHNIC|1-METHYL-2-(3-PYRIDYL)PYRROLIDINE|(-)-3-(1-METHYL-2-PYRROLIDYL)PYRIDINE|NIAGARA P.A. DUSTINIAGARA PA DUST|NIC-SAL|NICO-DUST|NICO-FUME|NICOCIDE|NICOTIN|NICOTINE ALKALOID|NICOTINE AND SALTS|NICOTINE COMPOUND, LIQUID, N.O.S.|NICOTINE PREPARATION, LIQUID, N.O.S.|(-)-NICOTINE|NICOTINE, [LIQUID]|ORTHO N-4 DUST|ORTHO N-5 DUST|PYRIDINE, 3-(1-	54-11-5	Liquids. Toxic by inhalation, ingestion, and skin absorption. More dense than water. Flash points usually below 140Â°F. Contact may irritate skin, eyes, and mucous membranes. If available, obtain the technical name of the material from the shipping papers and contact CHEMTREC, (800-424-9300) for specific response information.	2.5	5.0	2.5	2849.0	272.0	976.0	435.0	317.0	567.0	56.0	198.0	91.0	60.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
1267	(3-METHYLBUTOXY)ACETIC ACID, 2-PROPENYL ESTER	ACETIC ACID, (3-METHYLBUTOXY)-, 2-PROPENYL ESTER|ALLYL AMYL GLYCOLATE|(3-METHYLBUTOXY)ACETIC ACID, 2-PROPENYL ESTER	67634-00-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	2852.0	272.0	979.0	435.0	317.0	568.0	56.0	199.0	91.0	60.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1268	(E)-1,4-DIBROMO-2-BUTENE	2-BUTENE, 1,4-DIBROMO-, (E)-|2-BUTENE, 1,4-DIBROMO-, TRANS-|1,4-DIBROMO-(E)-2-BUTENE|1,4-DIBROMO-TRANS-2-BUTENE|DIBROMOBUTENE|(E)-1,4-DIBROMO-2-BUTENE|TRANS-1,4-DIBROMO-2-BUTENE|TRANS-1,4-DIBROMOBUT-2-ENE|1,4-TRANS-DIBROMOBUTENE-2	821-06-7	PHYSICAL DESCRIPTION: Crystals or white crystalline solid. (NTP, 1992)	2.5	5.0	2.5	2852.0	272.0	979.0	435.0	317.0	568.0	56.0	199.0	91.0	60.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Avoid iron, steel, and brass. Stable when stored in glass or polyethylene lined containers. Avoid alkaline aqueous solutions. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1263	ZIRCONIUM SCRAP	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLORENDIC ACID readily forms salts with a variety of metals (NTP, 1992).								0																				(NTP, 1992)			406 to 410
1264	ZIRCONIUM, DRY, COILED WIRE, FINISHED METAL SHEETS OR STRIPS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An alcohol and a ketone. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.								0																							
1265	ZIRCONIUM, DRY, FINISHED SHEETS, STRIPS OR COILED WIRE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NTP, 1992)		167		(NTP, 1992)		1.8		%	(NTP, 1992)		16.3		%	(USCG, 1999)		736		(NTP, 1992)		-24	
1266	(-)-NICOTINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Light sensitive. Air sensitive. Slightly soluble in water.	FUROSEMIDE may undergo hydrolysis at sufficiently low pH. The pH of aqueous solutions should be maintained in the basic range to prevent hydrolysis. Alcohol has been shown to improve the stability of this compound. Incompatible with strong oxidizing agents (NTP, 1992).					4.00	1.00	1.00	2																			(NTP, 1992)	(decomposes)	403	
1267	(3-METHYLBUTOXY)ACETIC ACID, 2-PROPENYL ESTER	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Less dense than water and soluble in water.	FUSEL OIL has a high degree of its composition containing various alcohols. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	1.00	0.00	1																							
1268	(E)-1,4-DIBROMO-2-BUTENE	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) In case of spill or leak, do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. Keep unnecesary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly soluble in water.	Organophosphates, such as CHLORFENVINFOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	0.00	0.00	0																						(EPA, 1998)		-9 to -2

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1263	ZIRCONIUM SCRAP														(NTP, 1992)		0.95				(NTP, 1992)						(NTP, 1992)		388.83						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C9H4Cl6O4	Dirt/Earth	10.0	1.0	19.0	3.0	4.0
1264	ZIRCONIUM, DRY, COILED WIRE, FINISHED METAL SHEETS OR STRIPS																				(NTP, 1992)			338 to 347	1		(NTP, 1992)		244.25													C14H12O4		10.0	1.0	19.0	3.0	4.0
1265	ZIRCONIUM, DRY, FINISHED SHEETS, STRIPS OR COILED WIRE	(NTP, 1992)	; 1 mm Hg at 89.2Â° F	0.4		68		mm Hg	(NTP, 1992)		3.4				(USCG, 1999)		1.13		68		(NTP, 1992)		338		760		(NTP, 1992)		98.1		(NIOSH, 2003)		75	ppm	(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	FAL	Poison	C5H6O2	Cellulose-Based Absorbents	10.0	1.0	19.0	3.0	4.0
1266	(-)-NICOTINE																				(NTP, 1992)						(NTP, 1992)		330.76						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C12H11CIN2O5S	Mineral-Based & Clay-Based Absorbents	9.0	0.0	16.0	3.0	3.0
1267	(3-METHYLBUTOXY)ACETIC ACID, 2-PROPENYL ESTER																																							Flammable Liquid		Cellulose-Based Absorbents	5.0	0.0	14.0	3.0	3.0
1268	(E)-1,4-DIBROMO-2-BUTENE	(EPA, 1998)		4.00E-06		68		mm Hg							(EPA, 1998)		1.36		59.9		(EPA, 1998)			333 to 338		0.5	(EPA, 1998)		359.56											Poison	C12H14CI3O4P	Dirt/Earth	7.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1269	1-(2H)-PHTHALAZINONE	1-(2H)-PHTHALAZINONE|1-HYDROXYPHTHALAZINE|1-OXOPHTHALAZINE|PHTHALAZIN-1-ONE|1-PHTHALAZINOL|PHTHALAZINONE|PHTHALAZONE	119-39-1	PHYSICAL DESCRIPTION: Pale yellow crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	2852.0	272.0	982.0	435.0	317.0	568.0	56.0	200.0	91.0	60.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
1270	1,1',1"-NITRILOTRIS-2-BUTANOL	2-BUTANOL, 1,1',1"-NITRILOTRI-|1,1',1"-NITRILOTRI-2-BUTANOL|1,1',1"-NITRILOTRIS-2-BUTANOL|TRIS(SEC-BUTANOLAMINE)	122-20-3		2.5	5.0	2.5	2852.0	272.0	982.0	435.0	317.0	568.0	56.0	200.0	91.0	60.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1271	1,1,2,2-TETRACHLOROETHANE	ACETOSOL|ACETYLENE TETRACHLORIDE|BONOFORM|BOROFORM|CELLON|1,1-DICHLORO-2,2-DICHLOROETHANE|F 130|F 130 (HALOCARBON)|NCI-C03554|S-TETRACHLOROETHANE|SYM-TETRACHLOROETHANE|SYMMETRICAL TETRACHLOROETHANE|TCA|TCE|1,1,2,2-TCE|TETRACHLORETHANE|1,1,2,2-TETRACHLORETHANE|TETRACHLOROETHANE|1,1,2,2-TETRACHLOROETHANE|WESTRON	79-34-5	Colorless to pale yellow liquid with a sweet odor. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	2852.0	272.0	982.0	435.0	320.0	568.0	56.0	200.0	91.0	61.0	(BLOB)	Emits toxic chloride fumes when heated to decomposition. Decomposes upon sufficient heating. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1272	1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE	1,1-BIS(TERT-BUTYL)-3,3,5-TRIMETHYLCYCLOHEXANE PEROXIDE|1,1-BIS(TERT-BUTYLDIOXY)-3,3,5-TRIMETHYLCYCLOHEXANE|1,1-BIS(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE|1,1-BIS(TERT-BUTYLPEROXY)-3,5,5-TRIMETHYLCYCLOHEXANE|1,1-DI(T-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE|1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE, [TECHNICALLY PURE]|1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE|1,1-DI-TERT-BUTYLPEROXY-3,3,5-TRIMETHYLCYCLOHEXANE|GEM-BIS(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYLCYCLOHEXANE|GEM-DI-TERT-BUTYLPEROXY-3,3,5-	6731-36-8	A liquid. Generally stored or shipped with not more than 58% inert solid because of the explosion hazard it represents.	2.5	5.0	2.5	2852.0	272.0	982.0	435.0	320.0	568.0	56.0	200.0	91.0	61.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1273	1,1-DICHLORO-1,2,2-TRIFLUOROETHANE	1,1-DICHLORO-1,2,2-TRIFLUOROETHANE|HCFC-123B	306-83-2	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	2852.0	272.0	982.0	435.0	320.0	568.0	56.0	200.0	91.0	61.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1274	1,1-DICHLORO-1-FLUOROETHANE	CFC 141B|CG 141B|DAIFLON 141B|1,1-DICHLORO-1-FLUOROETHANE|DICHLORO FLUOROETHANE|F 141B|1-FLUORO-1,1-DICHLOROETHANE|FORANE 141B|FRON 141B|HCFC 141B|HCFC-141B|HFA 141B|ISOTRON 141B|R 141B|REFRIGERANT 141B|SOLKANE 141B	1717-00-6	Colorless liquid at ambient conditions.	2.5	5.0	2.5	2852.0	272.0	982.0	435.0	320.0	568.0	56.0	200.0	91.0	61.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1269	1-(2H)-PHTHALAZINONE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	2,2-DIMETHYLPROPANE may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Burns exothermically if heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2.00	4.00	0.00	4																								
1270	1,1',1"-NITRILOTRIS-2-BUTANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(3-METHYLBUTOXY)ACETIC ACID, 2-PROPENYL ESTER may react with strong oxidizing acids sufficiently exothermically to ignite the reaction products. Also generates heat with caustic solutions. May generate flammable hydrogen with alkali metals, hydrides, and other reducing agents.				2.00	1.00	1.00	2		(NTP, 1992)		154																			
1271	1,1,2,2-TETRACHLOROETHANE	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	GALLIUM TRICHLORIDE acts as a weak inorganic acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	1.00	1.00	2																							(EPA, 1998)		172	
1272	1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)				2.00	3.00	3.00	6		(NTP, 1992)		340																	(NTP, 1992)		261 to 264
1273	1,1-DICHLORO-1,2,2-TRIFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Slightly water soluble.	Reacts with steam and strong acids to hazardous vapors. (NTP, 1992).				3.00	1.00	1.00	2																						
1274	1,1-DICHLORO-1-FLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An unsaturated aliphatic hydrocarbon and an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			(NFPA, 2010)		2.00	1.00	0.00	1																						(NTP, 1992)		less than 5

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1269	1-(2H)-PHTHALAZINONE																																								Flammable Gas	C5H12		7.0	0.0	14.0	3.0	3.0
1270	1,1',1"-NITRILOTRIS-2-BUTANOL														(NTP, 1992)		0.941		68								(NTP, 1992)		186.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H18O3	Dirt/Earth	7.0	0.0	18.0	3.0	3.0
1271	1,1,2,2-TETRACHLOROETHANE														(EPA, 1998)		2.47		77		(EPA, 1998)		394		760		(EPA, 1998)		176.07											Corrosive	Cl3Ga		5.0	0.0	12.0	3.0	3.0
1272	1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE	(NTP, 1992)			less than 1	68		mm Hg	(NTP, 1992)		5.73				(NTP, 1992)		1.05				(NTP, 1992)		563		760		(NTP, 1992)		166.22						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C10H14O2		9.0	0.0	17.0	3.0	3.0
1273	1,1-DICHLORO-1,2,2-TRIFLUOROETHANE																										(NTP, 1992)		277.74						(NTP, 1992)	Slightly soluble						C2Br3N		8.0	0.0	14.0	3.0	3.0
1274	1,1-DICHLORO-1-FLUOROETHANE														(NTP, 1992)		0.8894		68		(NTP, 1992)		446		760		(NTP, 1992)		154.26												C10H18O	Cellulose-Based Absorbents|Dirt/Earth	9.0	0.0	21.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1275	1,1-DIFLUOROETHANE	ALGOFRENE 67|DIFLUOROETHANE|1,1-DIFLUOROETHANE|DYMEL 152|DYMEL 152A|ETHANE, 1,1-DIFLUORO-|ETHYLIDENE DIFLUORIDE|ETHYLIDENE FLUORIDE|F 152A|FC 152A|FKW 152A|FRON 152A|GENETRON 152A|HCFC 152A|HFA 152A|HFC 152A|R 152A|REFRIGERANT 152A|REFRIGERANT GAS R-152A	75-37-6	1,1-Difluoroethane is colorless, odorless gas shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. Its vapors are heavier than air and a flame can travel back to the source of leak very easily. This leak can be either a liquid or vapor leak. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	2855.0	272.0	982.0	438.0	320.0	569.0	56.0	200.0	92.0	61.0	(BLOB)	Flash point data for this chemical are not available; however it is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1276	1,2,3,4-BUTANETETRACARBOXYLIC ACID	BUTANETETRACARBOXYLIC ACID|1,2,3,4-BUTANETETRACARBOXYLIC ACID(TCB)|1,2,3,4-TETRACARBOXYBUTANE	1703-58-8	PHYSICAL DESCRIPTION: Leaflets (from water) or white powder. (NTP, 1992)	1.0	2.5	5.0	2858.0	272.0	982.0	444.0	320.0	570.0	56.0	200.0	94.0	61.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1277	1,2,3,6-TETRAHYDROBENZALDEHYDE	3-CYCLOHEXEN-1-ALDEHYDE|(+-.)-3-CYCLOHEXENE-1-CARBOXALDEHYDE|CYCLOHEXENE-4-CARBOXALDEHYDE|1-CYCLOHEXENE-4-CARBOXALDEHYDE|DELTA 3-TETRAHYDROBENZALDEHYDE|1-FORMYL-3-CYCLOHEXENE|4-FORMYLCYCLOHEXENE|1,2,3,6-TETRAHYDROBENZALDEHYDE|1,2,5,6-TETRAHYDROBENZALDEHYDE	100-50-5	A colorless liquid. Less dense than water and slightly soluble in water. Hence floats on water. Irritates skin, eyes and mucous membranes. Used to make fabrics water resistant, and to make other chemicals.	2.5	5.0	2.5	2861.0	272.0	982.0	444.0	320.0	571.0	56.0	200.0	94.0	61.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1278	1,2,3-TRICHLOROBENZENE	BENZENE, 1,2,3-TRICHLORO-|PYRANOL 1478|1,2,3-TRICHLOROBENZENE|1,2,6-TRICHLOROBENZENE|V-TRICHLOROBENZENE|VIC-TRICHLOROBENZENE	87-61-6	A white solid with a sharp chlorobenzene odor. Insoluble in water and denser than water. Hence sinks in water. Melting point 63-64Â°C (145-147Â°F).	1.0	2.5	5.0	2861.0	272.0	982.0	444.0	320.0	571.0	56.0	200.0	94.0	61.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1279	1,2,3-TRICHLOROPROPANE	ALLYL TRICHLORIDE|GLYCEROL TRICHLORHYDRIN|GLYCEROL TRICHLOROHYDRIN|GLYCERYL TRICHLOROHYDRIN|NCI-C60220|PROPANE, 1,2,3-TRICHLORO|PROPANE, 1,2,3-TRICHLORO-|TRICHLOROHYDRIN|1,2,3-TRICHLOROPROPANE	96-18-4	Colorless liquid with a strong acid odor. Denser than water and slightly soluble in water. Hence sinks in water. (USCG, 1999)	2.5	5.0	2.5	2864.0	272.0	982.0	444.0	320.0	572.0	56.0	200.0	94.0	61.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1280	1,2,4-TRIMETHYLBENZENE	ASSYMETRICAL TRIMETHYLBENZENE|ASYMMETRICAL TRIMETHYLBENZENE|METHYL-P-XYLENE|PSEUDOCUMENE|PSEUDOCUMOL|PSI-CUMENE|PSICUMENE|1,2,4-TRIMETHYLBENZENE|1,2,5-TRIMETHYLBENZENE|1,3,4-TRIMETHYLBENZENE	95-63-6	A liquid. Flash point near 130Â°F. Less dense than water and insoluble in water. Vapors irritate eyes, throat, and nose. Used in dyes and pharmaceuticals.	2.5	5.0	2.5	2867.0	272.0	985.0	444.0	320.0	573.0	56.0	201.0	94.0	61.0	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1275	1,1-DIFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. (Ni) Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	This chemical oxidizes on heating with air. Insoluble in water.	TUNGSTEN CARBIDE reacts violently with F2, ClF3, IF5, PbO2, NO2 and N2O (oxidants). It is readily attacked by a nitric acid-hydrofluoric acid mixture. May ignite in cold fluorine. (NTP, 1992).		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	2.00	0.00	2																							(NTP, 1992)			4946 to 5126
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)																																		
1276	1,2,3,4-BUTANETETRACARBOXYLIC ACID			Insoluble in water.	2,3,4,6-TETRACHLOROPHENOL reacts as a weak organic acid and is incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. May generate heat with bases. Such heating may initiate polymerization.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	0.00	0.00	0																							(NTP, 1992)		158	
1277	1,2,3,6-TETRAHYDROBENZALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	(BLOB)					2.00	2.00	0.00	2																			(NTP, 1992)		207.5	
1278	1,2,3-TRICHLOROBENZENE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive.	TRINITROANILINE is a nitrated amine. Materials in this group range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)			1.00	0.00	0.00	0																												
1279	1,2,3-TRICHLOROPROPANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Hygroscopic.	GLYCEROL ALPHA-MONOCHLOROHYDRIN is hygroscopic and may be sensitive to prolonged exposure to air. Glycols and their ethers undergo violent decomposition in contact with approximately 70% perchloric acid. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	2.00	0.00	2		(NTP, 1992)		138																	(NTP, 1992)		-40	
1280	1,2,4-TRIMETHYLBENZENE	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	(BLOB)	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	2.00	0.00	2																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1275	1,1-DIFLUOROETHANE														(NTP, 1992)		15.6		64		(NTP, 1992)		10832		760		(NTP, 1992)		195.86						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Flammable Solid	C.W|CW		8.0	0.0	19.0	3.0	3.0
1276	1,2,3,4-BUTANETETRACARBOXYLIC ACID	(NTP, 1992)	; 60 mm Hg at 374Â° F: 400 mm Hg at 482Â° F	1		212		mm Hg							(NTP, 1992)		1.839		77		(NTP, 1992)		302		15		(NTP, 1992)		231.89						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H2Cl4O		7.0	0.0	11.0	3.0	3.0
1277	1,2,3,6-TETRAHYDROBENZALDEHYDE	(NTP, 1992)	; 10 mm Hg at 384.8Â° F	1		311.9		mm Hg							(NTP, 1992)		1.424		77		(NTP, 1992)	(decomposes)		576 to 579	760		(NTP, 1992)		132.12						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C5H8O4		5.0	0.0	12.0	3.0	3.0
1278	1,2,3-TRICHLOROBENZENE																																								Explosive 1.1D	C6H4N4O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	14.0	3.0	3.0
1279	1,2,3-TRICHLOROPROPANE	(NTP, 1992)		3.75		77		mm Hg							(NTP, 1992)		1.326		64		(NTP, 1992)	(decomposes)	415		760		(NTP, 1992)		110.54						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C3H7ClO2	Cellulose-Based Absorbents	7.0	0.0	14.0	3.0	3.0
1280	1,2,4-TRIMETHYLBENZENE																																								Flammable Liquid|Poison	C3H4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1281	1,2-DICHLOROPROPANE	ALPHA,BETA-DICHLOROPROPANE|ALPHA,BETA-PROPYLENE DICHLORIDE|1,2-DCP|DICHLOROPROPANE|1,2-DICHLOROPROPANE|ENT 15,406|NCI-C55141|PROPANE 1,2-DICHLORO-|PROPYLENE CHLORIDE|PROPYLENE DICHLORIDE|R 270DA	78-87-5	Colorless watery liquid with a sweet odor. Sinks in water. Produces an irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2867.0	272.0	985.0	447.0	320.0	573.0	56.0	201.0	95.0	61.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1282	1,2-DIPHENYLHYDRAZINE	BENZENE, 1,1'-HYDRAZOBIS-|DIPHENYLHYDRAZINE|1,2-DIPHENYLHYDRAZINE|DPH|HYDRAZINE, 1,2-DIPHENYL-|HYDRAZOBENZENE|HYDRAZODIBENZENE|1,1'-HYDRAZODIBENZENE|N,N'-BIANILINE|N,N'-DIPHENYLHYDRAZINE|NCI-C01854|SYM)-DIPHENYLHYDRAZINE	122-66-7	PHYSICAL DESCRIPTION: Orange powder or a bright orange crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2867.0	272.0	985.0	450.0	320.0	573.0	56.0	201.0	96.0	61.0	(BLOB)	(BLOB)	Wear self-contained breathing apparatus and full protective clothing. Move container from fire area. Stay away from ends of tanks. Cool containers that are exposed to flames with water from the side until well after the fire is out. Isolate area until gas has dispersed. Keep unnecessary people away. Not flammable. Extinguish fires with dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
1283	1,2-PHENYLENEDIAMINE	2-AMINOANILINE|1,2-BENZENEDIAMINE|C.I. 76010|C.I. OXIDATION BASE 16|1,2-DIAMINOBENZENE|IK 3|IK 3 (AMINE)|O-AMINOANILINE|O-AMINOPHENYLAMINE|O-BENZENEDIAMINE|O-DIAMINOBENZENE|O-PHENYLENEDIAMINE|ORTHAMINE|ORTHO-DIAMINOBENZENE|ORTHO-PHENYLENEDIAMINE|1,2-PHENYLENEDIAMINE	95-54-5	PHYSICAL DESCRIPTION: Colorless monoclinic crystals if pure; technical grade brownish-yellow crystals or a sandy brown solid. Used in manufacture of dyes, photography, organic synthesis.	1.0	2.5	5.0	2867.0	272.0	985.0	450.0	320.0	573.0	56.0	201.0	96.0	61.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Fire and runoff from control water may produce irritating or poisonous gases. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1284	1,2-PROPYLENEDIAMINE	(.+-.)-1,2-DIAMINOPROPANE|1,2-DIAMINOPROPANE|2,3-DIAMINOPROPANE|DL-1,2-PROPANEDIAMINE|DL-1,2-PROPYLENEDIAMINE|1-METHYL-1,2-DIAMINOETHANE|1,2-PROPANEDIAMINE|PROPYLENEDIAMINE|1,2-PROPYLENEDIAMINE|1,3-PROPYLENEDIAMINE|(RS)-1,2-PROPANEDIAMINE	78-90-0	A colorless liquid with an ammonia-like odor. Strongly irritates skin and tissue.	2.5	5.0	2.5	2867.0	272.0	985.0	450.0	320.0	573.0	56.0	201.0	96.0	61.0	(BLOB)	Flash point data are not available for this chemical; however it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1285	1,3,5-TRICHLOROBENZENE	S-TRICHLOROBENZENE|SYM-TRICHLOROBENZENE|SYMMETRICAL TRICHLOROBENZENE|1,3,5-TRICHLOROBENZENE	108-70-3	PHYSICAL DESCRIPTION: White to off-white crystals. (NTP, 1992)	1.0	2.5	5.0	2870.0	275.0	985.0	450.0	323.0	574.0	57.0	201.0	96.0	62.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1286	1,3,5-TRIS(2-HYDROXYETHYL)TRIAZINE-2,4,6-TRIONE	ISOCYANURIC ACID TRIS(2-HYDROXYETHYL) ESTER|N,N',N''-TRIS(2-HYDROXYETHYL) ISOCYANURATE|S-TRIAZINE 2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRIS(2-HYDROXYETHYL)-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIS(2-HYDROXYETHYL)-|THEIC|TRIS(2-HYDROXYETHYL) CYANURATE|1,3,5-TRIS(2-HYDROXYETHYL) CYANURATE|TRIS(2-HYDROXYETHYL) ISOCYANURATE|1,3,5-TRIS(2-HYDROXYETHYL) ISOCYANURATE|1,3,5-TRIS(2-HYDROXYETHYL) ISOCYANURIC ACID|1,3,5-TRIS(2-HYDROXYETHYL)CYANURIC ACID|1,3,5-TRIS(2-HYDROXYETHYL)TRIAZINE-2,4,6-TRIONE|TRIS(BETA-HYDROXYETHYL) ISOCYANURATE|TRIS(HYDROXYETHYL)	839-90-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	2870.0	275.0	985.0	450.0	323.0	574.0	57.0	201.0	96.0	62.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1281	1,2-DICHLOROPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Aqueous solution is acid to litmus.	GUM ARABIC reacts with strong oxidizing agents. It precipitates out of solution or jellies upon addition of solutions of ferric salts, borax, basic lead acetate, alcohol, sodium silicate, gelatin or ammoniated tincure of guaiac. (NTP, 1992)				1.00	0.00	0.00	0																								
1282	1,2-DIPHENYLHYDRAZINE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: If chemical is in liquid form, work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Dissolves in water to form sulfurous acid, a corrosive liquid. Moist sulfur dioxide is very corrosive due to the slow formation of sulfuric acid [Handling Chemicals Safely 1980 p. 876].	(BLOB)	Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1079 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	0.00	0.00	0																	(USCG, 1999)	Not flammable			(EPA, 1998)		-98.9	
1283	1,2-PHENYLENEDIAMINE	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water spray to reduce vapors. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly soluble in water [Farm Chemicals Handbook].	Organophosphates, such as CHLORMEPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	2.00	0.00	2																								
1284	1,2-PROPYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated aromatic, amine, and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.				3.00	3.00	1.00	4																							(NTP, 1992)		260 to 262	
1285	1,3,5-TRICHLOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then using absorbent paper transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this container from damage. Store at room temperature and protect from light. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	(BLOB)	Insoluble in water.	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD) reaacts when exposed to ultraviolet light in solution in isooctane or n-octanol. Undergoes catalytic perchlorination (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0																							(NTP, 1992)		563	
1286	1,3,5-TRIS(2-HYDROXYETHYL)TRIAZINE 2,4,6-TRIONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Highly flammable. May be sensitive to prolonged exposure to air. Very slightly water soluble.	2,3-BENZOFURAN slowly polymerizes on standing. It may be sensitive to prolonged exposure to air. This compound is polymerized by H2SO4. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	0.00	0.00	0		(NTP, 1992)		133															(NTP, 1992)		less than -0.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1281	1,2-DICHLOROPROPANE														(NTP, 1992)		1.35 to 1.45										(NTP, 1992)	(approximate)	240000						(NTP, 1992)	at 64Â° F		50 to 100	mg/mL				Cellulose-Based Absorbents	8.0	0.0	14.0	3.0	3.0
1282	1,2-DIPHENYLHYDRAZINE	(EPA, 1998)		2432		68		mm Hg	(EPA, 1998)		2.26				(EPA, 1998)		1.434				(EPA, 1998)		14		760		(EPA, 1998)		64.07		(NIOSH, 2003)		100	ppm	(NIOSH, 2003)		10		%	SFD	Poison Gas|Corrosive	SO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	16.0	3.0	3.0
1283	1,2-PHENYLENEDIAMINE	(EPA, 1998)		0.0056		86		mm Hg							(EPA, 1998)		1.26				(EPA, 1998)			178 to 185		0.1	(EPA, 1998)		234.71											Poison	C5H12ClO2PS2		9.0	0.0	33.0	3.0	3.0
1284	1,2-PROPYLENEDIAMINE																										(NTP, 1992)		197.22						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C8H11N3O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	15.0	3.0	3.0
1285	1,3,5-TRICHLOROBENZENE	(NTP, 1992)	: 0.0000000014 mm Hg at 77Â° F	6.40E-10		68		mm Hg													(NTP, 1992)	Decomposes at 932Â° F					(NTP, 1992)		321.96		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Poison	C12H4Cl4O2		6.0	0.0	16.0	3.0	3.0
1286	1,3,5-TRIS(2-HYDROXYETHYL)TRIAZINE-2,4,6-TRIONE	(NTP, 1992)		14.3		77		mm Hg							(NTP, 1992)		1.078		59		(NTP, 1992)		345		760		(NTP, 1992)		118.14						(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL		Flammable Liquid	C8H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1287	1,3-DIAMINOPROPANE	ALPHA,OMEGA-PROPANEDIAMINE|3-AMINOPROPYLAMINE|DAP|1,3-DIAMINO-N-PROPANE|1,3-DIAMINOPROPANE|1,3-PROPANEDIAMINE|1,3-PROPYLENEDIAMINE|TMEDA|TRIMETHYLENEDIAMINE|1,3-TRIMETHYLENEDIAMINE	109-76-2	PHYSICAL DESCRIPTION: Water-white mobile liquid with an odor of amine. (NTP, 1992)	2.5	5.0	2.5	2870.0	275.0	988.0	450.0	323.0	574.0	57.0	202.0	96.0	62.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1288	1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN	DACTIN|DAKTIN|DANTOCHLOR|DANTOIN|DCA|DCDMH|DDH|DICHLORANTIN|1,3-DICHLORO-5,5'-METHYLHYDANTOIN|1,3-DICHLORO-5,5-DIMETHYL-2,4-IMIDAZOLIDINEDIONE|1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN|DICHLORODIMETHYLHYDANTOIN|HALANE|HYDAN|HYDAN (ANTISEPTIC)|HYDANTOIN, 1,3-DICHLORO-5,5-DIMETHYL-|HYDANTOIN, DICHLORODIMETHYL-|N,N'-DICHLORO-5,5-DIMETHYLHYDANTOIN|N,N'-DICHLORODIMETHYLHYDANTOIN|NCI-C03054|OMCHLOR	118-52-5	PHYSICAL DESCRIPTION: White powder with a weak chlorine odor. Conflagrates at 414Â°F (turns brown). Chlorine gas evolves at temperatures > 410Â°F. (NTP, 1992)	1.0	2.5	5.0	2873.0	275.0	988.0	450.0	323.0	575.0	57.0	202.0	96.0	62.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as nitrogen oxides and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1289	1,3-DICHLOROACETONE	ALPHA,ALPHA'-DICHLOROACETONE|ALPHA,GAMMA-DICHLOROACETONE|BIS(CHLOROMETHYL) KETONE|1,3-DICHLORO-2-PROPANONE|1,3-DICHLOROACETONE|2-PROPANONE, 1,3-DICHLORO-|SYM-DICHLOROACETONE	534-07-6	A crystalline solid. Denser than water and insoluble in water. Inhalation of dust or powder may cause adverse health reactions.	1.0	2.5	5.0	2873.0	275.0	991.0	450.0	323.0	575.0	57.0	203.0	96.0	62.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
1290	1,3-DICHLOROPROPANE	1,3-DICHLOROPROPANE|TRIMETHYLENE CHLORIDE|TRIMETHYLENE DICHLORIDE	142-28-9	Colorless watery liquid with a sweet odor. Sinks in water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	2876.0	275.0	991.0	450.0	323.0	576.0	57.0	203.0	96.0	62.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1291	1,3-DIMERCAPTOPROPANE	1,3-DIMERCAPTOPROPANE|DITHIOTRIMETHYLENEGLYCOL|3-MERCAPTOPROPANETHIOL|1,3-PROPANEDIMERCAPTAN|1,3-PROPANEDITHIOL|TRIMETHYLENE DIMERCAPTAN|TRIMETHYLENEDITHIOGLYCOL|TRIMETHYLENEDITHIOL|1,3-TRIMETHYLENEDITHIOL	109-80-8	PHYSICAL DESCRIPTION: Clear orange oil with a disagreeable odor. (NTP, 1992)	2.5	5.0	2.5	2876.0	275.0	991.0	450.0	323.0	576.0	57.0	203.0	96.0	62.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1292	1,3-PENTADIENE	ALPHA-METHYLBIVINYL|CIS-PENTADIENE-1,3|1-METHYL-1,3-BUTADIENE|1-METHYLBUTADIENE|1,3-PENTADIENE|PIPERYLENE|TRANS-PENTADIENE-1,3	504-60-9	A clear colorless liquid with an acrid odor. Flash point of -20Â°F. Boiling point 5Â°F. A dangerous fire risk. Vapors are irritating to the eyes and respiratory system. Subject to polymerization if heated or contaminated. If the polymerization takes place inside a container, the container may violently rupture. Insoluble in water. Used to make intermediates and polymers.	2.5	5.0	2.5	2879.0	275.0	991.0	450.0	323.0	577.0	57.0	203.0	96.0	62.0	INHALATION: Call a physician. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with copious amounts of water for at least 15 minutes. SKIN: Wash skin with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: When heated to decomposition, it emits acrid smoke and fumes. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Alcohol foam, carbon dioxide, dry chemical, or water spray. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1287	1,3-DIAMINOPROPANE	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Chemically inert. These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	2.00	1.00	3																								
		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)																														
1288	1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Slightly soluble in water.	TRIPROPYLAMINE is incompatible with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	3.00	0.00	3		(NTP, 1992)		98		(USCG, 1999)		0.7		%	(USCG, 1999)		5.6		%	(USCG, 1999)	356			(NTP, 1992)		-136.3	
1289	1,3-DICHLOROACETONE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	This substance undergoes chemical reactions only under relatively severe circumstances. They are resistant to ignition, although they may become flammable at very high temperatures. They may be resistant to oxidation reduction, except in the most severe conditions. These materials may be nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	1.00	0.00	1																						(NIOSH, 2003)	(Sublimes)	-83	
1290	1,3-DICHLOROPROPANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Susceptible to epoxidation. Insoluble in water. Slowly losses hydrogen chloride in the presence of alkaline solution.	HEPTACHLOR is incompatible with strong alkalis. Corrosive to metals. Can react with iron and rust to form toxic gases. Can react vigorously with oxidizing materials. Susceptible to epoxidation (NTP, 1992). May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	3.00	0.00	3																						(NTP, 1992)		203 to 205	
1291	1,3-DIMERCAPTOPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-1-PENTEN-3-ONE is incompatible with strong acids, alkalis or oxidizing agents. (NTP, 1992).				1.00	2.00	0.00	2		(NTP, 1992)			greater than 200																
1292	1,3-PENTADIENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and rubber gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	HEPTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		154																(USCG, 1999)		-58.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1287	1,3-DIAMINOPROPANE																																								Non-Flammable Gas	He		9.0	0.0	21.0	3.0	3.0
1288	1,3-DICHLORO-5,5-DIMETHYLHYDANTOIN	(NTP, 1992)			less than 1	68		mm Hg	(NTP, 1992)		4.9				(USCG, 1999)		0.754		20		(NTP, 1992)		313		760		(NTP, 1992)		143.27						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	TRL	Flammable Liquid|Corrosive	C9H21N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	17.0	3.0	3.0
1289	1,3-DICHLOROACETONE	(NIOSH, 2003)		21.5				atm													(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		146.1						(NIOSH, 2003)	at 77Â° F	0.003		%		Non-Flammable Gas	F6S		8.0	0.0	18.0	3.0	3.0
1290	1,3-DICHLOROPROPANE	(NTP, 1992)		0.0003		77		mm Hg							(USCG, 1999)		1.66		68		(NTP, 1992)	Decomposes					(NTP, 1992)		373.32		(NIOSH, 2003)	; A potential human carcinogen.	35	mg/m3	(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL	HTC	Poison	C10H5Cl7	Dirt/Earth	7.0	0.0	16.0	3.0	3.0
1291	1,3-DIMERCAPTOPROPANE								(NTP, 1992)			greater than 1			(NTP, 1992)		0.93		77		(NTP, 1992)		291		16		(NTP, 1992)		206.34						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H22O	Dirt/Earth	8.0	0.0	17.0	3.0	3.0
1292	1,3-PENTADIENE														(USCG, 1999)		0.875				(USCG, 1999)		378.5		760		(USCG, 1999)		158.27										HPE	Combustible Liquid	C9H18O2		6.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1293	1,3-PHENYLENEDIAMINE	3-AMINOANILINE|APCO 2330|1,3-BENZENEDIAMINE|C.I. 76025|C.I. DEVELOPER 11|DEVELOPER 11|DEVELOPER C|DEVELOPER H|DEVELOPER M|1,3-DIAMINOBENZENE|DIRECT BROWN BR|DIRECT BROWN GG|M-AMINOANILINE|M-BENZENEDIAMINE|M-DIAMINOBENZENE|M-PHENYLENEDIAMINE|META-DIAMINOBENZENE|META-PHENYLENEDIAMINE|METAPHENYLENEDIAMINE|MPD|1,3-PHENYLENEDIAMINE	108-45-2	Colorless or white colored needles that turn red or purple in air. Melting point 64-66 C. Density 1.14 g / cm3. Flash point 280 F. May irritate skin and eyes. Toxic by skin absorption, inhalation or ingestion. Used in aramid fiber manufacture, as a polymer additive, dye manufacturing, as a laboratory reagent, and in photography.	1.0	2.5	5.0	2879.0	275.0	991.0	450.0	323.0	577.0	57.0	203.0	96.0	62.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1294	1,4-BUTANEDIOL DIGLYCIDYL ETHER	1,4-BIS(2,3-EPOXYPROPOXY) BUTANE|1,4-BIS(2,3-EPOXYPROPOXY)BUTANE|1,4-BIS(2,3-EPOXYPROPYLOXY)BUTANE|1,4-BIS(GLYCIDYLOXY)BUTANE|1,4-BUTANE DIGLYCIDYL ETHER|BUTANE, 1,4-BIS(2,3-EPOXYPROPOXY)-|BUTANE-1-4-DIOL DIGLYCIDYL ETHER|1,4-BUTANEDIOL DIGLYCYDYL ETHER|2,2'-(1,4-BUTANEDIYLBIS(OXYMETHYLENE))BIS OXIRANE|1,4-BUTYLENE GLYCOL DIGLYCIDYL ETHER|1,4-DIGLYCIDYLOXYBUTANE|TETRAMETHYLENE GLYCOL DIGLYCIDYL ETHER|[TETRAMETHYLENE BIS(OXYMETHYLENE)]DIOXIRANE	2425-79-8	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	2879.0	278.0	991.0	450.0	326.0	577.0	58.0	203.0	96.0	63.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1295	1,4-BUTYNEDIOL	BIS(HYDROXYMETHYL)ACETYLENE|2-BUTYNE-1, 4-DIOL|BUTYNEDIOL|1,4-BUTYNEDIOL|2-BUTYNEDIOL|1,4-DIHYDROXY-2-BUTYNE	110-65-6	White to light-brown solid or brownish-yellow aqueous solution. Solid sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	2879.0	278.0	991.0	450.0	326.0	577.0	58.0	203.0	96.0	63.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1296	1,4-DICHLOROBUTANE	1,4-DICHLOROBUTANE|SYM-DICHLOROBUTANE|TETRAMETHYLENE DICHLORIDE	110-56-5	PHYSICAL DESCRIPTION: Colorless mobile liquid with a mild pleasant odor. (NTP, 1992)	2.5	5.0	2.5	2882.0	278.0	991.0	450.0	326.0	578.0	58.0	203.0	96.0	63.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1297	1,4-NAPHTHOQUINONE	ALPHA-NAPHTHOQUINONE|1,4-DIHYDRO-1,4-DIKETONAPHTHALENE|1,4-NAPHTHALENEDIONE|1,4-NAPHTHOQUINONE|1,4-NAPHTHYLQUINONE|P-NAPHTHOQUINONE|USAFCY-10	130-15-4	PHYSICAL DESCRIPTION: Yellow needles or brownish green powder with an odor of benzoquinone. (NTP, 1992)	1.0	2.5	5.0	2885.0	281.0	994.0	456.0	329.0	579.0	59.0	204.0	98.0	64.0	(BLOB)	Special Hazards of Combustion Products: Highly toxic vapors. Behavior in Fire: Emits highly toxic vapors. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: None noted. Fire Extinguishing Agents: Small fires: dry chemical or CO 2 . Large fires: water fog or spray, or foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1293	1,3-PHENYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This material reacts with strong oxidizing agents and strong bases [Sigma-Aldrich MSDS].							0																			(NTP, 1992)			361 to 363
1294	1,4-BUTANEDIOL DIGLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as HEXABROMOBIPHENYL, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																			(NTP, 1992)			162
1295	1,4-BUTYNEDIOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Can react vigorously with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		255															(NTP, 1992)			142 to 144
1296	1,4-DICHLOROBUTANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	HEXACHLOROACETONE is a halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																					
1297	1,4-NAPHTHOQUINONE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Rubber gloves, self-contained breathing apparatus, protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	2,3-DICHLOROPROPENE is incompatible with strong oxidizers. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		50		(NTP, 1992)		2.6		%	(NTP, 1992)		5.6		%	(NTP, 1992)		1035		(NTP, 1992)		50	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1293	1,3-PHENYLENEDIAMINE																				(NTP, 1992)		639		760		(NTP, 1992)		146.16						(NTP, 1992)	Insoluble						C8H6N2O		9.0	0.0	34.0	3.0	3.0
1294	1,4-BUTANEDIOL DIGLYCIDYL ETHER	(NTP, 1992)		7.60E-05		194		mm Hg																		(NTP, 1992)		627.62						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Class 9	C12H4Br6		8.0	0.0	16.0	3.0	3.0
1295	1,4-BUTYNEDIOL														(NTP, 1992)		1.72				(NTP, 1992)			495 to 496	760		(NTP, 1992)		192						(NTP, 1992)	at 77Â° F		less than 0.1	mg/mL		Class 9	C6H3Cl2NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	14.0	3.0	3.0
1296	1,4-DICHLOROBUTANE																																								Poison	C3Cl6O		9.0	0.0	17.0	3.0	3.0
1297	1,4-NAPHTHOQUINONE	(NTP, 1992)		53		68		mm Hg	(NTP, 1992)		3.83				(USCG, 1999)		1.211		68		(NTP, 1992)		201		760		(NTP, 1992)		110.97						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	DPF	Flammable Liquid	C3H4Cl2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1298	1,4-PHENYLENEDIAMINE DIHYDROCHLORIDE	4-AMINOANILINE DIHYDROCHLORIDE|1,4-BENZENEDIAMINE DIHYDROCHLORIDE|C.I. 76061|C.I. OXIDATION BASE 10A|1,4-DIAMINOBENZENE DIHYDROCHLORIDE|DURAFUR BLACK RC|FOURRINE 64|FOURRINE DS|NCI-C03930|OXIDATION BASE 10A|P-AMINOANILINE DIHYDROCHLORIDE|P-BENZENEDIAMINE DIHYDROCHLORIDE|P-DIAMINOBENZENE DIHYDROCHLORIDE|P-PD HCL|P-PDA HCL|P-PHENYLENEDIAMINE HYDROCHLORIDE|P-PHENYLENEDIAMINE, DIHYDROCHLORIDE|PELAGOL CDPELAGOL GREY CD|1,4-PHENYLENEDIAMINE DIHYDROCHLORIDE	624-18-0	PHYSICAL DESCRIPTION: White to slightly reddish crystals or gray powder. (NTP, 1992)	1.0	2.5	5.0	2885.0	281.0	994.0	456.0	329.0	579.0	59.0	204.0	98.0	64.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of phosgene and chlorides. Water may cause frothing if it gets below surface of the liquid and turns to steam. Flammable/poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles, e.g., wood, paper, oil. It is corrosive to metals. Avoid heating. (EPA, 1998)	This material is extremely hazardous to health, but fire fighters may enter areas with extreme care. Full protective clothing including a self-contained breathing apparatus, coat, pants, gloves, boots and bands around legs, arms and waist should be provided. No skin surface should be exposed. Cool fire-exposed containers with water. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Water fog applied gently to surface will cause frothing which will extinguish fire. Normal fire fighting procedures may be used. Extinguish fire using agent suitable for surroundings. Material itself does not burn or burns with difficulty. For small fires use dry chemical, carbon dioxide, water spray or foam. For large fires use water spray, fog, or foam. (EPA, 1998)
1299	1,5-NAPHTHALENE DIISOCYANATE	1,5-DIISOCYANATONAPHTHALENE|NAPHTHALENE DIISOCYANATE|1,5-NAPHTHALENE DIISOCYANATE|1,5-NAPHTHALENE ESTER OF ISOCYANIC ACID|NDI	3173-72-6	White to light-yellow crystalline flakes. (NIOSH, 1997)	1.0	2.5	5.0	2885.0	281.0	994.0	456.0	329.0	579.0	59.0	204.0	98.0	64.0	(BLOB)	Literature sources indicate that this chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1300	1,5-NAPHTHALENEDIAMINE	DIAMINE, 1,5-NAPHTHALENE|1,5-DIAMINONAPHTHALENE|1,5-NAPHTHALENEDIAMINE|1,5-NAPHTHYLENEDIAMINE|NCI-C03021	2243-62-1	PHYSICAL DESCRIPTION: Colorless to pale purple crystals or lavender powder. (NTP, 1992)	1.0	2.5	5.0	2888.0	281.0	997.0	456.0	329.0	580.0	59.0	205.0	98.0	64.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1301	1,6-DICHLOROHEXANE	1,6-DICHLOROHEXANE	2163-00-0	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	2891.0	281.0	997.0	456.0	332.0	581.0	59.0	205.0	98.0	65.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride vapor may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1302	1,6-HEXANEDIOL DIACRYLATE	ACRYLIC ACID, HEXAMETHYLENE ESTER|AHD|C 716|HDDA|1,6-HDDA|HEXAMETHYLENE ACRYLATE|HEXAMETHYLENE DIACRYLATE|1,6-HEXAMETHYLENE DIACRYLATE|1,6-HEXAMETHYLENEDIOL DIACRYLATE|HEXAMETHYLENEGLYCOL DIACRYLATE|1,6-HEXANEDIOL DIACRYLATE|1,6-HEXANEDIYL DIACRYLATE|HEXANEGLYCOL DIACRYLATE|1,6-HEXENEDIOL DIACRYLATE|1,6HX-A|KAYARAD HDDA|KAYARAD KS-HDDA|LIGHT ACRYLATE 1,6HX-A|NK ESTER A-HD|PHOTOMER 4017|2-PROPENOIC ACID, 1,6-HEXANEDIYL ESTER|SARTOMER 238|SARTOMER SR 238|SETALUX UV 2243|SR	13048-33-4	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	2894.0	281.0	997.0	456.0	332.0	582.0	59.0	205.0	98.0	65.0	(BLOB)	Special Hazards of Combustion Products: Contain toxic and irritating chloride fumes. Behavior in Fire: Decomposes to produce toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1298	1,4-PHENYLENEDIAMINE DIHYDROCHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	1	0	1		(EPA, 1998)		302		(USCG, 1999)		8		%									(EPA, 1998)		145	
1299	1,5-NAPHTHALENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	2',3'-DIDEHYDRO-3'-DEOXYTHYMIDINE is sensitive to heat. Incompatible with strong oxidizing agents (NTP, 1992). [[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)			318 to 320
1300	1,5-NAPHTHALENEDIAMINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Water soluble.	CHLOROACETONE turns dark and resinifies on prolonged exposure to light [Merck]. This occurred in a bottle during storage for two years on a shelf in diffused light. A few days after the bottle was moved, it exploded [Ind. Eng. News 9: 184(1931)]. Is stabilized by addition of 0.1% water or 0.1% CaCO3.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1695 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
1301	1,6-DICHLOROHEXANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	HEXACHLOROETHANE can react with hot iron, zinc and aluminum. Dehalogenation of this material by reaction with alkalis and metals will produce unstable chloroacetylenes. It can also react with strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)	Sublimes		
1302	1,6-HEXANEDIOL DIACRYLATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Insoluble in water.	HEXACHLOROPHENE is incompatible with strong oxidizers. It forms salts with alkalis and alkaline earths. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)			322 to 333

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1298	1,4-PHENYLENEDIAMINE DIHYDROCHLORIDE	(EPA, 1998)		1		109.4		mm Hg	(EPA, 1998)		3.26				(EPA, 1998)		1.4043		104		(EPA, 1998)		372		760		(EPA, 1998)		94.5						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	MCA	Poison|Corrosive	C2H3ClO2		7.0	0.0	12.0	3.0	3.0
1299	1,5-NAPHTHALENE DIISOCYANATE																										(NTP, 1992)		224.22						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C10H12N2O4	Cellulose-Based Absorbents|Dirt/Earth	7.0	0.0	11.0	3.0	3.0
1300	1,5-NAPHTHALENEDIAMINE																																								Poison Inhalation Hazard|Flammable Liquid|Corrosive	C3H5ClO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	11.0	3.0	3.0
1301	1,6-DICHLOROHEXANE	(NTP, 1992)	; 0.8 mm Hg at 86Â° F	0.4		68		mm Hg	(NTP, 1992)		8.16				(USCG, 1999)		2.091		68		(NTP, 1992)	(Sublimes)	368.2		760		(NTP, 1992)		236.74		(NIOSH, 2003)	; A potential human carcinogen.	300	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	HCE	Poison	C2Cl6		9.0	0.0	13.0	3.0	3.0
1302	1,6-HEXANEDIOL DIACRYLATE																										(NTP, 1992)		406.91						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	HCP	Poison	C13H6Cl6O2		7.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1303	1-ACETYL-2-PHENYLHYDRAZIDE	ACETIC ACID PHENYLHDRAZONE|ACETIC ACID PHENYLHYDRAZONE|1-ACETYL-2-PHENYLHYDRAZIDE|1-ACETYL-2-PHENYLHYDRAZINE|ACETYLPHENYLHYDRAZINE|APH|BETA-ACETYLPHENYLHYDRAZINE|HYDRACETIN|N-PHENYLACETHYDRAZIDE|N-ACETYL-N'-PHENYLHYDRAZINE|1-PHENYL-2-ACETYLHYDRAZINE|2-PHENYLHYDRAZIDE ACETIC ACID|PYRODIN|PYRODINE	114-83-0	PHYSICAL DESCRIPTION: Colorless prisms or white solid. (NTP, 1992)	1.0	2.5	5.0	2894.0	281.0	997.0	456.0	332.0	582.0	59.0	205.0	98.0	65.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1304	1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE	1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE|1,2-DIBROMO-2,4-DICYANOBUTANE	35691-65-7	Crystals with a pungent odor. Insoluble in water. Used as a preservative in latex paint, adhesives, etc.	1.0	2.5	5.0	2897.0	281.0	1000.0	456.0	332.0	583.0	59.0	206.0	98.0	65.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1305	1-BROMO-3-METHYLBUTANE	4-BROMO-2-METHYLBUTANE|1-BROMO-3-METHYLBUTANE|BROMOMETHYLBUTANE|ISOAMYL BROMIDE|ISOBUTYLMETHYL BROMIDE|ISOPENTYL BROMIDE|3-METHYL-1-BROMOBUTANE|3-METHYLBUTYL BROMIDE	107-82-4	A colorless liquid. Slightly soluble in water and denser than water. Vapors are heavier than air.	2.5	5.0	2.5	2900.0	281.0	1000.0	456.0	332.0	584.0	59.0	206.0	98.0	65.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1306	1-CHLORO-1,1-DIFLUOROETHANE	ALPHA-CHLOROETHYLIDENE FLUORIDE|CFC 142B|1-CHLORO-1,1-DIFLUOROETHANE|DAIFLON 142B|1,1-DIFLUORO-1-CHLOROETHANE|DYMEL 142|F 142B|FC 142B|FKW 142B|FREON 142B|FRON 142B|GENETRON 101|GENETRON 142B|HCFC 142B|HCFC-142B|HFA 142B|R 142B|REFRIGERANT GAS R-142B	75-68-3	A colorless, odorless gas shipped as a liquid under own vapor pressure. Contact with the unconfined liquid may cause frostbite by evaporative cooling. Easily ignited. Vapors heavier than air. A leak may be either liquid or vapor. May asphyxiate by the displacement of air. Prolonged exposure to fire or intense heat may cause the containers to violently rupture and rocket.	5.0	1.0	1.0	2903.0	281.0	1000.0	462.0	332.0	585.0	59.0	206.0	100.0	65.0	INHALATION: remove victim to fresh air. ASPIRATION: enforce bed rest; give oxygen; call a doctor. INGESTION: do NOT induce vomiting; guard against aspiration into lungs. EYES: wash with copious amounts of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1307	1-CHLORO-2-BROMOETHANE	BETA-CHLOROETHYL BROMIDE|2-BROMO-1-CHLOROETHANE|1-BROMO-2-CHLOROETHANE|2-BROMOETHYL CHLORIDE|1-CHLORO-2-BROMOETHANE|2-CHLOROETHYL BROMIDE|ETHYLENE CHLOROBROMIDE|SYM-CHLOROBROMOETHANE	107-04-0	PHYSICAL DESCRIPTION: Clear colorless liquid with a sweet chloroform-like odor. (NTP, 1992)	2.5	5.0	2.5	2906.0	284.0	1000.0	468.0	332.0	586.0	60.0	206.0	102.0	65.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1303	1-ACETYL-2-PHENYLHYDRAZIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	2,3-DIMETHYL-1-PENTANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0		(NTP, 1992)		142																			
1304	1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator, and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Water soluble. May be sensitive to moisture. (NTP, 1992)	Epoxides, such as 2,3-EPOXYBUTANE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		0																			
1305	1-BROMO-3-METHYLBUTANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	Organophosphates, such as HEXAETHYL TETRAPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1306	1-CHLORO-1,1-DIFLUOROETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Plastic gloves; goggles or face shield (as for gasoline). (USCG, 1999)	Flammable. Insoluble in water.	TURPENTINE SUBSTITUTE may react vigorously with strong oxidizing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(USCG, 1999)	depending on grade		105 to 140	(USCG, 1999)		0.8		%	(USCG, 1999)		5		%	(USCG, 1999)		540					
1307	1-CHLORO-2-BROMOETHANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact and to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Water soluble.	A halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		-188	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1303	1-ACETYL-2-PHENYLHYDRAZIDE	(NTP, 1992)	; 20 mm Hg at 158Â° F; 60 mm Hg at 203Â° F	1		122		mm Hg							(NTP, 1992)		0.839		73.9		(NTP, 1992)			311 to 313	760		(NTP, 1992)		116.23						(NTP, 1992)	at 72.5Â° F		1 to 5	mg/mL			C7H16O	Cellulose-Based Absorbents	7.0	0.0	11.0	3.0	3.0
1304	1-BROMO-1-(BROMOMETHYL)-1,3-PROPANEDICARBONITRILE														(NTP, 1992)		0.793		75								(NTP, 1992)		72.12						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C4H8O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	12.0	3.0	3.0
1305	1-BROMO-3-METHYLBUTANE																																								Poison	C12H30O13P4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	28.0	3.0	3.0
1306	1-CHLORO-1,1-DIFLUOROETHANE	(USCG, 1999)		6.72				mm Hg							(USCG, 1999)		0.78		68		(USCG, 1999)			310 to 395	760														MNS	Flammable Liquid		Dirt/Earth	8.0	0.0	17.0	3.0	3.0
1307	1-CHLORO-2-BROMOETHANE	(NIOSH, 2003)		5.8				atm													(NIOSH, 2003)		-18		760		(NTP, 1992)		193.04						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Poison	C2F6O.3H2O		9.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1308	1-CHLORONAPHTHALENE	ALPHA-CHLORNAPHTHALENE|ALPHA-CHLORONAPHTHALENE|ALPHA-NAPHTHYL CHLORIDE|1-CHLORONAPHTHALENE|1-NAPHTHALENYL CHLORIDE|1-NAPHTHYL CHLORIDE|NAPHTHYLENE, 1-CHLORO-	90-13-1	PHYSICAL DESCRIPTION: Clear colorless to amber oily viscous liquid. (NTP, 1992)	2.5	5.0	2.5	2906.0	284.0	1003.0	468.0	332.0	586.0	60.0	207.0	102.0	65.0	(BLOB)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
1309	1-ETHYLPIPERIDINE	ETHYL PIPERIDINE|1-ETHYLPIPERIDINE|N-ETHYLPIPERIDINE	766-09-6	A colorless liquid with the odor of pepper. Less dense than water. May irritate skin and eyes. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2906.0	284.0	1003.0	468.0	332.0	586.0	60.0	207.0	102.0	65.0	(BLOB)	(Non-Specific -- Alkylamine, n.o.s. (Corrosive)) Flammable or poisonous gases may accumulate in tanks or hopper cars. (EPA, 1998)	(Non-Specific -- Alkylamine, n.o.s. (Corrosive)) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full-protective clothing. (Non-Specific -- Alkylamine, n.o.s. (Corrosive)) This material may react violently with water. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. (EPA, 1998)
1310	1-FLUORONAPHTHALENE	A-FLUORONAPHTHALENE|ALPHA-FLUORONAPHTHALENE|1-FLUORONAPHTHALENE	321-38-0	PHYSICAL DESCRIPTION: Needles. (NTP, 1992)	1.0	2.5	5.0	2909.0	284.0	1003.0	468.0	335.0	587.0	60.0	207.0	102.0	66.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1311	1-IODO-3-NITROBENZENE	BENZENE, 1-IODO-3-NITRO-|3-IODO-1-NITROBENZENE|1-IODO-3-NITROBENZENE|3-IODONITROBENZENE|M-IODONITROBENZENE|M-NITROIODOBENZENE|M-NITROPHENYL IODIDE|3-NITROIODOBENZENE|3-NITROPHENYL IODIDE	645-00-1	PHYSICAL DESCRIPTION: Monoclinic prisms or tan solid. (NTP, 1992)	1.0	2.5	5.0	2909.0	284.0	1003.0	468.0	335.0	587.0	60.0	207.0	102.0	66.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1312	1-METHYLNAPHTHALENE	ALPHA-METHYLNAPHTHALENE|1-METHYLNAPHTHALENE	90-12-0	Colorless liquid. Freezing point -22Â°C (7.6Â°F). Boiling point 240-243Â°C (464-469Â°F). Flash point 82Â°C (180Â°F). Denser than water. Derived from coal tar and used in organic synthesis.	2.5	5.0	2.5	2909.0	284.0	1003.0	468.0	335.0	587.0	60.0	207.0	102.0	66.0	(BLOB)		
1313	1-METHYLPIPERIDINE	METHYLPIPERIDINE|1-METHYLPIPERIDINE|N-METHYLPIPERIDINE	626-67-5	A colorless liquid with the odor of pepper. May irritate skin and eyes. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	2909.0	284.0	1003.0	468.0	335.0	587.0	60.0	207.0	102.0	66.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1308	1-CHLORONAPHTHALENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	HEXAFLUOROPROPYLENE OXIDE is a chlorinated epoxide. Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		-200	
1309	1-ETHYLPIPERIDINE	(Non-Specific -- Alkylamine, n.o.s. (Corrosive)) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	N,N'-DIBUTYLHEXAMETHYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1310	1-FLUORONAPHTHALENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Insoluble in water.	1,1,1,2-TETRACHLOROETHANE is incompatible with strong oxidizing agents and strong bases. It is also incompatible with dinitrogen tetraoxide, 2,4-dinitrophenyl disulfide, potassium, potassium hydroxide, nitrogen tetraoxide, sodium and sodium potassium alloy. It may react with chemically active metals, strong caustics, hot iron, aluminum and zinc in presence of steam. It may also react with mixtures of dinitrogen tetraoxide with halocarbons. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										(NTP, 1992)		-94.4	
1311	1-IODO-3-NITROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	2,3-HEXANEDIONE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		83																							
1312	1-METHYLNAPHTHALENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	HEXAMETHYLMELAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																											
1313	1-METHYLPIPERIDINE	STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	HEXAMETHYL-PARA-ROSANILINE reacts exothermically with acids. May react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1308	1-CHLORONAPHTHALENE																				(NTP, 1992)		-18		760		(NTP, 1992)		166.03												Non-Flammable Gas	C3F6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	13.0	3.0	3.0
1309	1-ETHYLPIPERIDINE																				(EPA, 1998)		399.2		760		(EPA, 1998)		228.42												Poison|Corrosive	C14H32N2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	12.0	3.0	3.0
1310	1-FLUORONAPHTHALENE	(NTP, 1992)	; 20 mm Hg at 89.8Â° F	10		66.7		mm Hg							(NTP, 1992)		1.5406		68		(NTP, 1992)		266.9		760		(NTP, 1992)		167.85						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Poison	C2H2Cl4		8.0	0.0	23.0	3.0	3.0
1311	1-IODO-3-NITROBENZENE	(NTP, 1992)	; 19.0 mm Hg at 124Â° F	0.5		84		mm Hg							(NTP, 1992)		0.934		66		(NTP, 1992)		262		760		(NTP, 1992)		114.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Flammable Liquid	C6H10O2		7.0	0.0	11.0	3.0	3.0
1312	1-METHYLNAPHTHALENE																											(NTP, 1992)		210.33						(NTP, 1992)	Insoluble						C9H18N6	Mineral-Based & Clay-Based Absorbents	5.0	0.0	18.0	3.0	3.0
1313	1-METHYLPIPERIDINE																											(NTP, 1992)								(NTP, 1992)	at 59.9Â° F		0.1 to 1.0	mg/mL			C25H29N3	Dirt/Earth	7.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1314	1-OCTACOSANOL	CLUYTYL ALCOHOL|MONTANYL ALCOHOL|N-OCTACOSANOL|OCTACOSANOL|1-OCTACOSANOL|OCTACOSYL ALCOHOL	557-61-9	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	2912.0	284.0	1003.0	468.0	335.0	588.0	60.0	207.0	102.0	66.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1315	1-OCTADECANETHIOL	1-MERCAPTOOCTADECANE|N-OCTADECANETHIOL|N-OCTADECYL MERCAPTAN|NSC 5545|OCTADECANE-1-THIOL|OCTADECANETHIOL|1-OCTADECANETHIOL|OCTADECYL MERCAPTAN|1-OCTADECYL MERCAPTAN|OCTADECYLTHIOL|STEARYL MERCAPTAN	2885-00-9	White powder with an extremely unpleasant smell. Melting point:31-35Â°C; bp: 366Â°C. Stench! May be harmful by ingestion, inhalation or through skin contact. Eye, skin and respiratory irritant.	1.0	2.5	5.0	2912.0	284.0	1003.0	468.0	335.0	588.0	60.0	207.0	102.0	66.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1316	1-OCTENE	ALPHA-OCTENE|ALPHA-OCTYLENE|CAPRYLENE|DIALENE 8|GULFTENE 8|N-1-OCTENE|N-OCTENE-1|1-N-OCTENE|1-OCTENE	111-66-0	A colorless liquid. Flash point 70Â°F. Insoluble in water and less dense (at about 6 lb / gal) than water. Hence floats on water. Vapors are heavier than air and may settle in depressions. Reported to biodegrade very slowly. Used in organic synthesis, surfactants, and plasticizers.	2.5	5.0	2.5	2915.0	284.0	1003.0	468.0	335.0	589.0	60.0	207.0	102.0	66.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1317	1-PHENYL-3-METHYL-5-PYRAZOLONE	C.I. DEVELOPER 1|DEVELOPER Z|2,4-DIHYDRO-5-METHYL-2-PHENYL-3H-PYRAZOL-3-ONE|EDARAVONE|MCI 186|3-METHYL-1-PHENYL-2-PYRAZOLIN-5-ONE|3-METHYL-1-PHENYL-2H-PYRAZOLIN-5-ONE|3-METHYL-1-PHENYL-5-PYRAZOLONE|3-METHYL-1-PHENYLPYRAZOLIN-5-ONE|3-METHYL-1-PHENYLPYRAZOLONE|N-DEMETHYLANTIPYRINE|N-DESMETHYLANTIPYRINE|NCI-C03952|NORANTIPYRINE|NORPHENAZONE|1-PHENYL-3-METHYL-2-PYRAZOLIN-5-ONE|1-PHENYL-3-METHYL-5-PYRAZOLINONE|1-PHENYL-3-METHYL-5-PYRAZOLONE|1-PHENYL-3-METHYL-DELTA3-PYRAZOL-5-ONE|1-PHENYL-3-METHYLPYRAZOLONE-5|2-PYRAZOLIN-5-ONE, 3-METHYL-1-PHENYL-|3-PYRAZOLIN-5-ONE, 3-	89-25-8	PHYSICAL DESCRIPTION: White to off-white powder or crystals. (NTP, 1992)	1.0	2.5	5.0	2918.0	284.0	1003.0	468.0	335.0	590.0	60.0	207.0	102.0	66.0	INHALATION: move victim to fresh air; administer artificial respiration if required; call a doctor. INGESTION: give large amount of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with plenty of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating hydrogen cyanide, hydrogen bromide, and hydrogen chloride may form in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1318	2-(2-AMINOETHOXY)ETHANOL	2-AMINO-2'-HYDROXYDIETHYL ETHER|1-AMINO-2-(2-HYDROXYETHOXY)ETHANE|5-AMINO-3-OXAPENTAN-1-OL|2-(2-AMINOETHOXY) ETHANOL|2-(2-AMINOETHOXY)ETHANOL|2-AMINOETHYL 2-HYDROXYETHYL ETHER|BETA-(BETA-HYDROXYETHOXY)ETHYLAMINE|BETA-HYDROXY-BETA'-AMINOETHYL ETHER|DIETHYLENE GLYCOL AMINE|DIETHYLENE GLYCOL MONOAMINE|DIGLYCOLAMINE|2-(HYDROXYETHOXY)ETHYLAMINE|2-(2-HYDROXYETHOXY)ETHYLAMINE	929-06-6	A colorless liquid with a faint fishlike odor. Combustible but difficult to ignite. Corrosive to tissue. Combustion produces toxic oxides of nitrogen.	2.5	5.0	2.5	2918.0	284.0	1006.0	468.0	338.0	590.0	60.0	208.0	102.0	67.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1314	1-OCTACOSANOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Slowly reacts with water to form hydrochloric acid(hydrogen chloride).	Halogenated aliphatic compounds, such as CHLOROBENZYL CHLORIDE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
1315	1-OCTADECANETHIOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4,5-T, N-BUTYL ESTER is an ester of a chlorinated organic acid. May react exothermically with acids to generate butyl alcohol and 2,4,5-trichlorophenoxyacetic. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat may also be generated with caustic solutions.					0																									(NTP, 1992)			82 to 86
1316	1-OCTENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Carboxylic acids with six or fewer carbon atoms are freely or moderately soluble in water; those with more than six carbons are slightly soluble in water. Soluble carboxylic acid dissociate to an extent in water to yield hydrogen ions. The pH of solutions of carboxylic acids is therefore less than 7.0. Many insoluble carboxylic acids react rapidly with aqueous solutions containing a chemical base and dissolve as the neutralization generates a soluble salt.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																									
1317	1-PHENYL-3-METHYL-5-PYRAZOLONE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Air supply mask or self-contained breathing apparatus for repeated handling large amounts; rubber gloves; safety goggles (USCG, 1999)	Highly flammable. Practically insoluble in water.	CHLOROBUTYRONITRILE may attack some forms of plastics (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1318	2-(2-AMINOETHOXY)ETHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Highly soluble in water.	HYCANTHONE is very sensitive to acid. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]					0																									(NTP, 1992)			213.1 to 217.0

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1314	1-OCTACOSANOL																																								Poison	ClC6H4CH2Cl		7.0	0.0	15.0	3.0	3.0
1315	1-OCTADECANETHIOL																										(NTP, 1992)		311.6						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C12H13Cl3O3		6.0	0.0	16.0	3.0	3.0
1316	1-OCTENE																																								Corrosive	C6H12O2		6.0	0.0	15.0	3.0	3.0
1317	1-PHENYL-3-METHYL-5-PYRAZOLONE															(USCG, 1999)		1.22		68		(USCG, 1999)		374		760		(USCG, 1999)		103.55											CBN	Poison	C4H6ClN		9.0	0.0	48.0	3.0	3.0
1318	2-(2-AMINOETHOXY)ETHANOL																										(NTP, 1992)		356.52						(NTP, 1992)	Highly soluble						C20H24N2O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1319	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE SULFONIC ACID	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE SULFONIC ACID|2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLYL SULFONIC ACID|2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLYL-7-SULFONIC ACID|7-BENZOTHIAZOLESULFONIC ACID, 2-(P-AMINOPHENYL)-6-METHYL-|DEHYDROTHIO-P-TOLUIDINESULFONIC ACID|P-(6-METHYL-7-SULFOBENZOTHIAZOLE)ANILINE|2-(P-AMINOPHENYL)-6-METHYL-7-BENZOTHIAZOLESULFONIC ACID|2-(P-AMINOPHENYL)-6-METHYLBENZOTHIAZOLYL-7-SULFONIC ACID	130-17-6	PHYSICAL DESCRIPTION: Brownish-yellow powder. (NTP, 1992)	1.0	2.5	5.0	2918.0	284.0	1006.0	468.0	338.0	590.0	60.0	208.0	102.0	67.0	INGESTION: promptly induce vomiting and get medical attention. EYES: flush with flowing water and get medical attention. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Hydrogen chloride gas and other irritating fumes may form in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1320	2,2',4'-TRICHLOROACETOPHENONE	ACETOPHENONE, 2,2',4'-TRICHLORO-|ALPHA,2,4-TRICHLOROACETOPHENONE|ALPHA-2,4-TRICHLOROACETOPHENONE|2-CHLORO-1-(2',4'-DICHLOROPHENYL)ETHANONE|2-CHLORO-1-(2,4-DICHLOROPHENYL)ETHANONE|CHLOROMETHYL 2,4-DICHLOROPHENYL KETONE|2,4-DICHLOROPHENACYL CHLORIDE|ETHANONE, 2-CHLORO-1-(2,4-DICHLOROPHENYL)-|OMEGA-CHLORO-2,4-DICHLOROACETOPHENONE|2,2',4'-TRICHLOROACETOPHENONE|2,4,2'-TRICHLOROACETOPHENONE	4252-78-2	PHYSICAL DESCRIPTION: Off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2921.0	284.0	1006.0	468.0	338.0	591.0	60.0	208.0	102.0	67.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1321	2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE	TEXANOL|2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE	25265-77-4	Colorless liquid with a mild characteristic odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	2924.0	284.0	1006.0	468.0	338.0	592.0	60.0	208.0	102.0	67.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1322	2,2-DICHLORO-1,1,1-TRIFLUOROETHANE	2,2-DICHLORO-1,1,1-TRIFLUOROETHANE|HCFC-123	306-83-2	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	2927.0	284.0	1006.0	468.0	338.0	593.0	60.0	208.0	102.0	67.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1323	2,2'-DIETHYLHEXYLAMINE	BIS(2-ETHYLHEXYL)AMINE|DI(2-ETHYLHEXYL)AMINE|DI-(2-ETHYLHEXYL)-AMINE|2,2'-DIETHYLDIHEXYLAMINE|2,2'-DIETHYLHEXYLAMINE|DIHEXYLAMINE, 2,2'-DIETHYL-|DIOCTYLAMINE|2-ETHYL-N-(2-ETHYLHEXYL)-1-HEXANAMINE	106-20-7	PHYSICAL DESCRIPTION: Clear colorless liquid with a slight ammonia-like odor. (NTP, 1992)	2.5	5.0	2.5	2930.0	284.0	1006.0	468.0	338.0	594.0	60.0	208.0	102.0	67.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1319	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE SULFONIC ACID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield and rubber gloves (USCG, 1999)	Water soluble.	Reacts with hypochlorites to give N-chloroamines, some of which are explosives when isolated [Bretherick 1979. p. 108].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		265 to 420																		
1320	2,2',4'-TRICHLOROACETOPHENONE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Soluble in aqueous base.	CHLOROCRESOLS are incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. Corrodes steel, brass, copper and copper alloys (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		230																(NTP, 1992)		151	
1321	2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Water soluble.	HYDRAZINE HYDRATE is a base and a very powerful reducing agent. Very corrosive. Violent reaction on contact with alkali metals (sodium, potassium), 2,4-dinitrochlorobenzene, tin dichloride, mercury oxide. Vigorous neutralization reaction with acids. Emits toxic fumes of nitrogen oxides when heated to decomposition [Lewis, 3rd ed., 1993, p. 680]. Reacts with tin(II) chloride to give tin(II) dihydrazine chloride, which decomposes explosively when heated [Mellor 7:430(1946-1947)]. Reacts exothermically and violently with 2,4-dinitrochlorobenzene [Wischmeyer (1967)].	Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
1322	2,2-DICHLORO-1,1,1-TRIFLUOROETHANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIBUTYLTIN METHACRYLATE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
1323	2,2'-DIETHYLHEXYLAMINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Ignites in air or react violently, sometimes explosively, with water or air of high humidity [Bretherick, 1979 p. 107]. Produce flammable gas (H2) on contact with water. May ignite on contact with water or moist air.	Metal hydrides are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1319	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE SULFONIC ACID														(USCG, 1999)		1.2		68		(USCG, 1999)	Butyl: 639Â° F Butoxypropyl: 651Â°F Isooctyl: 770Â°F 2-Ethylhexyl: ~770Â°F = ~410Â°C = ~683Â°K					(USCG, 1999)	Mixtures		greater than 300										TES	Class 9	C16H21CI3O3|C14H17Cl3O4|C12H13Cl3O3		6.0	0.0	15.0	3.0	3.0
1320	2,2',4'-TRICHLOROACETOPHENONE														(NTP, 1992)		0.9		77		(NTP, 1992)		455		760		(NTP, 1992)		142.58						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C7H7ClO		7.0	0.0	25.0	3.0	3.0
1321	2,2,4-TRIMETHYL-1,3-PENTANEDIOL MONOISOBUTYRATE																													(NIOSH, 2003)	; A potential human carcinogen.	50	ppm							Corrosive|Poison	N2H4.H2O		6.0	0.0	14.0	3.0	3.0
1322	2,2-DICHLORO-1,1,1-TRIFLUOROETHANE																																							Poison	C13H27O2Sn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	14.0	3.0	3.0
1323	2,2'-DIETHYLHEXYLAMINE																																							Dangerous When Wet			5.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1324	2,2'-DIHYDROXY-4-METHOXYBENZOPHENONE	ADVASTAB 47|BENZOPHENONE 8|BENZOPHENONE, 2,2'-DIHYDROXY-4-METHOXY-|CYASORB|CYASORB UV 24|CYASORB UV 24 LIGHT ABSORBER|2,2'-DIHYDROXY-4-METHOXYBENZOPHENONE|DIOXYBENZON|DIOXYBENZONE|2-HYDROXY-4-METHOXYPHENYL)(2-HYDROXYPHENYL)METHANONE|SPECTRA-SORB UV 24|UF 2|UV 24	131-53-3	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	2933.0	284.0	1006.0	468.0	338.0	595.0	60.0	208.0	102.0	67.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1325	2,3-BENZOFURAN	AT 33852|BENZO(B)FURAN|BENZOFURAN|2,3-BENZOFURAN|BENZOFURFURAN|BENZO[B]FURAN|COUMARONE|CUMARONE|NCI-C56166|1-OXINDENE|R 7204	271-89-6	PHYSICAL DESCRIPTION: Clear oily yellow liquid with an aromatic odor. (NTP, 1992)	2.5	5.0	2.5	2936.0	284.0	1006.0	468.0	338.0	596.0	60.0	208.0	102.0	67.0	INHALATION: remove person to fresh air; keep him warm and quiet and get medical attention immediately; start artificial respiration if breathing stops. INGESTION: have person drink water or milk; do NOT induce vomiting. EYES: immediately flush with plenty of water for at least 15 min. and get medical attention; continue flushing for another 15 min. if physician does not arrive promptly. SKIN: immediately flush skin while removing contaminated clothing; get medical attention promptly; use soap and wash area for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating vapors are generated when heated. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1326	2,3-DICHLORONITROBENZENE	2,3-DICHLORO-1-NITROBENZENE|1,2-DICHLORO-3-NITROBENZENE|2,3-DICHLORONITROBENZENE|ORTHO,META-DICHLORO-1-NITROBENZENE	3209-22-1	PHYSICAL DESCRIPTION: Light yellow crystals or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2939.0	284.0	1009.0	468.0	338.0	597.0	60.0	209.0	102.0	67.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1327	2,3-DICHLOROPHENOL	2,3-DICHLOROPHENOL	576-24-9	PHYSICAL DESCRIPTION: Brown crystals (from ligroin, benzene). Taste threshold concentration 0.00004 mg/L. Odor threshold concentration 0.03 mg/L. (NTP, 1992)	1.0	2.5	5.0	2939.0	284.0	1009.0	468.0	338.0	597.0	60.0	209.0	102.0	67.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1328	2,3-DICHLOROQUINOXALINE	2,3-DICHLOROQUINOXALINE	2213-63-0	PHYSICAL DESCRIPTION: Gray solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	2942.0	284.0	1009.0	468.0	338.0	598.0	60.0	209.0	102.0	67.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1329	2',3'-DIDEOXYCYTIDINE	CYTIDINE, 2',3'-DIDEOXY-|D2C|DDC|DDCYD|DIDEOXYCYTIDINE|2',3'-DIDEOXYCYTIDINE|NSC 606170|RO 24-2027/000|ZALCITABINE	7481-89-2	PHYSICAL DESCRIPTION: White crystalline powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	2942.0	284.0	1009.0	468.0	338.0	598.0	60.0	209.0	102.0	67.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1324	2,2'-DIHYDROXY-4-METHOXYBENZOPHENONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to exposure to light and air. Insoluble in water.	2,4,6-TRICHLOROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates, and strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		163 to 167
1325	2,3-BENZOFURAN	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	An aqueous solution. Dilution may generate heat. Fumes in air.	(BLOB)	Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																	(USCG, 1999)	Not flammable					
1326	2,3-DICHLORONITROBENZENE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	CHLOROMETHYL ETHYL ETHER tends to form unstable peroxides when exposed to oxygen or air. These products can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Forms salts with strong acids and addition complexes with Lewis acids. May react violently with strong oxidizing agents.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1327	2,3-DICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Darkens on exposure to light.	2,4-DIAMINOANISOLE SULFATE is weakly acidic. Can react as either an oxidizing agent or reducing agent.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)	(decomposes)		372 to 378
1328	2,3-DICHLOROQUINOXALINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	2,4'-DIAMINODIPHENYLMETHANE is readily oxidizable. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																							(NTP, 1992)		190 to 192
1329	2',3'-DIDEOXYCYTIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CHLORONEB is stable at temperatures up to 514Â° F, in water in the presence of dilute acids or alkalis, and in the common organic solvents. It is subject to microbial decomposition in soil under moist conditions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		322																		(NTP, 1992)		271 to 275

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1324	2,2'-DIHYDROXY-4-METHOXYBENZOPHENONE	(NTP, 1992)	; 5 mm Hg at 316.0Â° F	1		273.2		mm Hg													(NTP, 1992)		504		760		(NTP, 1992)		196.46						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Poison	C6H4Cl3N		7.0	0.0	14.0	3.0	3.0
1325	2,3-BENZOFURAN	(USCG, 1999)		413.6				mm Hg													(USCG, 1999)		123		760		(USCG, 1999)		36.46											HCL	Corrosive	HCl (aqueous)		8.0	0.0	11.0	3.0	3.0
1326	2,3-DICHLORONITROBENZENE																																								Flammable Liquid|Poison	C3H7ClO		6.0	0.0	11.0	3.0	3.0
1327	2,3-DICHLOROPHENOL																										(NTP, 1992)		290.29						(NTP, 1992)	at 65.3Â° F		10 to 50	mg/mL		Poison	C7H10N2O.H2O4S		5.0	0.0	13.0	3.0	3.0
1328	2,3-DICHLOROQUINOXALINE																				(NTP, 1992)		432		9		(NTP, 1992)		198.29													C13H14N2		8.0	0.0	12.0	3.0	3.0
1329	2',3'-DIDEOXYCYTIDINE	(NTP, 1992)	; 7 mm Hg at 284Â° F	0.003		77		mm Hg								(NTP, 1992)		1.66			(NTP, 1992)		514		760		(NTP, 1992)		207.06						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL		Class 9	C8H8Cl2O2		5.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1330	2',3'-DIDEOXYINOSINE	BMY 40900|DDI|DDI (NUCLEOSIDE)|DDINO|DIDANOSINE|DIDEOXYINOSINE|2',3'-DIDEOXYINOSINE|INOSINE, 2',3'-DIDEOXY-|NSC 612049|VIDEX	69655-05-6	PHYSICAL DESCRIPTION: Fluffy white solid or powder. Condenses at 347Â°F and darkens at approximately 572Â°F. Odorless. (NTP, 1992)	1.0	2.5	5.0	2945.0	284.0	1009.0	468.0	338.0	599.0	60.0	209.0	102.0	67.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1331	2,3-DIMERCAPTO-1-PROPANOL	ALPHA,BETA-DITHIOGLYCEROL|ANTOXOL|BAL|BRITISH ANTILEWISITE|DICAPTOL|DIMERCAPROL|DIMERCAPROL PROPANOL|2,3-DIMERCAPTO-1-PROPANOL|1,2-DIMERCAPTO-3-PROPANOL|DIMERCAPTOL|2,3-DIMERCAPTOL-1-PROPANOL|2,3-DIMERCAPTOPROPAN-1-OL|2,3-DIMERCAPTOPROPANOL|DIMERSOL|DITHIOGLYCERINE|DITHIOGLYCEROL|1,2-DITHIOGLYCEROL|2,3-DITHIOPROPAN-1-OL|2,3-DITHIOPROPANOL|DMP|GLYCEROL, 1,2-DITHIO-|3-HYDROXY-1,2-PROPANEDITHIOL|PANOBAL|SULFACTIN|USAF ME-1	59-52-9	PHYSICAL DESCRIPTION: Clear colorless viscous liquid with a pungent offensive odor of mercaptans. Used as a medicine and an antidote to the chemical warfare agent LEWISITE.	2.5	5.0	2.5	2948.0	284.0	1009.0	468.0	338.0	600.0	60.0	209.0	102.0	67.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1332	2,3-XYLIDINE	3-AMINO-O-XYLENE|2,3-DIMETHYLANILINE|2,3-DIMETHYLBENZENAMINE|2,3-DIMETHYLPHENYLAMINE|O-XYLIDINE|2,3-XYLIDINE|2,3-XYLYLAMINE	87-59-2	PHYSICAL DESCRIPTION: Dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	2948.0	284.0	1009.0	468.0	338.0	600.0	60.0	209.0	102.0	67.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: These materials are extremely flammable. May form explosive mixtures with air. May be ignited by heat, sparks or flames. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Runoff may create fire or explosion hazard. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1333	2,4,5-TRICHLORONITROBENZENE	BENZENE, 1,2,4-TRICHLORO-5-NITRO-|2,4,5-TRICHLORO-1-NITROBENZENE|1,4,5-TRICHLORO-2-NITROBENZENE|1,2,4-TRICHLORO-5-NITROBENZENE|2,4,5-TRICHLORONITROBENZENE|3,4,6-TRICHLORONITROBENZENE	89-69-0	PHYSICAL DESCRIPTION: Prisms or needles in alcohol; yellow powder. (NTP, 1992)	1.0	2.5	5.0	2951.0	284.0	1009.0	474.0	338.0	601.0	60.0	209.0	104.0	67.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1334	2,4,5-TRIMETHOXYBENZALDEHYDE	ASARALDEHYDE|ASARONALDEHYDE|ASARYLALDEHYDE|GAZARIN|NCI-C61632|2,4,5-TRIHYDROXYBENZALDEHYDE, 2,4,5-TRIMETHYL ETHER|2,4,5-TRIMETHOXYBENZALDEHYDE|3,4,6-TRIMETHOXYBENZALDEHYDE	4460-86-0	PHYSICAL DESCRIPTION: Beige powder. (NTP, 1992)	1.0	2.5	5.0	2954.0	284.0	1009.0	474.0	338.0	602.0	60.0	209.0	104.0	67.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1330	2',3'-DIDEOXYINOSINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	A chlorinated aromatic nitrate and amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1331	2,3-DIMERCAPTO-1-PROPANOL	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with evolution of heat spattering of acid fumes.	HYDROFLUORIC ACID AND SULFURIC ACID MIXTURE reacts exothermically with bases of all kinds, both organic (amines, amides) and inorganic (oxides and hydroxides of metals). If diluted with water (below 65%) reacts with many metals (aluminum, zinc, iron, steel) to generate hydrogen gas with the possibility of explosion. May react explosively with cyanogen fluoride, methanesulfonic acid or glycerol mixed with nitric acid. May r violently with arsenic trioxide, phosphorus pentachloride, acetic anhydride, ammonium hydroxide, chlorosulfonic acid, ethylenediamine, fluorine, potassium permanganate, oleum, propylene oxide, vinyl acetate, mercury(II) oxide. Emits highly corrosive fumes of hydrogen fluoride gas when heated [Sax, 9th ed., 1996, p. 1839]. Contact with silicon compounds, especially metal silicides, may cause evolution, often violent, of toxic silicon tetrafluoride gas [Mellor, 1956, Vol. 2, suppl. 1, p. 121]. For Sulfuric Acid look at the Ã‘Sulfuric AcidÃ" record.	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for sulfuric acid, CAS number 7664-93-9	4	0	2	2	No Water																								
1332	2,3-XYLIDINE	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water	ANHYDROUS HYDROGEN CYANIDE presents a severe explosion hazard when exposed to oxidizing agents. Boils at 26.5Â°C (79.8Â°F). The vapors form explosive mixtures with air. May polymerize explosively at elevated temperature (50-60Â°C) or in the presence of traces of alkali [Wohler, L. et al., Chem. Zbg., 1926, 50, p. 781, 781]. In the absence of a stabilizer (such as phosphoric acid), may undergo explosively rapid spontaneous (autocatalytic) polymerization leading to a fire. The reaction is autocatalytic because of ammonia formation. [Bond, J., Loss Prev. Bull., 1991, 101, p.3]. Dissolves in water to give weakly acidic solutions. Reacts violently with acetaldehyde. During the preparation of imidoester hydrochlorides, hydrogen chloride was rapidly passed over alcoholic hydrogen cyanide. An explosion ensued, even with cooling of the process [J. Org. Chem., 1955, 20, 1573].	Highly Flammable; Polymerizable	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1051 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5		(NIOSH, 2003)	-96%	0		(NIOSH, 2003)		5.6		%	(NIOSH, 2003)		40		%						(NIOSH, 2003)	-96%	7	
1333	2,4,5-TRICHLORONITROBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Sensitive to light. May also be sensitive to prolonged exposure to air and moisture. Insoluble in water.	2,4-DICHLOROBENZALDEHYDE is incompatible with iron, oxygen and oxygen-containing materials. It is also incompatible with strong oxidizers and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		275																	(NTP, 1992)			156 to 163
1334	2,4,5-TRIMETHOXYBENZALDEHYDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Polyurethanes are formed by the condensation reaction of diisocyanates with, for example, ethyl glycol.		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1330	2',3'-DIDEOXYINOSINE																																								Poison	C6H5ClN2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	25.0	3.0	3.0
1331	2,3-DIMERCAPTO-1-PROPANOL																																								Corrosive|Poison	HF (hydrofluoric acid)|H2SO4 (sulfuric acid)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Sand|Dirt/Earth	7.0	0.0	13.0	3.0	3.0
1332	2,3-XYLIDINE	(NIOSH, 2003)		630				mm Hg							(NIOSH, 2003)		0.69				(NIOSH, 2003)	-96%	78		760		(NIOSH, 2003)		27		(NIOSH, 2003)		50	ppm	(NIOSH, 2003)	Miscible					Poison Inhalation Hazard|Flammable Liquid	CHN	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	15.0	3.0	3.0
1333	2,4,5-TRICHLORONITROBENZENE														(NTP, 1992)		1.33		212		(NTP, 1992)		451		760		(NTP, 1992)		175.02						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Corrosive	C7H4Cl2O	Cellulose-Based Absorbents	5.0	0.0	14.0	3.0	3.0
1334	2,4,5-TRIMETHOXYBENZALDEHYDE																																								Poison	C14H8N2O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1335	2,4,6-TRICHLOROPHENOL	DOWCIDE 2S|DOWICIDE 2S|NCI-C02904|OMAL|PHENACHLOR|2,4,6-TCP|1,3,5-TRICHLORO-2-HYDROXYBENZENE|2,4,6-TRICHLOROPHENOL	88-06-2	PHYSICAL DESCRIPTION: Yellow to pinkish-orange needles or orange fluffy solid. Strong phenolic odor. (NTP, 1992)	1.0	2.5	5.0	2957.0	284.0	1009.0	474.0	338.0	603.0	60.0	209.0	104.0	67.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1336	2,4-DIAMINOPHENOL DIHYDROCHLORIDE	ACROL|AMIDOL|DIAMIDOPHENOL HYDROCHLORIDE|2,4-DIAMINOPHENOL DIHYDROCHLORIDE|2,4-DIAMINOPHENOL HCL|DIAMINOPHENOL HYDROCHLORIDE|2,4-DIAMINOPHENOL HYDROCHLORIDE|DIANOL|NCI-C60026	137-09-7	PHYSICAL DESCRIPTION: Grayish-white crystals. (NTP, 1992)	1.0	2.5	5.0	2960.0	284.0	1012.0	474.0	338.0	604.0	60.0	210.0	104.0	67.0	INHALATION: remove to fresh air; if victim is not breathing, give artificial respiration and then oxygen; call a physician. EYES or SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1337	2,4-DICHLOROANILINE	ANILINE, 2,4-DICHLORO-|BENZENAMINE, 2,4-DICHLORO-|2,4-DICHLOROANILINE|2,4-DICHLOROBENZENAMINE|2,4-DICHLOROPHENYLAMINE|O,P-DICHLOROANILINE	554-00-7	PHYSICAL DESCRIPTION: Beige crystals. (NTP, 1992)	1.0	2.5	5.0	2963.0	284.0	1015.0	474.0	341.0	605.0	60.0	211.0	104.0	68.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes are generated when heated. Behavior in Fire: Toxic gases are produced when heated to decomposition temperature. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1338	2,4-DICHLOROBENZALDEHYDE	BENZALDEHYDE, 2,4-DICHLORO-|2,4-DICHLOROBENZALDEHYDE|O,P-DICHLOROBENZALDEHYDE	874-42-0	PHYSICAL DESCRIPTION: White crystalline solid or off-white chunky solid with black specks and a pungent odor. Average shelf life 1 year in a closed container. (NTP, 1992)	1.0	2.5	5.0	2966.0	284.0	1018.0	474.0	341.0	606.0	60.0	212.0	104.0	68.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1339	2,4-DICHLOROBENZOIC ACID	BENZOIC ACID, 2,4-DICHLORO-|2,4-DICHLOROBENZOIC ACID	50-84-0	PHYSICAL DESCRIPTION: White to slightly yellowish powder. (NTP, 1992)	1.0	2.5	5.0	2966.0	287.0	1021.0	474.0	344.0	606.0	61.0	213.0	104.0	69.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1335	2,4,6-TRICHLOROPHENOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Phenols, such as 2,4-DIMETHYL-6-TERT-BUTYL PHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1336	2,4-DIAMINOPHENOL DIHYDROCHLORIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Safety glasses; eye bath and safety shower; air-supplied mask for concentrations above 2% (USCG, 1999)	Flammable. Soluble in water.	Ketones, such as 2,4-PENTANEDIONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. May dissolve plastics (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		93		(USCG, 1999)		2.4		%	(USCG, 1999)		11.6		%	(USCG, 1999)		644		(USCG, 1999)		-10.3	
1337	2,4-DICHLOROANILINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water, alcohol and ether.	2,4-TOLUENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Reacts vigorously with oxidizing agents (USCG, 1999).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		300														(NTP, 1992)		210	
1338	2,4-DICHLOROBENZALDEHYDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	CHLOROPENTANE may be incompatible with strong oxidizing and reducing agents. Also, may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1339	2,4-DICHLOROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Slightly soluble in water.	2,4-XYLIDINE ignites on contact with fuming nitric acid (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		205														(NTP, 1992)		61	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chmts_codes	dot_Labels	formulas	incompatible_abl	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1335	2,4,6-TRICHLOROPHENOL																																							Corrosive	C12H8Cl3O		9.0	0.0	21.0	3.0	3.0
1336	2,4-DIAMINOPHENOL DIHYDROCHLORIDE														(USCG, 1999)		0.975		68		(USCG, 1999)		284.7		760															ATA	Flammable Liquid/Poison	C6H8O2		5.0	0.0	11.0	3.0	3.0
1337	2,4-DICHLOROANILINE	(NTP, 1992)	: 10 mm Hg at 305.1A° F	1		223.7		mm Hg							(NTP, 1992)		1.045		212		(NTP, 1992)		558		760						(NOSH, 2003)	: A potential human carcinoge n.			(NTP, 1992)		1 to 5	mg/mL	TDA	Poison	C7H10N2		6.0	0.0	20.0	3.0	3.0
1338	2,4-DICHLOROBENZALDEHYDE																																							Flammable Liquid	C6H3Cl3		8.0	0.0	19.0	3.0	3.0
1339	2,4-DICHLOROBENZOIC ACID	(NTP, 1992)	: 5 mm Hg at F; 760 mm Hg at 417.7A° F	1		126.7		mm Hg							(NTP, 1992)		0.978		68		(NTP, 1992)		417		760										(NTP, 1992)		1 to 5	mg/mL		Poison	C8H1IN		7.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1340	2,4-DICHLORONITROBENZENE	2,4-DICHLORO-1-NITROBENZENE|1,3-DICHLORO-4-NITROBENZENE|2,4-DICHLORONITROBENZENE|4-NITRO-1,3-DICHLOROBENZENE|1-NITRO-2,4-DICHLOROBENZENE	611-06-3	PHYSICAL DESCRIPTION: Light yellow needles or amber crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2969.0	287.0	1024.0	474.0	344.0	607.0	61.0	214.0	104.0	69.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1341	2,4-DICHLOROPHENOL	DCP|2,4-DCP|1,3-DICHLORO-4-HYDROXYBENZENE|2,4-DICHLOROPHENIC ACID|2,4-DICHLOROPHENOL|4,6-DICHLOROPHENOL|NCI-C55345|PHENOL, 2,4-DICHLORO-	120-83-2	Colorless crystalline solid with a medicinal odor. Melting point 45Â°C. Sinks in water. Strong irritant to tissues; toxic by ingestion.	1.0	2.5	5.0	2969.0	287.0	1024.0	474.0	344.0	607.0	61.0	214.0	104.0	69.0	(BLOB)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Fire may produce irriating or poisonous gases. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution water may cause pollution. When heated it emits toxic fumes of chlorides. (EPA, 1998)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Container may explode in heat of fire. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. (Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Small fires: dry chemicals, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
1342	2,4-DICHLOROTOLUENE	2,4-DICHLORO-1-METHYLBENZENE|1,3-DICHLORO-4-METHYLBENZENE|2,4-DICHLOROMETHYLBENZENE|2,4-DICHLOROTOLUENE|TOLUENE, 2,4-DICHLORO-	95-73-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	2972.0	287.0	1024.0	474.0	344.0	608.0	61.0	214.0	104.0	69.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1343	2,4-DIMETHYL-6-TERT-BUTYL PHENOL	ANTIOXIDANT 30|2,4-DIMETHYL-6-TERT-BUTYL PHENOL|2,4-DIMETHYL-6-TERT-BUTYLPHENOL|6-(1,1-DIMETHYLETHYL)-2,4-DIMETHYLPHENOL|M 24|M 24 (ANTIOXIDANT)|2-METHYL-6-TERT-BUTYL-P-CRESOL|6-TERT-BUTYL-2,4-DIMETHYLPHENOL|6-TERT-BUTYL-2,4-XYLENOL|2-TERT BUTYL-4,6-DIMETHYLPHENOL|TOPANOL A|2,4-XYLENOL, 6-TERT-BUTYL-	1879-09-0	A yellow liquid with a phenolic odor. Insoluble in water and about the same density as water. Exposure to skin, eyes or mucous membranes may cause severe burns.	2.5	5.0	2.5	2975.0	287.0	1024.0	474.0	344.0	609.0	61.0	214.0	104.0	69.0	(BLOB)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1344	2,4-DIMETHYLPHENOL	ASYM-O-XYLENOL|2,4-DIMETHYLPHENOL|4,6-DIMETHYLPHENOL|2,4-DMP|4-HYDROXY-1,3-DIMETHYLBENZENE|1-HYDROXY-2,4-DIMETHYLBENZENE|4-HYDROXY-M-XYLENE|M-4-XYLENOL|M-XYLENOL|2,4-XYLENOL	105-67-9	Colorless crystals or clear, dark amber liquid.	5.0	1.0	1.0	2975.0	287.0	1024.0	474.0	344.0	609.0	61.0	214.0	104.0	69.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
1345	2,4-DINITROANILINE	1-AMINO-2,4-DINITROBENZENE|ANILINE, 2,4-DINITRO-|2,4-DINITRANILINE|2,4-DINITROAMINOBENZENE|2,4-DINITROANILINE|2,4-DINITROBENZENAMINE|DNA|NCI-C60753	97-02-9	Yellow powder or crystals with a musty odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	2978.0	287.0	1024.0	480.0	344.0	610.0	61.0	214.0	106.0	69.0	(BLOB)	Behavior in Fire: Compound forms a powerful tear gas when heated. Heated material may detonate under fire conditions. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1340	2,4-DICHLORONITROBENZENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Halogenated aliphatic compounds, such as CHLOROPENTANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		55																				
1341	2,4-DICHLOROPHENOL	(Non-Specific -- Coumarin Derivative, Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	Fire may produce irritating or poisonous gases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		284	
1342	2,4-DICHLOROTOLUENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for peroxyacetic acid, CAS number 79 21-0.	3	2	4	6	Oxidizer																					
1343	2,4-DIMETHYL-6-TERT-BUTYL PHENOL	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	An aqueous solution that is readily diluted.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																		(NTP, 1992)		31.3	
1344	2,4-DIMETHYLPHENOL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water. Sensitive to moisture (NTP, 1992).	TETRABROMOPHTHALIC ANHYDRIDE reacts exothermically with water. This reaction is expected to be slow, but can become vigorous if local heating accelerates it. Reaction with water is accelerated by acids. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.						0																		(NTP, 1992)		535.1 to 536.9	
1345	2,4-DINITROANILINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water. Slowly decomposes in water.	CHLOROPICRIN is a powerful irritant affecting all body surfaces, more toxic then chlorine. It can be shocked into detonation. When heated to decomposition, it emits highly toxic fumes of chlorine gas and nitrogen oxides [Sax, 9th ed., 1996, p. 821]. It produces a violent reaction with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269] or strong bases in the presence of alcohols (alkoxides) [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059]. An insecticidal mixture of the nitrocompound and 3-bromopropyne exploded violently, initiated by an overheated pump during a railcar transfer operation, [BCISC Quart. Safety Summ., 1968, 39, 12].	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1580 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3																		(NTP, 1992)		-92.6	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1340	2,4-DICHLORONITROBENZENE																																								Combustible Liquid	C5H11Cl		5.0	0.0	11.0	3.0	3.0
1341	2,4-DICHLOROPHENOL																										(EPA, 1998)		374.82													Poison	C23H15ClO3		6.0	0.0	26.0	3.0	3.0
1342	2,4-DICHLOROTOLUENE																																								Oxidizer|Corrosive	H2O2 (hydrogen peroxide)|C2H4O3 (peroxyacetic acid)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	22.0	3.0	3.0
1343	2,4-DIMETHYL-6-TERT-BUTYL PHENOL	(NTP, 1992)		1		59.5		mm Hg							(NTP, 1992)		1.11		68		(NTP, 1992)		302.4		760		(NTP, 1992)		34.02		(NIOSH, 2003)		75	ppm	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Oxidizer|Corrosive	H2O2, aqueous	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	12.0	3.0	3.0
1344	2,4-DIMETHYLPHENOL																										(NTP, 1992)		463.72						(NTP, 1992)	Insoluble					C8Br4O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	9.0	0.0	13.0	3.0	3.0
1345	2,4-DINITROANILINE	(NTP, 1992)	; 40 mm Hg at 92.8Â° F	16.9		68		mm Hg	(NTP, 1992)		5.7				(USCG, 1999)		1.64		77		(NTP, 1992)		234		760		(NTP, 1992)		164.37		(NIOSH, 2003)	(as chloropicrin)	2	ppm	(NTP, 1992)	at 72Â° F		1 to 5	mg/mL	CPL	Poison Inhalation Hazard	ClC13NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1346	2,4-DINITROPHENOL	ALDIFEN|ALPHA-DINITROPHENOL|CHEMOXPE|DINITROPHENOL|2,4-DINITROPHENOL|DINOFAN|DNP|2,4-DNP|FENOXYL|FENOXYL CARBON N|1-HYDROXY-2,4-DINITRO-BENZENE|1-HYDROXY-2,4-DINITROBENZENE|MAROXOL-50|NITRO KLEENUP|NITROPHEN|NITROPHENE|NSC 1532|PHENOL, 2,4-DINITRO-|PHENOL, ALPHA-DINITRO-|SOLFO BLACK 2B SUPRA|SOLFO BLACK B|SOLFO BLACK BB|SOLFO BLACK G|SOLFO BLACK SB|TERTROSULPHUR BLACK PB|TERTROSULPHUR PBR	51-28-5	Solid yellow crystals. Explosive when dry or with less than 15% water. The primary hazard is from blast of an instantaneous explosion and not flying projectiles and fragments. slightly soluble in water and soluble in ether and solutions of sodium or potassium hydroxide.	1.0	2.5	5.0	2978.0	287.0	1024.0	480.0	344.0	610.0	61.0	214.0	106.0	69.0	(BLOB)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1347	2,4-TOLUENEDIAMINE	(BLOB)	95-80-7	A colorless crystalline solid. Toxic by ingestion and inhalation. Irritates skin and eyes. Slightly soluble in water and neutrally buoyant in water. Decomposes with emission of toxic oxides of nitrogen at high temperatures. Used in making dyes.	1.0	2.5	5.0	2981.0	287.0	1024.0	480.0	344.0	611.0	61.0	214.0	106.0	69.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1348	2,4-XYLIDINE	4-AMINO-1,3-DIMETHYLBENZENE|4-AMINO-1,3-XYLENE|1-AMINO-2,4-DIMETHYLBENZENE|4-AMINO-3-METHYLTOLUENE|4-AMINO-M-XYLENE|2,4-DIMETHYLANILINE|2,4-DIMETHYLBENZENAMINE|2,4-DIMETHYLPHENYLAMINE|M4-XYLIDINE|M-XYLIDINE|4-METHYL-O-TOLUIDINE|2-METHYL-P-TOLUIDINE|2,4-XYLIDINE|2,4-XYLYLAMINE	95-68-1	PHYSICAL DESCRIPTION: Dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	2981.0	287.0	1024.0	480.0	344.0	611.0	61.0	214.0	106.0	69.0	(BLOB)	Spontaneous ignition may occur when contact with combustible materials is made. Oxygen released in decomposition will promote combustion. Fires can be of the flaring type but are not explosive unless confined. Vapor concentration greater than 40 percent by weight can be decomposed explosively at 1 atmosphere pressure. Severe explosion hazard when it is exposed to heat, mechanical impact, detonation of a blasting cap, or caused to decompose catalytically. Decomposition can build up large pressures of oxygen and water which may then burst explosively. Avoid oxidizable materials including iron, copper, brass, bronze, chromium, zinc, lead, manganese, silver, catalytic metals. Avoid mechanical impact, uncovering the container, contact with combustible materials, light, temperatures above 95F, hot wires, catalytic impurities. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in cargo area, use unammned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Not flammable. Fires should be fought with water since the use of chemical extinguishants may accelerate decomposition. Small fires: water only; no dry chemical or carbon dioxide. Large fires: flood fire area with water. (EPA, 1998)
1349	2,5-DICHLOROANILINE	AMARTHOL FAST SCARLET GG BASE|AMARTHOL FAST SCARLET GGS BASE|2-AMINO-1,4-DICHLOROBENZENE|1-AMINO-2,5-DICHLOROBENZENE|ANILINE, 2,5-DICHLORO-|AZOBASE DCA|AZOENE FAST SCARLET 2G BASE|AZOGENE FAST SCARLET GGC|C.I. 37010|C.I. AZOIC DIAZO COMPONENT 3DAITO SCARLET BASE GG|DEVOL SCARLET 2GS BASE|2,5-DICHLORO-1-AMINOBENZENE|2,5-DICHLOROANILINE|2,5-DICHLOROBENZENAMINE (9CI)|2,5-DICHLOROBENZENAMINE|FAST RED SGG BASE|FAST SCARLET 2G|FAST SCARLET 2G BASE|FAST SCARLET BASE 2J|FAST SCARLET BASE 2JS|FAST SCARLET BASE GGT|FAST SCARLET DS BASE|FAST SCARLET GG BASE|FAST SCARLET GGS	95-82-9	PHYSICAL DESCRIPTION: Brown crystalline solid. (NTP, 1992)	1.0	2.5	5.0	2984.0	287.0	1024.0	480.0	344.0	612.0	61.0	214.0	106.0	69.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1350	2,5-DICHLOROBENZOIC ACID	BENZOIC ACID, 2,5-DICHLORO-|2,5-DICHLOROBENZOIC ACID	50-79-3	PHYSICAL DESCRIPTION: Needles (from water) or white powder. (NTP, 1992)	1.0	2.5	5.0	2984.0	287.0	1024.0	480.0	344.0	612.0	61.0	214.0	106.0	69.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1346	2,4-DINITROPHENOL	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	CHLOROPICRIN is a powerful irritant affecting all body surfaces, more toxic than chlorine. It can be shocked into detonation. When heated to decomposition, it emits highly toxic fumes of chlorine gas and nitrogen oxides [Sax, 9th ed., 1996, p. 821]. It produces a violent reaction with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269] or strong bases in the presence of alcohols (alkoxides) [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059]. METHYL CHLORIDE can react vigorously with oxidizing agents. May react explosively with sodium, potassium, sodium-potassium alloy, magnesium, zinc. Reacts with aluminum powder in the presence of catalytic amounts of aluminum chloride to form pyrophoric trimethylaluminum. When heated to decomposition, it emits highly toxic fumes of chlorine [Bretherick, 5th ed., 1995, p. 176].	Explosive	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1582 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	3	7																							
1347	2,4-TOLUENEDIAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	CHLOROPICRIN is a powerful irritant affecting all body surfaces, more toxic then chlorine. It can be shocked into detonation. When heated to decomposition, it emits highly toxic fumes of chlorine gas and nitrogen oxides [Sax, 9th ed., 1996, p. 821]. It produces a violent reaction with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269] or strong bases in the presence of alcohols (alkoxides) [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059]. An insecticidal mixture of the nitrocompound and 3-bromopropyne exploded violently, initiated by an overheated pump during a railcar transfer operation, [BCISC Quart. Safety Summ., 1968, 39, 12].	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1583 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3																							
1348	2,4-XYLIDINE	Caution : Explosion potential is high. Hydrogen peroxide may ignite combustable materials. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors; do not get water inside container. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Small spills: flush area with flooding amounts of water. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Water soluble.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	3	3	Oxidizer															(USCG, 1999)	Not flammable.			(EPA, 1998)	for concentrations greater than 52%		31 to 40
1349	2,5-DICHLOROANILINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	CHLOROPICRIN is a powerful irritant affecting all body surfaces, more toxic then chlorine. It can be shocked into detonation. When heated to decomposition, it emits highly toxic fumes of chlorine gas and nitrogen oxides [Sax, 9th ed., 1996, p. 821]. It produces a violent reaction with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269] or strong bases in the presence of alcohols (alkoxides) [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059]. An insecticidal mixture of the nitrocompound and 3-bromopropyne exploded violently, initiated by an overheated pump during a railcar transfer operation, [BCISC Quart. Safety Summ., 1968, 39, 12].	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1583 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3																							
1350	2,5-DICHLOROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,5-DICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)			133 to 136

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1346	2,4-DINITROPHENOL																																								Poison Gas	CCl3NO2| CH3Cl	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	19.0	3.0	3.0
1347	2,4-TOLUENEDIAMINE																															(NIOSH, 2003)	(as chloropicrin)	2	ppm							Poison	CCl3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	17.0	3.0	3.0
1348	2,4-XYLIDINE	(EPA, 1998)		1		59.54		mm Hg	(EPA, 1998)	calculated	1.02				(EPA, 1998)	1.29/1.3 at 68F for concentrations greater than 52%	1.463		32		(EPA, 1998)	258Â° F for concentrations greater than 52%	306		760		(EPA, 1998)		34.02		(NIOSH, 2003)		75	ppm	(NIOSH, 2003)	Miscible				HPO	Oxidizer| Corrosive	H2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	20.0	3.0	3.0
1349	2,5-DICHLOROANILINE																																								Poison	CCl3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	25.0	3.0	3.0
1350	2,5-DICHLOROBENZOIC ACID																					(NTP, 1992)		412		760		(NTP, 1992)		163						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H4Cl2O		7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1351	2,5-DICHLOROPHENOL	2,5-DCP|2,5-DICHLOROPHENOL|3,6-DICHLOROPHENOL	583-78-8	PHYSICAL DESCRIPTION: Prisms (from benzene, petroleum ether) or white crystals. Odor threshold 30 Âµg/L at 68-72Â°F; 33 Âµg/L at 86Â°F. Taste threshold 0.5 Âµg/L. (NTP, 1992)	1.0	2.5	5.0	2987.0	287.0	1024.0	480.0	344.0	613.0	61.0	214.0	106.0	69.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1352	2,5-DIMETHYLFURAN	2,5-DIMETHYLFURAN|2,5-DIMETHYLFURANE|FURAN, 2,5-DIMETHYL-	625-86-5	PHYSICAL DESCRIPTION: Clear yellow oily liquid. Aromatic caustic odor. (NTP, 1992)	2.5	5.0	2.5	2987.0	287.0	1024.0	480.0	347.0	613.0	61.0	214.0	106.0	70.0	(BLOB)	It is extremely flammable; may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. It is dangerous and forms explosive mixtures with air. It can decompose into toxic fumes. Incompatible with acid, water, halogenated hydrocarbons, oxidizers, hydrogen peroxide, and nitric acid. It should be stored out of the direct rays of the sun. Keep away from heat and flames. (EPA, 1998)	Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Stay upwind; keep out of low areas. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Wear self-contained breathing apparatus and full protective clothing. Cool containers that are exposed to flames with water until well after the fire is out. Let tank car, tank truck, or storage tank burn unless leak can be stopped. Small fires: dry chemical or carbon dioxide. Large fires: water spray, fog, or foam. (EPA, 1998)
1353	2,5-DIMETHYLPHENOL	2,5-DIMETHYLPHENOL|3,6-DIMETHYLPHENOL|2,5-DMP|1-HYDROXY-2,5-DIMETHYLBENZENE|HYDROXY-P-XYLENE|6-METHYL-M-CRESOL|P-XYLENOL|1,2,5-XYLENOL|2,5-XYLENOL	95-87-4	PHYSICAL DESCRIPTION: Colorless to off-white crystalline solid. Odor threshold concentration 0.4 mg/L. Taste threshold concentration 0.5 mg/L. (NTP, 1992)	1.0	2.5	5.0	2990.0	287.0	1024.0	480.0	347.0	614.0	61.0	214.0	106.0	70.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1354	2,5-XYLIDINE	3-AMINO-1,4-DIMETHYLBENZENE|5-AMINO-1,4-DIMETHYLBENZENE|2-AMINO-1,4-XYLENE|1-AMINO-2,5-DIMETHYLBENZENE|2-AMINO-P-XYLENE|2,5-DIMETHYLANILINE|2,5-DIMETHYLBENZENAMINE|2,5-DIMETHYLPHENYLAMINE|6-METHYL-M-TOLUIDINE|5-METHYL-O-TOLUIDINE|P-XYLIDINE|2,5-XYLIDINE	95-78-3	PHYSICAL DESCRIPTION: Dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	2993.0	290.0	1024.0	480.0	350.0	615.0	62.0	214.0	106.0	71.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
1355	2,6-DIAMINOTOLUENE	2,6-DIAMINO-1-METHYLBENZENE|1,3-DIAMINO-2-METHYLBENZENE|DIAMINOTOLUENE|2,6-DIAMINOTOLUENE|2-METHYL-1,3-BENZENEDIAMINE|2-METHYL-1,3-PHENYLENEDIAMINE|2-METHYL-M-PHENYLENEDIAMINE|TOLUENE-2,6-DIAMINE|2,6-TOLUYLENEDIAMINE|2,6-TOLYLENEDIAMINE	823-40-5	PHYSICAL DESCRIPTION: Colorless prisms (from water). (NTP, 1992)	2.5	5.0	2.5	2993.0	290.0	1024.0	480.0	350.0	615.0	62.0	214.0	106.0	71.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1351	2,5-DICHLOROPHENOL	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. 2,5-DIETHOXY-4-MORPHOLINOBENZENEDIAZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
1352	2,5-DIMETHYLFURAN	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Soluble in water.	HYDROGEN SELENIDE is a colorless, flammable gas of unpleasant odor, a deadly poison by inhalation. It forms explosive mixtures with air. It reacts vigorously with strong oxidizing reagents, e.g., hydrogen peroxide, nitric acid [Sax, 9th ed., 1996, p.1843].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2202 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)					0				(EPA, 1998)	Extremely flammable.				(EPA, 1998)	Extremely flammable.							(EPA, 1998)		-86.31	
1353	2,5-DIMETHYLPHENOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	CHLOROPICRIN is a powerful irritant affecting all body surfaces, more toxic then chlorine. It can be shocked into detonation. When heated to decomposition, it emits highly toxic fumes of chlorine gas and nitrogen oxides [Sax, 9th ed., 1996, p. 821]. It produces a violent reaction with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269] or strong bases in the presence of alcohols (alkoxides) [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059].	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1580 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3																										
1354	2,5-XYLIDINE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	HYDROGENATED TERPHENYLS are non-flammable (flash-point 157Â°C for 40% hydrogenated mixture), but combustible. Resist decomposition but break down to produce acrid smoke when heated sufficiently. Incompatible with strong oxidizing agents.					0		(NIOSH, 2003)	(40% hydrogenated)	315																				
1355	2,6-DIAMINOTOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Very slightly soluble in water.	An organosulfide amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																							(NTP, 1992)		189 to 190

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sk_source	sk_note	sk_value	sk_range	sk_value_tempDegF	sk_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_unit	chrtc_codes	clabels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
1351	2,5-DICHLOROPHENOL																																														
1352	2,5-DIMETHYLFURAN	(EPA, 1998)		6536 to 9120		64.4 to 87.44		mm Hg	(EPA, 1998)		2.12		-43.6								(EPA, 1998)		-42.3		760																C2H4OC14N6GNZn	H2Se		6.0	0.0	11.0	3.0	3.0
1353	2,5-DIMETHYLPHENOL																																													
1354	2,5-XYLIDINE	(NIOSH, 2003)	(40% hydrogena ted)	1,003 to 1,009	77				(NIOSH, 2003)	(40% hydrogena ted)	644		760		(NIOSH, 2003)	(40% hydrogena ted)	298			(NIOSH, 2003)	Insoluble	at 68Å° F	0.1 to 1.0	mg/mL				C4H11ON2S	(C6H6)3	Cellulose-Based Absorbents	Exp anded Polymeric Absorbents	6.0	0.0	19.0	3.0	3.0
1355	2,6-DIAMINOTOLUENE																																													

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1356	2,6-DICHLOROBENZALDEHYDE	BENZALDEHYDE, 2,6-DICHLORO-|2,6-DICHLOROBENZALDEHYDE|O,O'-DICHLOROBENZALDEHYDE	83-38-5	PHYSICAL DESCRIPTION: Yellowish flakes or fine off-white powder. Pungent odor. (NTP, 1992)	1.0	2.5	5.0	2996.0	293.0	1027.0	480.0	353.0	616.0	63.0	215.0	106.0	72.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1357	2,6-DICHLOROBENZOIC ACID	BENZOIC ACID, 2,6-DICHLORO-|2,6-DICHLOROBENZOIC ACID	50-30-6	PHYSICAL DESCRIPTION: Needles (from ethanol) or white solid. (NTP, 1992)	1.0	2.5	5.0	2996.0	293.0	1027.0	480.0	353.0	616.0	63.0	215.0	106.0	72.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1358	2,6-DICHLOROPHENOL	2,6-DCP|2,6-DICHLOROPHENOL	87-65-0	PHYSICAL DESCRIPTION: White crystalline solid with a strong odor. Odor threshold concentration: 0.003 mg/L at 86Â°F; 200 Âµg/L at 68-72Â°F. Taste threshold concentration: 0.0002 mg/L. (NTP, 1992)	1.0	2.5	5.0	2999.0	293.0	1027.0	480.0	353.0	617.0	63.0	215.0	106.0	72.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1359	2,6-DIMETHYLPHENOL	2,6-DIMETHYLPHENOL|2,6-DMP|1-HYDROXY-2,6-DIMETHYLBENZENE|2-HYDROXY-M-XYLENE|M-2-XYLENOL|VIC-M-XYLENOL|2,6-XYLENOL	576-26-1	PHYSICAL DESCRIPTION: Colorless to off-white crystalline solid with a sweet tarry odor. Odor threshold concentration: 0.4 mg/L . (NTP, 1992)	1.0	2.5	5.0	3002.0	293.0	1027.0	480.0	353.0	618.0	63.0	215.0	106.0	72.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1360	2,6-XYLIDINE	2-AMINO-1,3-DIMETHYLBENZENE|2-AMINO-1,3-XYLENE|1-AMINO-2,6-DIMETHYLBENZENE|2-AMINO-M-XYLENE|AMINO(DIMETHYLBENZENE|ANILINE, 2,6-DIMETHYL|AR,AR-DIMETHYLBENZENAMINE|2,6-DIMETHYLANILINE (DMA)|2,6-DIMETHYLANILINE|2,6-DIMETHYLBENZENAMINE|2,6-DIMETHYLPHENYLAMINE|NCI-C56188|NCL-C56188|O-XYLIDINE|2,6-XYLIDINE|XYLIDINES (O-XYLIDENE)|2,6-XYLYLAMINE	87-62-7	A liquid. Toxic by ingestion, inhalation and skin absorption. Slightly soluble in water. Used in pharmaceuticals, as dye intermediates and organic syntheses.	2.5	5.0	2.5	3002.0	293.0	1027.0	480.0	353.0	618.0	63.0	215.0	106.0	72.0	(BLOB)	Dust cloud may explode if ignited in an enclosed area. It can react with oxidizing materials and is rapidly oxidized in the presence of alkaline materials. Oxidizes in air. (EPA, 1998)	Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. For small fires use dry chemical, carbon dioxide, water spray or foam. Move container from fire area if you can do so without risk. This compound is a slight fire or explosion hazard. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1356	2,6-DICHLOROBENZALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. This chemical may be sensitive to exposure to air(not vigorous). Insoluble in water.	2,5-DIMETHYLFURAN can react vigorously with oxidizing materials. It is also incompatible with strong acids and strong bases. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		30.2															(NTP, 1992)		-81	
1357	2,6-DICHLOROBENZOIC ACID	SMALL SPILLS AND LEAKAGE:. Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is hygroscopic. Insoluble in water.	2,5-DIMETHYLPHENOL is incompatible with bases, acid chlorides, acid anhydrides and oxidizing agents. It corrodes steel, brass, copper and copper alloys. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		160 to 163
1358	2,6-DICHLOROPHENOL	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water and less dense than water. Hence floats on water. Reacts with water to form hydrochloric acid (hydrogen chloride).	CHLOROPIVALOYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, bases, including amines. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9263 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1359	2,6-DIMETHYLPHENOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Soluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1360	2,6-XYLIDINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided (when concentration is >7%) in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Darkens on exposure to air and light. Miscible in water. Solutions become brown in air due to oxidation. Oxidation is very rapid in the presence of alkali.	HYDROQUINONE is a slight explosion hazard when exposed to heat. Incompatible with strong oxidizing agents. Also incompatible with bases. It reacts with oxygen and sodium hydroxide. Reacts with ferric salts (NTP, 1992). Hot and/or concentrated NaOH can cause hydroquinone to decompose exothermically at elevated temperature. (NFPA Pub. 491M, 1975, 385)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(EPA, 1998)		329															(USCG, 1999)		960		(EPA, 1998)		338 to 340

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1356	2,6-DICHLOROBENZALDEHYDE	(NTP, 1992)	; 174 mm Hg at 124Â° F; 404 mm Hg at 167Â° F	53		72		mm Hg	(NTP, 1992)		3.31				(NTP, 1992)		0.8883		68		(NTP, 1992)			198 to 201	760		(NTP, 1992)		96.14						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Flammable Liquid	C6H8O		8.0	0.0	21.0	3.0	3.0
1357	2,6-DICHLOROBENZOIC ACID	(NTP, 1992)	; 5 mm Hg at 172.4Â° F; 10 mm Hg at 196.3Â° F	1		125.2		mm Hg							(NTP, 1992)		0.971				(NTP, 1992)			414		760		(NTP, 1992)		122.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H10O		6.0	0.0	19.0	3.0	3.0
1358	2,6-DICHLOROPHENOL																																									Poison Inhalation Hazard|Corrosive	C5H8Cl2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	21.0	3.0	3.0
1359	2,6-DIMETHYLPHENOL																													409.8		(NIOSH, 2003)	(as Pt)	4	mg/m3							Corrosive	H2PtCl6		7.0	0.0	16.0	3.0	3.0
1360	2,6-XYLIDINE	(EPA, 1998)		4		302		mm Hg	(EPA, 1998)		3.81				(EPA, 1998)		1.332		59		(EPA, 1998)			545 to 549	760		(EPA, 1998)		110.11		(NIOSH, 2003)		50	mg/m3	(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	HDQ	Poison	C6H6O2		8.0	0.0	27.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1361	2-AMINO-2-METHYL-1-PROPANOL	2-AMINO-1-HYDROXY-2-METHYLPROPANE|2-AMINO-2,2-DIMETHYLETHANOL|2-AMINO-2-METHYL-1-PROPANOL (90% OR LESS)|2-AMINO-2-METHYL-1-PROPANOL|2-AMINO-2-METHYLPROPANOL|2-AMINODIMETHYLETHANOL|2-AMINOISOBUTANOL|AMP|AMP (THINNER)|AMP 95|AMP REGULAR|AMP-95|BETA-AMINOISOBUTANOL|1,1-DIMETHYL-2-HYDROXYETHYLAMINE|2,2-DIMETHYLETHANOLAMINE|2-HYDROXY-1,1-DIMETHYLETHYLAMINE|HYDROXY-TERT-BUTYLAMINE|2-HYDROXYMETHYL-2-PROPYLAMINE|ISOBUTANOL AMINE|ISOBUTANOL-2-AMINE|2-METHYL-2-AMINO-1-PROPANOL|2-METHYL-2-AMINOPROPANOL|1-PROPANOL, 2-AMINO-2-METHYL-	124-68-5	A clear light colored liquid. Insoluble in water and about the same density as water. Flash point 172Â°F. Used to make other chemicals.	2.5	5.0	2.5	3005.0	293.0	1027.0	480.0	353.0	619.0	63.0	215.0	106.0	72.0	INHALATION: remove victim from exposure; support respiration; call physician if needed. EYES: wash with large amounts of water for 15 min.; call physician. SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Containers may explode (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1362	2-AMINO-4-(METHYLSULFONYL)PHENOL	2-AMINO-4-(METHYLSULFONYL)PHENOL|PHENOL, 2-AMINO-4-(METHYLSULFONYL)-	98-30-6	PHYSICAL DESCRIPTION: Dark brown powder. (NTP, 1992)	1.0	2.5	5.0	3008.0	293.0	1030.0	480.0	353.0	620.0	63.0	216.0	106.0	72.0	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1363	2-AMINO-4,6-DICHLOROPHENOL	6-AMINO-2,4-DICHLOROPHENOL|2-AMINO-4,6-DICHLOROPHENOL|4,6-DICHLORO-2-AMINOPHENOL|2,4-DICHLORO-6-AMINOPHENOL|4,6-DICHLORO-O-AMINOPHENOL	527-62-8	Long needles (from carbon disulfide). Sublimes (at 0.06 mm Hg) at 158-176Â°F. (NTP, 1992)	2.5	5.0	2.5	3008.0	293.0	1030.0	480.0	353.0	620.0	63.0	216.0	106.0	72.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1364	2-AMINO-4,6-DINITROPHENOL	6-AMINO-2,4-DINITROPHENOL|1-AMINO-2-HYDROXY-3,5-DINITROBENZENE|1-AMINO-3,5-DINITRO-2-HYDROXYBENZENE|2-AMINO-4,6-DINITROPHENOL|C.I. OXIDATION BASE 21|4,6-DINITRO-2-AMINOPHENOL|2,4-DINITRO-6-AMINOPHENOL|DINITROAMINOPHENOL|FOURRINE 4R|FOURRINE 93|FURRO 4R|2-HYDROXY-3,5-DINITROANILINE|PICRAMIC ACID|PICRAMINIC ACID|ZOBA 4R	96-91-3	PHYSICAL DESCRIPTION: Dark red needles or prisms. Red crystals. Water insoluble. Explosive in the dry state but desensitized by wetting. Easily ignited and once ignited burn readily.	1.0	2.5	5.0	3008.0	293.0	1030.0	480.0	353.0	620.0	63.0	216.0	106.0	72.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1365	2-AMINO-4,6-DINITROPHENOL, WETTED WITH NOT LESS THAN 20% WATER	2-AMINO-4,6-DINITROPHENOL, WETTED WITH NOT LESS THAN 20% WATER|PICRAMIC ACID|PICRAMINIC ACID	96-91-3	PHYSICAL DESCRIPTION: Dark red needles or prisms. Red crystals. Water insoluble. Explosive in the dry state but desensitized by wetting. Easily ignited and once ignited burn readily.	1.0	2.5	5.0	3008.0	296.0	1033.0	480.0	356.0	620.0	64.0	217.0	106.0	73.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1361	2-AMINO-2-METHYL-1-PROPANOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Flammable. Slightly soluble in water.	A functional monomer of thermosetting acrylic resins.	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3		(NFPA, 2010)		214														(USCG, 1999)		-76	
1362	2-AMINO-4-(METHYLSULFONYL)PHENOL	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	2,5-NORBORNADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. Violent explosions at low temperatures in ammonia synthesis gas units have been traced to the addition products of dienes and nitrogen dioxide [Bretherick, 5th Ed., 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)		-6																		
1363	2-AMINO-4,6-DICHLOROPHENOL	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. 1,1'-AZODI-(HEXAHYDROBENZONITRILE) is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
1364	2-AMINO-4,6-DINITROPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Acidic organic/inorganic salts, such as 2,5-TOLUENEDIAMINE SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
1365	2-AMINO-4,6-DINITROPHENOL, WETTED WITH NOT LESS THAN 20% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	2,5-XYLIDINE ignites on contact with fuming nitric acid (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		201															(NTP, 1992)		59.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1361	2-AMINO-2-METHYL-1-PROPANOL														(USCG, 1999)		1.1		77		(USCG, 1999)			greater than 346	760		(USCG, 1999)		116.1											HAI	Poison|Corrosive	C5H8O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	14.0	3.0	3.0
1362	2-AMINO-4-(METHYLSULFONYL)PHENOL																																								Flammable Liquid	C7H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	11.0	3.0	3.0
1363	2-AMINO-4,6-DICHLOROPHENOL																																								Flammable Solid	C14H20N4		6.0	0.0	12.0	3.0	3.0
1364	2-AMINO-4,6-DINITROPHENOL																											(NTP, 1992)		202.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C7H10N2.H2O4S		7.0	0.0	13.0	3.0	3.0
1365	2-AMINO-4,6-DINITROPHENOL, WETTED WITH NOT LESS THAN 20% WATER	(NTP, 1992)	; 31.4 mm Hg at 103.1Â° F; 109.0 mm Hg at 155.3Â° F	16.5		72		mm Hg	(NTP, 1992)		4.18				(NTP, 1992)		0.979		70		(NTP, 1992)		417		760		(NTP, 1992)		121.2						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C8H11N		7.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1366	2-AMINO-4-CHLORO-5-NITROPHENOL	2-AMINO-4-CHLORO-5-NITROPHENOL|2-AMINO-5-NITRO-4-CHLOROPHENOL	6358-07-2	PHYSICAL DESCRIPTION: Orange powder that turns dark at 392Â°F. (NTP, 1992)	1.0	2.5	5.0	3008.0	296.0	1033.0	480.0	356.0	620.0	64.0	217.0	106.0	73.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1367	2-AMINO-4-CHLORO-6-NITROPHENOL	2-AMINO-4-CHLORO-6-NITROPHENOL|2-HYDROXY-3-AMINO-5-CHLORONITROBENZENE|2-HYDROXY-3-NITRO-5-CHLOROANILINE	6358-08-3	A solid. (NTP, 1992)	1.0	2.5	5.0	3011.0	296.0	1033.0	486.0	356.0	621.0	64.0	217.0	108.0	73.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1368	2-AMINO-4-CHLOROPHENOL	2-AMINO-4-CHLOROPHENOL|AMINOCHLOROPHENOL|C.I. 76525|C.I. OXIDATION BASE 18|4-CHLORO-2-AMINOPHENOL|5-CHLORO-2-HYDROXYANILINE|FOURAMINE PY|2-HYDROXY-5-CHLOROANILINE|O-AMINO-P-CHLOROPHENOL|P-CHLORO-O-AMINOPHENOL	95-85-2	2-Amino-4-chlorophenol is a light brown colored crystalline solid. It may be toxic by ingestion. It is insoluble in water. It is used to make other chemicals.	1.0	2.5	5.0	3014.0	296.0	1033.0	486.0	356.0	622.0	64.0	217.0	108.0	73.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
1369	2-AMINO-4-METHYLPHENOL	1-AMINO-2-HYDROXY-5-METHYLBENZENE|3-AMINO-4-HYDROXYTOLUENE|2-AMINO-4-METHYLPHENOL|2-AMINO-P-CRESOL|1-HYDROXY-2-AMINO-4-METHYLBENZENE|2-HYDROXY-5-METHYLANILINE|6-HYDROXY-M-TOLUIDINE|4-METHYL-2-AMINOPHENOL|5-METHYL-2-HYDROXYANILINE|P-CRESOL, 2-AMINO-	95-84-1	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	3014.0	296.0	1033.0	486.0	356.0	622.0	64.0	217.0	108.0	73.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1370	2-AMINO-4-THIAZOLE ACETIC ACID	2-AMINO-4-THIAZOLE ACETIC ACID|2-AMINO-4-THIAZOLEACETIC ACID|2-AMINO-4-THIAZOLYLACETIC ACID|(2-AMINO-4-THIAZOYL)ACETIC ACID|2-AMINOTHIAZOLE-4-ACETIC ACID|SQ 272	29676-71-9	PHYSICAL DESCRIPTION: Light orange powder. (NTP, 1992)	1.0	2.5	5.0	3017.0	296.0	1036.0	486.0	356.0	623.0	64.0	218.0	108.0	73.0	Call a doctor. INHALATION: Remove from contaminated area. Administer oxygen and artificial respiration if needed. EYES: Flush with water. SKIN: Wash with soap and water. INGESTION: Gastric lavage and saline cathartics. OTHER: To reduce fever, use cold packs and alcohol baths. (USCG, 1999)	Special Hazards of Combustion Products: Dissociation into irritating nitrogen oxides. Behavior in Fire: Can explode when heated under confinement. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, CO 2 , foam (USCG, 1999)
1371	2-AMINO-5-NITROPHENOL	2-AMINO-5-NITROPHENOL|C.I. 76535|3-HYDROXY-4-AMINONITROBENZENE|2-HYDROXY-4-NITROANILINE|NCI-C55970|5-NITRO-2-AMINOPHENOL|3-NITRO-6-AMINOPHENOL|RODOL YBA|URSOL YELLOW BROWN A	121-88-0	PHYSICAL DESCRIPTION: Brown amorphous granules or powder. Melting point 198-202Â°C.	1.0	2.5	5.0	3020.0	296.0	1039.0	486.0	356.0	624.0	64.0	219.0	108.0	73.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes of oxides of nitrogen Behavior in Fire: May explode when exposed to heat or flame. (USCG, 1999)	Fire Extinguishing Agents: Water, Carbon dioxide, dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1366	2-AMINO-4-CHLORO-5-NITROPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	2,6-DIAMINOTOLUENE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		223	
1367	2-AMINO-4-CHLORO-6-NITROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Sensitive to air, moisture and light. Insoluble in water.	2,6-DICHLOROBENZALDEHYDE is incompatible with strong oxidizers and strong bases. It may also be incompatible with iron. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		275													(NTP, 1992)			158 to 160
1368	2-AMINO-4-CHLOROPHENOL	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides(ClxSiHy) are spontaneously flammable in air, NFPA 1991.	Chlorosilanes are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2988 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water																		
1369	2-AMINO-4-METHYLPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be unstable to prolonged exposure to air and light. (NTP, 1992). Insoluble in water.	2,6-DICHLORO-P-PHENYLENEDIAMINE neutralizes acids in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate flammable gaseous hydrogen in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(NTP, 1992)			255 to 259
1370	2-AMINO-4-THIAZOLE ACETIC ACID	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Safety glasses, self-contained breathing apparatus, pro- tective clothing, butyl rubber gloves and protective shoes. (USCG, 1999)	Mixes slowly with water.	2,6-DINITROPHENOL can detonate or explode when heated under confinement (USCG, 1999). Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)		147.2	
1371	2-AMINO-5-NITROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Safety glasses with side shields and face shield, self-contained breathing apparatus or air line masks, butyl rubber gloves, boots and protective clothing. (USCG, 1999)	Mixes slowly with water. Insoluble in water.	2,6-DINITROTOLUENE is sensitive to heat. It may explode when exposed to heat or flame. It can be detonated only by a very strong initiator. This chemical is incompatible with strong oxidizers. It is also incompatible with caustics and metals such as tin and zinc. It may react with reducing agents. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		404													(NTP, 1992)			151

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1366	2-AMINO-4-CHLORO-5-NITROPHENOL																									(NTP, 1992)		122.17						(NTP, 1992)	Soluble					Class 9	C7H10N2		6.0	0.0	14.0	3.0	3.0
1367	2-AMINO-4-CHLORO-6-NITROPHENOL																				(NTP, 1992)		329		760		(NTP, 1992)		175.02						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Corrosive	C7H4Cl2O	Cellulose-Based Absorbents	5.0	0.0	12.0	3.0	3.0
1368	2-AMINO-4-CHLOROPHENOL																																								Dangerous When Wet|Flammable Liquid|Corrosive	ClH3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	39.0	3.0	3.0
1369	2-AMINO-4-METHYLPHENOL																											(NTP, 1992)		177.03						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C6H6Cl2N2		8.0	0.0	13.0	3.0	3.0
1370	2-AMINO-4-THIAZOLE ACETIC ACID															(USCG, 1999)	(est)	1.68										(USCG, 1999)		184.11											DNH	Flammable Solid|Poison	C6H4N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	12.0	3.0	3.0
1371	2-AMINO-5-NITROPHENOL	(NTP, 1992)		0.018		68		mm Hg	(NTP, 1992)		6.28					(USCG, 1999)		1.283		231.8		(NTP, 1992)	Decomposes					(NTP, 1992)		182.14						(NTP, 1992)	at 64Â° F		less than 1	mg/mL	DNL	Poison	C7H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1372	2-AMINO-5-NITROTHIAZOLE	2-AMINO-4-NITROTHIAZOLE|2-AMINO-5-NITRO-1,3-THIAZOLE|2-AMINO-5-NITROTHIAZOLE|AMINONITROTHIAZOLE|AMINONITROTHIAZOLUM|AMINZOL SOLUBLE|AMNIZOL SOLUBLE|ENHEPTIN|ENHEPTIN PREMIX|ENHEPTIN T|ENHEPTIN-T|ENTRAMIN|NCI-C03065|NITRAMIN|NITRAMIN IDO|NITRAMINE|5-NITRO-2-AMINOTHIAZOLE|5-NITRO-2-THIAZOLAMINE|5-NITRO-2-THIAZOLYLAMINE|NITROMIN IDO|THIAZOLE, 2-AMINO-5-NITRO-|USAF EK-6561	121-66-4	PHYSICAL DESCRIPTION: Greenish-yellow to orange-yellow fluffy powder or a brown chunky powder. Slightly bitter taste. Used as a veterinary medicine.	1.0	2.5	5.0	3020.0	296.0	1039.0	486.0	356.0	624.0	64.0	219.0	108.0	73.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1373	2-AMINO-6-METHOXYBENZOTHIAZOLE	2-AMINO-6-METHOXYBENZOTHIAZOLE|2-BENZOTHIAZOLAMINE, 6-METHOXY-|BENZOTHIAZOLE, 2-AMINO-6-METHOXY-|6-METHOXY-2-AMINOBENZOTHIAZOLE|6-METHOXY-2-BENZOTHIAZOLAMINE	1747-60-0	PHYSICAL DESCRIPTION: Fine off-white to light tan powder. (NTP, 1992)	1.0	2.5	5.0	3020.0	296.0	1039.0	486.0	356.0	624.0	64.0	219.0	108.0	73.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1374	2-AMINO-6-NITRO-1-PHENOL-4-SULFONIC ACID	1-AMINO-2-HYDROXY-3-NITRO-5-BENZENESULFONIC ACID|3-AMINO-4-HYDROXY-5-NITROBENZENESULFONIC ACID|3-AMINO-5-NITRO-4-HYDROXYBENZENESULFONIC ACID|2-AMINO-6-NITRO-1-PHENOL-4-SULFONIC ACID|2-AMINO-6-NITRO-4-SULFOPHENOL|2-AMINO-6-NITROPHENOL-4-SULFONIC ACID|2-AMINO-6-NITROPHENOL-4-SULPHONIC ACID|2-HYDROXY-3-NITRO-5-SULFOANILINE|4-HYDROXY-5-NITROMETANILIC ACID|METANILIC ACID, 4-HYDROXY-5-NITRO-|6-NITRO-2-AMINOPHENOL-4-SULFONIC ACID	96-93-5	PHYSICAL DESCRIPTION: Colorless prisms (from water). (NTP, 1992)	1.0	2.5	5.0	3020.0	296.0	1039.0	486.0	356.0	624.0	64.0	219.0	108.0	73.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1375	2-AMINOBENZIMIDAZOLE	2-AB|2-AMINO-1H-BENZIMIDAZOLE|2-AMINOBENZIMIDAZOLE|2-BENZIMIDAZOLAMINE|BENZIMIDAZOLE, 2-AMINO-|2-BENZIMIDAZOLYLAMINE|1H-BENZIMIDAZOL-2-AMINE|2-IMINOBENZIMIDAZOLINE|USAF EK-4037	934-32-7	PHYSICAL DESCRIPTION: Plates (in water); white powder. (NTP, 1992)	1.0	2.5	5.0	3023.0	296.0	1039.0	492.0	356.0	625.0	64.0	219.0	110.0	73.0	INHALATION: Call for medical aid. Remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES - OR - SKIN: Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. Assure adequate flushing of the eyes by separating the eyelids with the fingers. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes during fire conditions. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1376	2-AMINOFLUORENE	2-AMINO-FLUORENE|2-AMINOFLUORENE|FLUOREN-2-AMINE|2-FLUORENAMINE|2-FLUORENEAMINE|2-FLUORENYLAMINE|9H-FLUOREN-2-AMINE|N-2-FLUORENYLAMINE	153-78-6	PHYSICAL DESCRIPTION: Brown crystal powder. (NTP, 1992)	1.0	2.5	5.0	3023.0	296.0	1042.0	492.0	356.0	625.0	64.0	220.0	110.0	73.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1377	2-AMINOPHENOL-4-SULFONIC ACID	2-AMINO-1-PHENOL-4-SULFONIC ACID|1-AMINO-2-HYDROXY-5-BENZENESULFONIC ACID|3-AMINO-4-HYDROXY BENZENESULFONIC ACID|3-AMINO-4-HYDROXY SULFONIC ACID|3-AMINO-4-HYDROXYBENZENESULFONIC ACID|2-AMINO-4-SULFOPHENOL|2-AMINOPHENOL-4-SULFONIC ACID|2-AMINOPHENOL-4-SULPHONIC ACID|4-HYDROXY-3-AMINOBENZENESULFONIC ACID|2-HYDROXY-5-SULFOANILINE|METANILIC ACID, 4-HYDROXY-|O-AMINOPHENOL-P-SULFONIC ACID|ORTHO-AMINO-PHENOL-PARA-SULFONIC ACID	98-37-3	PHYSICAL DESCRIPTION: Rhombic brown crystals. (NTP, 1992)	1.0	2.5	5.0	3023.0	296.0	1042.0	492.0	356.0	625.0	64.0	220.0	110.0	73.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1372	2-AMINO-5-NITROTHIAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	2,6-TOLUENEDIAMINE DIHYDROCHLORIDE behaves as a weak organic acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																							(NTP, 1992)	(Decomposes)	525	
1373	2-AMINO-6-METHOXYBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.						0																							(NTP, 1992)		554 to 563
1374	2-AMINO-6-NITRO-1-PHENOL-4-SULFONIC ACID	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 1,1-DI-(TERT-BUTYLPEROXY)-3,3,5-TRIMETHYL CYCLOHEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1375	2-AMINOBENZIMIDAZOLE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	2-AMINO-2-METHYL-1-PROPANOL is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		153															(USCG, 1999)		89.6	
1376	2-AMINOFLUORENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	A base. An organosulfide and an amine. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																										
1377	2-AMINOPHENOL-4-SULFONIC ACID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air.	2-AMINO-3,4,6-TRICHLOROPHENOL may react with strong oxidizing agents and mineral acids or bases (NTP, 1992).						0																						(NTP, 1992)		257 to 261

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1372	2-AMINO-5-NITROTHIAZOLE																										(NTP, 1992)		195.11						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C7H10N2.ClH		9.0	0.0	17.0	3.0	3.0
1373	2-AMINO-6-METHOXYBENZOTHIAZOLE																										(NTP, 1992)		270.2						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C13H6N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	21.0	3.0	3.0
1374	2-AMINO-6-NITRO-1-PHENOL-4-SULFONIC ACID																																								Organic Peroxide Explosive	C17H34O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	28.0	3.0	3.0
1375	2-AMINOBENZIMIDAZOLE														(USCG, 1999)		0.935				(USCG, 1999)	(99+% compound)	329		760		(USCG, 1999)		89.14											APR	Combustible Liquid	C4H11NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	17.0	3.0	3.0
1376	2-AMINOFLUORENE																				(NTP, 1992)		311 to 313	1			(NTP, 1992)		295.86						(NTP, 1992)	Slightly soluble						C14H18ClN3S	Mineral-Based & Clay-Based Absorbents	8.0	0.0	11.0	3.0	3.0
1377	2-AMINOPHENOL-4-SULFONIC ACID																										(NTP, 1992)		212.47													C6H4Cl3NO		4.0	0.0	29.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1378	2-BROMOBIPHENYL	BIPHENYL, 2-BROMO-|1-BROMO-2-PHENYLBENZENE|2-BROMOBIPHENYL|2-BROMODIPHENYL|O-BROMOBIPHENYL|O-BROMODIPHENYL|PBB 1|2-PHENYLBROMOBENZENE	2052-07-5	PHYSICAL DESCRIPTION: Clear liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3026.0	296.0	1042.0	492.0	356.0	626.0	64.0	220.0	110.0	73.0	INHALATION: if ill effects occur, get patient to fresh air, keep him quiet and warm, and get medical attention; if breathing stops, start artificial respiration. INGESTION: force milk or water immediately; induce vomiting only at physician's recommendation. EYES: promptly flush with plenty of water and get medical attention. SKIN: promptly flush with plenty of water; get medical attention if burning occurs. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1379	2-BROMOBUTANE	(+-)-2-BROMOBUTANE|2-BROMOBUTANE|2-BUTYL BROMIDE|METHYL ETHYL BROMO-METHANE|METHYLETHYLBROMOMETHANE|SEC-BUTYL BROMIDE|(+-)-SEC-BUTYL BROMIDE	78-76-2	A colorless to pale-yellow colored liquid with a pleasant odor. Flash point 65Â°F. Insoluble in water and denser than water. Vapors are heavier than air and may be narcotic in high concentrations. Used to make other chemicals.	2.5	5.0	2.5	3029.0	296.0	1042.0	492.0	356.0	627.0	64.0	220.0	110.0	73.0	INHALATION: remove victim to fresh air; if required, start artificial respiration and call a doctor. INGESTION: force milk or water at once; get medical attention. EYES: flush with water for at least 15 min.; get medical attention if irritation persists. SKIN: flush with water; get medical attention for burns. (USCG, 1999)	Behavior in Fire: Compound may polymerize when hot and burst container. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1380	2-BROMOETHANOL	BETA-BROMOETHANOL|BETA-BROMOETHYL ALCOHOL|1-BROMO-2-ETHANOL|1-BROMO-2-HYDROXYETHANE|2-BROMOETHANOL|2-BROMOETHYL ALCOHOL|ETHYLENE BROMOHYDRIN|ETHYLENE BROMOHYDRIN|GLYCOL BROMOHYDRIN|2-HYDROXYETHYL BROMIDE	540-51-2	PHYSICAL DESCRIPTION: Colorless to dark brown liquid. Sweet burning taste. (NTP, 1992)	2.5	5.0	2.5	3029.0	296.0	1042.0	492.0	356.0	627.0	64.0	220.0	110.0	73.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1381	2-BROMOPENTANE	(+-)-2-BROMOPENTANE|2-BROMOPENTANE, [FLAMMABLE LIQUID]|2-BROMOPENTANE|2-PENTYL BROMIDE|2-PENTYLBROMIDE	107-81-3	A colorless to yellow-colored liquid with a strong odor. Flash point 90Â°F. Slightly denser than water and insoluble in water. Vapors heavier than air. May irritate skin and eyes. In high concentrations the vapors may be narcotic.	2.5	5.0	2.5	3029.0	296.0	1042.0	498.0	356.0	627.0	64.0	220.0	112.0	73.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1382	2-CHLORO-4-NITROANILINE	1-AMINO-2-CHLORO-4-NITROBENZENE|ANILINE, 2-CHLORO-4-NITRO-|2-CHLORO-4-NITROANILINE|2-CHLORO-4-NITROBENZENAMINE|2-CHLORO-4-NITROPHENYLAMINE|4-NITRO-2-CHLOROANILINE|O-CHLORO-P-NITROANILINE|OCPN|OCPNA	121-87-9	PHYSICAL DESCRIPTION: Yellow crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3032.0	296.0	1042.0	498.0	356.0	628.0	64.0	220.0	112.0	73.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1383	2-CHLOROACETOPHENONE	ACETOPHENONE, 2-CHLORO-|ALPHA-CHLOROACETOPHENONE|ALPHA-PHENACYL CHLORIDE|BENZOYLMETHYL CHLORIDE|CAF|CAP|CHLORACETOPHENONE|(2-CHLORO 1-OXOETHYL)BENZENE|2-CHLORO-1-PHENYLETHANONE|CHLORACETOPHENONE|CHLOROACETOPHENONE, LIQUID|CHLOROACETOPHENONE, SOLID|1-CHLOROACETOPHENONE|2-CHLOROACETOPHENONE|CHLOROMETHYL PHENYL KETONE|CN|CN (LACRIMATOR)|MACE|MACE (LACRIMATOR)|MACEÂ®|NCI-C55107|OMEGA-CHLOROACETOPHENONE|PHENACYL CHLORIDE|PHENYL CHLOROMETHYL KETONE|PHENYL CHLOROMETHYLKETONE|1-PHENYL-2-CHLORO-1-	532-27-4	A white crystalline solid. Denser than water and insoluble in water. Hence sinks in water. A lachrymator: vapors are very irritating to the eyes. Has a floral odor. Used as a riot control agent.	1.0	2.5	5.0	3032.0	296.0	1042.0	498.0	356.0	628.0	64.0	220.0	112.0	73.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1378	2-BROMOBIPHENYL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves, apron, and boots; self-contained breathing apparatus. (USCG, 1999)	Flammable. Less dense than water and slightly soluble in water.	HYDROXYPROPYL ACRYLATE polymerizes readily in the presence of heat and light generating much heat; reacts with strong oxidants. REF [Handling Chemicals Safely, 1980. p. 235].	Highly Flammable; Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3		(NFPA, 2010)		207		(USCG, 1999)		1.8		%													
1379	2-BROMOBUTANE		Goggles or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	HYDROXYPROPYL METHACRYLATE polymerization: May polymerize when hot or when exposed to ultraviolet light and free-radical catalysts (USCG, 1999).	Polymerizable						0		(USCG, 1999)		250																	
1380	2-BROMOETHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)	(decomposes)		291 to 295
1381	2-BROMOPENTANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	ICHTHAMMOL is incompatible with acids, alkaloids, carbonates, hydroxides and mercuric chloride. It is also incompatible with iodides and salts of iron and lead. (NTP, 1992)						0		(NTP, 1992)		greater than 212																	
1382	2-CHLORO-4-NITROANILINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respirator with proper filter, goggles. (USCG, 1999)	Highly flammable. Insoluble in water.	CHLOROTOLUENE reacts with strong oxidizing agents. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NTP, 1992)		121														(NTP, 1992)		45.5	
1383	2-CHLOROACETOPHENONE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air and light. Insoluble in water.	CHLOROTRIANISENE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases. Various catalysts (such as acids) or initiators can cause very exothermic addition polymerization reactions.						0																		(NTP, 1992)			237 to 241

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1378	2-BROMOBIPHENYL														(USCG, 1999)		1.06		77								(USCG, 1999)		130												HPA	Corrosive	C6H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	23.0	3.0	3.0
1379	2-BROMOBUTANE														(USCG, 1999)		1.06		68								(USCG, 1999)		144												HPM		C7H12O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	27.0	3.0	3.0
1380	2-BROMOETHANOL																				(NTP, 1992)	Decomposes					(NTP, 1992)		76.07						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	CH4N2O2	Cellulose-Based Absorbents	7.0	0.0	12.0	3.0	3.0
1381	2-BROMOPENTANE																																	(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL				Mineral-Based & Clay-Based Absorbents	8.0	0.0	18.0	3.0	3.0
1382	2-CHLORO-4-NITROANILINE	(NTP, 1992)	; 10 mm Hg at 110.8Â° F; 20 mm Hg at 136.0Â° F	5		88		mm Hg	(NTP, 1992)		4.38				(USCG, 1999)		1.0697		68		(NTP, 1992)		323.4		760		(NTP, 1992)		126.58						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CRN	Flammable Liquid	C7H7Cl		5.0	0.0	17.0	3.0	3.0
1383	2-CHLOROACETOPHENONE																										(NTP, 1992)		380.86						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL			C23H21ClO3	Dirt/Earth	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1384	2-CHLOROACRYLONITRILE	ACRYLONITRILE, 2-CHLORO-|ALPHA-CHLOROACRYLONITRILE|1-CHLORO-1-CYANOETHENE|1-CHLORO-1-CYANOETHYLENE|CHLOROACRYLONITRILE|2-CHLOROACRYLONITRILE|2-CHLOROPROPENENITTRILE|1-CYANO-1-CHLOROETHENE|1-CYANOVINYL CHLORIDE|2-PROPENENITRILE, 2-CHLORO-(9CI)	920-37-6	A liquid. Boiling point 190-192Â°F (88-89Â°C). Density 1.096 g / cm3. Flash point 44Â°F. Highly toxic.	2.5	5.0	2.5	3032.0	296.0	1042.0	498.0	356.0	628.0	64.0	220.0	112.0	73.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1385	2-CHLOROBENZYLAMINE (CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.)	BENZYLAMINE, O-CHLORO-|2-CHLOROBENZENEMETHANAMINE|2-CHLOROBENZYLAMINE (CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.)|2-CHLOROBENZYLAMINE|(2-CHLOROPHENYL)METHYLAMINE|O-CHLOROBENZYLAMINE	89-97-4	A colorless liquid with a slight amine odor. Somewhat soluble in water. Denser than water. Vapors are heavier than air. Inhalation of vapors may severely irritate mucous membranes and upper respiratory tract. May severely irritate and possible burn skin. Severe eye irritant. May cause permanent damage or temporary blindness.	2.5	5.0	2.5	3035.0	299.0	1042.0	504.0	359.0	629.0	65.0	220.0	114.0	74.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
1386	2-CHLORO-N,N-DIMETHYL-1-PROPANAMINE HYDROCHLORIDE	2-CHLORO-N',N'-DIMETHYLAMINOPROPANE HYDROCHLORIDE|2-CHLORO-N,N-DIMETHYL-1-PROPANAMINE HYDROCHLORIDE|2-CHLORO-N,N-DIMETHYLAMINOPROPANE HYDROCHLORIDE|2-CHLORO-N,N-DIMETHYLPROPYLAMINE HYDROCHLORIDE|2-CHLOROPROPYL)DIMETHYLAMINE MONOHYDROCHLORIDE|2-CHLOROPROPYL-DIMETHYLAMINE HYDROCHLORIDE|2-(DIMETHYLAMINO)-1-METHYLETHYL CHLORIDE HYDROCHLORIDE|1-(DIMETHYLAMINO)-2-CHLOROPROPANE HYDROCHLORIDE|2-(DIMETHYLAMINO)ISOPROPYL CHLORIDE HYDROCHLORIDE|DIMETHYLAMINOISOPROPYL CHLORIDE	4584-49-0	PHYSICAL DESCRIPTION: Off-white chunky solid. (NTP, 1992)	1.0	2.5	5.0	3035.0	299.0	1042.0	504.0	359.0	629.0	65.0	220.0	114.0	74.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1387	2-CHLOROPHENOL	2-CHLORO-1-HYDROXYBENZENE|1-CHLORO-2-HYDROXYBENZENE|2-CHLOROPHENOL|2-HYDROXYCHLOROBENZENE|O-CHLOROPHENIC ACID|O-CHLOROPHENOL|PHENOL, O-CHLORO-|PHENOL,2-CHLORO-	95-57-8	A colorless to amber liquid with an unpleasant, penetrating odor. Density 1.265 g / cm3. Sinks in water and slowly dissolves. Freezing point 7Â°C (46Â°F). Boiling point 175Â°C (347Â°F).	2.5	5.0	2.5	3035.0	299.0	1042.0	504.0	359.0	629.0	65.0	220.0	114.0	74.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1388	2-CHLORO-P-PHENYLENEDIAMINE SULFATE	C.I. 76066|C.I. OXIDATION BASE 13A|2-CHLORO-1,4-BENZENEDIAMINE SULFATE|2-CHLORO-P-PHENYLENEDIAMINE SULFATE|FOURRINE 81|FOURRINE SO|RENAL BROWN SO|RENAL SO	61702-44-1	PHYSICAL DESCRIPTION: Light gray or lavender powder. (NTP, 1992)	1.0	2.5	5.0	3035.0	299.0	1045.0	504.0	359.0	629.0	65.0	221.0	114.0	74.0	(BLOB)	This chemical ignites rapidly and burns relatively fast. (NTP, 1992)	Fires involving this chemical can be controlled using dry chemical, CO2, or Halon foam extinguishers. (NTP, 1992)
1389	2-CHLOROPROPANE	CHLORODIMETHYLMETHANE|CHLOROPROPANE|2-CHLOROPROPANE|ISOPRID|ISOPROPYL CHLORIDE|MONOCHLOROPROPANE|NARCOSOP|PROPANE, 2-CHLORO-|2-PROPYL CHLORIDE|R 280DA|SEC-PROPYL CHLORIDE	75-29-6	A colorless liquid with a chloroform-like odor. Vapors heavier than air. Less dense than water. May irritate skin and eyes, and be narcotic in high concentrations. A fire and explosion risk. Used to make other chemicals.	2.5	5.0	2.5	3038.0	299.0	1045.0	504.0	359.0	630.0	65.0	221.0	114.0	74.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1384	2-CHLOROACRYLONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as INDENO(1,2,3-CD)PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		320 to 325
1385	2-CHLOROBENZYLAMINE (CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	INDIUM is a non-combustible solid in bulk form but is flammable in the form of a dust. Reacts with strong oxidizing agents. Reacts explosively with dinitrogen tetraoxide dissolved in acetonitrile. Reacts violently with mercury(II)bromide at 350Â°C. Mixtures with sulfur ignite when heated.		Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		314	
1386	2-CHLORO-N,N-DIMETHYL-1-PROPANAMINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air/or light.	2-AMINO-4,6-DICHLOROPHENOL may react with strong oxidizers and mineral acids or bases (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)	203 to 205
1387	2-CHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0		(NTP, 1992)		greater than 200																	
1388	2-CHLORO-P-PHENYLENEDIAMINE SULFATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	2-AMINO-4,6-DINITROPHENOL should not be subjected to strong shock or heat, and is a dangerous fire risk. This compound reacts with strong oxidizing agents. (NTP, 1992). Explodes if dried and exposed to heat, flame, friction or shock. Wetting greatly reduces this tendency. Treat as an explosive. Mixing with reducing agents, including hydrides, sulfides, nitrides, and alkali metals may lead to a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide, even in the presence of water or organic solvents. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. An amino acid (reacts as an acid with bases and as a base with acids).	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		410																	
1389	2-CHLOROPROPANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	IODINE is an oxidizing agent. Reacts vigorously with reducing materials. Incompatible with powdered metals in the presence of water (ignites), with gaseous or aqueous ammonia (forms explosive products), with acetylene (reacts explosively), with acetaldehyde (violent reaction), with metal azides (forms yellow explosive iodoazides), with metal hydrides (ignites), with metal carbides (ignites easily), with potassium and sodium (forms shock-senstive explosive compounds) and with alkali-earth metals (ignites). Incompatible with ethanol, formamide, chlorine, bromine, bromine trifluoride, chlorine trifluoride.	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		236	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1384	2-CHLOROACRYLONITRILE																				(NTP, 1992)		997		760		(NTP, 1992)		276.34													Class 9	C22H12		7.0	0.0	13.0	3.0	3.0
1385	2-CHLOROBENZYLAMINE (CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.)	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		7.31				(NIOSH, 2003)		3767		760		(NIOSH, 2003)		114.8						(NIOSH, 2003)	Insoluble					Flammable Solid	In		9.0	0.0	19.0	3.0	3.0
1386	2-CHLORO-N,N-DIMETHYL-1-PROPANAMINE HYDROCHLORIDE																										(NTP, 1992)		178.02											Poison	C6H5Cl2NO		9.0	0.0	21.0	3.0	3.0
1387	2-CHLOROPHENOL	(NTP, 1992)		4.25		77		mm Hg							(NTP, 1992)		1.797										(NTP, 1992)		258.07						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL			C6H11IO3	Cellulose-Based Absorbents	7.0	0.0	21.0	3.0	3.0
1388	2-CHLORO-P-PHENYLENEDIAMINE SULFATE																										(NTP, 1992)		199.12						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Flammable Solid	C6H5N3O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	13.0	3.0	3.0
1389	2-CHLOROPROPANE	(NIOSH, 2003)		0.3		77		mm Hg							(NIOSH, 2003)		4.93				(NIOSH, 2003)		365		760		(NIOSH, 2003)		253.8		(NIOSH, 2003)		2	ppm	(NIOSH, 2003)		0.01		%		Corrosive|Poison	I2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1390	2-CHLOROPYRIDINE	ALPHA-CHLOROPYRIDINE|CHLOROPYRIDINE|2-CHLOROPYRIDINE|O-CHLOROPYRIDINE|ORTHO-CHLOROPYRIDINE	109-09-1	A colorless oily liquid. Toxic by ingestion and/or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3038.0	299.0	1045.0	504.0	359.0	630.0	65.0	221.0	114.0	74.0	(BLOB)	Flash point data for this chemical are not available, but it is probably non-flammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1391	2-DIETHYLAMINOETHANOL	BETA-(DIETHYLAMINO)ETHANOL|BETA-DIETHYLAMINOETHANOL|BETA-DIETHYLAMINOETHYL ALCOHOL|BETA-HYDROXYTRIETHYLAMINE|DEAE|DIETHYL ETHANOLAMINE|DIETHYL(BETA-HYDROXYETHYL)AMINE|DIETHYL-(2-HYDROXYETHYL)-AMINE|(DIETHYLAMINO)ETHANOL|2-(DIETHYLAMINO)ETHANOL|2-(DIETHYLAMINO)ETHYL ALCOHOL|DIETHYLAMINOETHANOL|2-DIETHYLAMINOETHANOL|2-DIETHYLAMINOETHYL ALCOHOL|DIETHYLETHANOLAMINE|DIETHYLMONOETHANOLAMINE|2-HYDROXYETHYL)DIETHYLAMINE|2-HYDROXYTRIETHYLAMINE|MKS|N,N-DIETHYL(2-HYDROXYETHYL)AMINE|N,N-DIETHYL-2-	100-37-8	A colorless liquid. Flash point 103-140Â°F. Less dense than water . Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Causes burns to the skin, eyes and mucous membranes.	2.5	5.0	2.5	3041.0	299.0	1045.0	504.0	359.0	631.0	65.0	221.0	114.0	74.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1392	2-ETHYLANILINE	ANILINE, O-ETHYL-|2-ETHYLANILINE|2-ETHYLBENZENAMINE|2-ETHYLPHENYLAMINE|O-AMINOETHYLBENZENE|O-ETHYLANILINE	578-54-1	A brown liquid. Insoluble in water and less dense than water. Hence floats on water. May irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation or skin absorption.	2.5	5.0	2.5	3041.0	302.0	1045.0	504.0	362.0	631.0	66.0	221.0	114.0	75.0	(BLOB)	This material may be ignited by heat, sparks, or flames. Vapors may travel to ignition source and flash back. Containers may explode in the heat of fire. Evolution of carbon monoxide may create a poison hazard. This material presents a vapor explosion and poison hazard indoors, outdoors, or in sewers. Evolves carbon monoxide on exposure to air or to light. Emits carbon monoxide when heated to decomposition. Avoid acetic acid, water, nitrogen oxide, transition metal halides, and zinc and it burns in air. Decomposes in acids and alkalies. Protect from light and air. (EPA, 1998)	Isolate hazard area and deny entry. Stay upwind and keep out of low areas. Isolate area for 1/2 mile in all directions if tank car or truck is involved in fire. Wear positive pressure breathing apparatus and special protective clothing. Cool containers exposed to flames with water until fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. This material is incompatible with water. Use dry chemical, carbon dioxide, water spray, or foam for small fires, and water spray, fog, or foam for large fires. Move material from fire area if this can be done without risk. Dike fire control water for later disposal. (EPA, 1998)
1393	2-ETHYLHEXYL CHLOROFORMATE	CHLOROFORMIC ACID 2-ETHYLHEXYL ESTER|ETHYLHEXYLCHLOROFORMATE|2-ETHYLHEXYL CHLOROCARBONATE|2-ETHYLHEXYL CHLOROFORMATE|FORMIC ACID, CHLORO-, 2-ETHYLHEXYL ESTER	24468-13-1	A colorless to light yellow colored liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and/or skin absorption.	2.5	5.0	2.5	3041.0	302.0	1045.0	504.0	362.0	631.0	66.0	221.0	114.0	75.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1394	2-ETHYLHEXYL P-METHOXYCINNAMATE	ESCALOL 557|2-ETHYLHEXYL 4-METHOXYCINNAMATE|ETHYLHEXYL P-METHOXYCINNAMATE|2-ETHYLHEXYL P-METHOXYCINNAMATE|3-(4-METHOXYPHENYL)-2-PROPENOIC ACID, 2-ETHYLHEXYL ESTER|NEO HELIOPAN AV|OCTYL 4-METHOXYCINNAMATE|OCTYL P-METHOXYCINNAMATE|P-METHOXYCINNAMIC ACID 2 ETHYLHEXYL ESTER|PARSOL MCX|PARSOL MCX-SA|SUNSCREEN AV|UVINUL 3088	5466-77-3	PHYSICAL DESCRIPTION: Colorless to pale yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	3044.0	302.0	1048.0	504.0	362.0	632.0	66.0	222.0	114.0	75.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1390	2-CHLOROPYRIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	May be sensitive to heat, light, and air. Water soluble	IODOACETIC ACID reacts vigorously with bases and is corrosive. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		181	
1391	2-DIETHYLAMINOETHANOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	IODOCHLOROHYDROXYQUINOLINE is incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides (NTP, 1992). Darkens on exposure to light.						0																					(NTP, 1992)		352 to 354	
1392	2-ETHYLANILINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Iron pentacarbonyl is spontaneously flammable in air, [R. Kamo, IIT Progs. Rept. 1, p. 23(1962)]. Insoluble in water.	Organometallics, such as IRON PENTACARBONYL, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. A brown pyrophoric powder is produced by the combination of the carbonyl with acetic acid containing greater than 5% of water.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1994 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(EPA, 1998)		5															(EPA, 1998)		-5.8	
1393	2-ETHYLHEXYL CHLOROFORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		greater than 212																		
1394	2-ETHYLHEXYL P-METHOXYCINNAMATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	ISOBUTANE is incompatible with the following: Strong oxidizers (e.g., nitrates & perchlorates), chlorine, fluorine, (nickel carbonyl + oxygen) (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	4	0	4		(USCG, 1999)		-117		(USCG, 1999)		1.8		%	(USCG, 1999)		8.4		%	(USCG, 1999)		890		(USCG, 1999)		-427.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1390	2-CHLOROPYRIDINE																				(NTP, 1992)	Decomposes					(NTP, 1992)		185.95						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL		Corrosive	C2H3IO2		9.0	0.0	34.0	3.0	3.0
1391	2-DIETHYLAMINOETHANOL																									(NTP, 1992)		305.5						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C9H5ClINO	Mineral-Based & Clay-Based Absorbents	9.0	0.0	24.0	3.0	3.0
1392	2-ETHYLANILINE	(EPA, 1998)		40		86.54		mm Hg	(EPA, 1998)		6.74				(EPA, 1998)		1.457		69.8		(EPA, 1998)		216.8		749		(EPA, 1998)		195.9						(NIOSH, 2003)	Insoluble					Poison Inhalation Hazard|Flammable Liquid	C5FeO5		6.0	0.0	13.0	3.0	3.0
1393	2-ETHYLHEXYL CHLOROFORMATE														(NTP, 1992)		1.003		65.5								(NTP, 1992)		218.3						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H18O2	Dirt/Earth	9.0	0.0	15.0	3.0	3.0
1394	2-ETHYLHEXYL P-METHOXYCINNAMATE	(NIOSH, 2003)		3.1		70		atm							(USCG, 1999)		0.557		68		(USCG, 1999)		10.8		760		(USCG, 1999)		58.12						(NIOSH, 2003)	Slight				IBT	Flammable Gas	C4H10		7.0	0.0	29.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1395	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE	ACRYLIC ACID, 2-CYANO-3,3-DIPHENYL-, 2-ETHYLHEXYL ESTER|AGENT AT 539|2-CYANO-3,3-DIPHENYL-2-PROPINOIC ACID,2-ETHYLHEXYL ESTER|2-ETHYLHEXYL 2-CYANO-3,3-DIPHENYL-2-PROPENOATE|2ETHYLHEXYL 2-CYANO-3,3-DIPHENYLACRYLATE|2-ETHYLHEXYL 2-CYANO-3-PHENYLCINNAMATE|2-ETHYLHEXYL 2-CYANO-3-PHENYLCINNAMATE|2-ETHYLHEXYL ALPHA-CYANO-BETA,BETA'-DIPHENYLACRYLATE|2-ETHYLHEXYL ALPHA-CYANO-BETA-PHENYLCINNAMATE|2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE|2-ETHYLHEXYL-ALPHA-CYANO-BETA-PHENYLCINNAMATE|OCTOCRILENE|OCTOCRYLENE|UVINUL 3039|UVINUL N 539|VIOSORB 930	6197-30-4	PHYSICAL DESCRIPTION: Yellow viscous liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3044.0	302.0	1051.0	504.0	362.0	632.0	66.0	223.0	114.0	75.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1396	2-ETHYLHEXYLAMINE	1-AMINO-2-ETHYLHEXANE|BETA-ETHYLHEXYLAMINE|ETHYL HEXYLAMINE|2-ETHYL-1-AMINOHEXANE|2-ETHYL-1-HEXANAMINE|2-ETHYL-1-HEXYLAMINE|2-ETHYLHEXANAMINE|2-ETHYLHEXYLAMINE|HEXYLAMINE, 2-ETHYL-	104-75-6	A water-white liquid with a fishlike odor. Less dense than water. Flash point 140Â°F. Extremely irritating to skin and eyes. Vapors heavier than air. Used to make pharmaceuticals and other chemicals.	2.5	5.0	2.5	3044.0	302.0	1054.0	504.0	362.0	632.0	66.0	224.0	114.0	75.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1397	2-FLUOROANILINE	1-AMINO-2-FLUOROBENZENE|2-FLUOROANILINE|2-FLUOROBENZENAMINE|2-FLUOROPHENYLAMINE|O-FLUOROANILINE	348-54-9	Clear liquid with a mild sweet odor. Sinks in and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	3044.0	302.0	1054.0	504.0	362.0	632.0	66.0	224.0	114.0	75.0	(BLOB)	Behavior in Fire: Vapors are heavier than air and may travel considerable distance to a source of ignition and flash back. Fires are difficult to control due to ease of reignition. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1398	2-FLUOROBENZOYL CHLORIDE	BENZOYL CHLORIDE, O-FLUORO-|2-FLUOROBENZOYL CHLORIDE|O-FLUOROBENZENE CARBONYL CHLORIDE|O-FLUOROBENZOYL CHLORIDE	393-52-2	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3044.0	302.0	1054.0	504.0	362.0	632.0	66.0	224.0	114.0	75.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1399	2-FLUOROBIPHENYL	BIPHENYL, 2-FLUORO-|2-FLUOROBIPHENYL|O-FLUORODIPHENYL	321-60-8	Colorless crystals.	1.0	2.5	5.0	3044.0	302.0	1054.0	504.0	362.0	632.0	66.0	224.0	114.0	75.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1395	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	ISOBUTANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. This chemical is incompatible with strong oxidizers. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		82		(NTP, 1992)		1.2		%	(NTP, 1992)		10.9		%	(USCG, 1999)		800		(NTP, 1992)		-162	
1396	2-ETHYLHEXYLAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	ISOBUTYL ACETATE reacts exothermically with acids to give alcohols and other acids. May react sufficiently exothermically with strong oxidizing acids to ignite the reaction products. Reactions with bases also generate heat. Combination with strong reducing agents (alkali metals and hydrides) generates flammable hydrogen.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		62		(USCG, 1999)		2.4		%	(USCG, 1999)		10.5		%	(USCG, 1999)		793		(USCG, 1999)		-142.8	
1397	2-FLUOROANILINE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Appropriate protective clothing, including rubber gloves, rubber shoes and protective eyewear. (USCG, 1999)	Highly flammable. Oxidizes slowly on exposure to air. Stable (less than 10% decomposition) for four hours when exposed to light and air in a closed system. Stable for two weeks when stored under nitrogen at temperatures up to 77Â°F. Insoluble in water.	ISOBUTYL ALDEHYDE can react vigorously with reducing agents, with oxidizing agents, strong bases and mineral acids. Can undergo exothermic self-condensation or polymerization reactions that are often catalyzed by acid. Generates flammable and/or toxic gases in combination with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Reacts slowly when exposed to air with air to give peroxides and other products. These reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by their products). The addition of stabilizers (antioxidants) retards autoxidation.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		-40		(NTP, 1992)		1.6		%	(NTP, 1992)		10.6		%	(USCG, 1999)		385		(NTP, 1992)		-85	
1398	2-FLUOROBENZOYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to air and light. Insoluble in water.	ISOBUTYL ANTHRANILATE hydrolyzes under acidic or basic conditions. (NTP, 1992)						0																						
1399	2-FLUOROBIPHENYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Insoluble in water.	2-AMINO-4-CHLORO-5-NITROPHENOL may react with strong oxidizing agents. (NTP, 1992)						0																					(NTP, 1992)	(Decomposes)	437	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_tempMMHG	bp_range_tempMMHG	molwgt_source
1395	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE	(NTP, 1992)	>9 mm Hg at 68Â° F	10		71.1		mm Hg	(NTP, 1992)		2.55				(USCG, 1999)		0.802		68		(NTP, 1992)		225		760		(NTP, 1992)
1396	2-ETHYLHEXYLAMINE	(USCG, 1999)		20.68				mm Hg									0.871		68		(USCG, 1999)		243.1		760		(USCG, 1999)
1397	2-FLUOROANILINE	(NTP, 1992)		170		68		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		0.791		68		(NTP, 1992)		147		760		(NTP, 1992)
1398	2-FLUOROBENZOYL CHLORIDE																				(NTP, 1992)			313 to 315	13.5		(NTP, 1992)
1399	2-FLUOROBIPHENYL																										(NTP, 1992)

id	name	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1395	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE	Cellulose-Based Absorbents	7.0	0.0	21.0	3.0	3.0
1396	2-ETHYLHEXYLAMINE	Cellulose-Based Absorbents	6.0	0.0	14.0	3.0	3.0
1397	2-FLUOROANILINE	Cellulose-Based Absorbents	9.0	0.0	34.0	3.0	3.0
1398	2-FLUOROBENZOYL CHLORIDE		9.0	0.0	28.0	3.0	3.0
1399	2-FLUOROBIPHENYL	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	16.0	3.0	3.0

id	name	molwgt_value	molwgt_range	molwgt_source	molwgt_note	formulas	det_labels	chris_codes	solbity_unit	solbity_range	solbity_value	solbity_note	solbity_source	tdlh_value	tdlh_unit	tdlh_note	tdlh_source	tdlh_range
1395	2-ETHYLHEXYL-2-CYANO-3,3-DIPHENYLACRYLATE	74.12		(NTP, 1992)		C4H10O	Flammable Liquid	IAL	mg/mL	50 to 100			(NTP, 1992)	1600	ppm		(NIOSH, 2003)	
1396	2-ETHYLHEXYLAMINE	116.16		(USCG, 1999)		C8H12O2	Flammable Liquid	IBA	%		0.6		(NIOSH, 2003)	1300	ppm	Based on 10% of the lower explosive limit.	(NIOSH, 2003)	
1397	2-FLUOROANILINE	72.11		(NTP, 1992)		C4H8O	Flammable Liquid	BAD	mg/mL	less than 1			(NTP, 1992)					
1398	2-FLUOROBENZOYL CHLORIDE	193.25		(NTP, 1992)		C1H1SNO2							(NTP, 1992)					
1399	2-FLUOROBIPHENYL	188.57		(NTP, 1992)		C6H5CLN2O3			mg/mL	less than 0.1			(NTP, 1992)					

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1400	2-FLUOROPHENOL	1-FLUORO-2-HYDROXYBENZENE|2-FLUOROPHENOL|O-FLUOROPHENOL|PHENOL, O-FLUORO-	367-12-4	Liquid or crystalline solid melting at 14-16Â°C. Corrosive. Density 1.246 g / cm3.	2.5	5.0	2.5	3044.0	302.0	1054.0	504.0	362.0	632.0	66.0	224.0	114.0	75.0	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Call 911 or emergency medical service. Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air, refer to GUIDE 136. Nitrates are oxidizers and may ignite other combustibles, refer to GUIDE 141. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). Dike fire-control water for later disposal. (ERG, 2012)
1401	2-HEPTANOL	AMYL METHYL CARBINOL|DL-HEPTAN-2-OL|(.+-.)-2-HEPTANOL|2-HEPTANOL|2-HEPTYL ALCOHOL|2-HYDROXYHEPTANE|METHAMYL CARBINOL|METHYL AMYL CARBINOL|1-METHYLHEXANOL|S-HEPTYL ALCOHOL	543-49-7	A clear colorless alcohol with a mild alcohol odor. Insoluble in water. Floats on water. Soluble in most organic liquids. Moderately toxic. Used as a solvent for various resins and as a flotation agent for ore processing.	2.5	5.0	2.5	3047.0	302.0	1054.0	504.0	362.0	633.0	66.0	224.0	114.0	75.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1402	2-HYDROXY-1,4-NAPHTHOQUINONE	C.I. 75480|C.I. NATURAL ORANGE 6|1,4-DIHYDRO-1,4-DIOXO-2-HYDROXYNAPHTHALENE|FLOWER OF PARADISE|HENNA|HENNA (DYE)|2-HYDROXY-1,4-NAPHTHALENEDIONE|2-HYDROXY-1,4-NAPHTHOQUINONE|2-HYDROXYNAPHTHOQUINONE|LAWSONE|MEHENDI|MENDI|1,4-NAPHTHOQUINONE, 2-HYDROXY-|NATURAL ORANGE 6|NSC 8625|PAKARLI|Q 0	83-72-7	PHYSICAL DESCRIPTION: Yellow prisms or yellow powder. (NTP, 1992)	1.0	2.5	5.0	3047.0	302.0	1054.0	504.0	362.0	633.0	66.0	224.0	114.0	75.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1403	2-METHYL-2-HYDROXY-3-BUTYNE	DIMETHYLACETYLENECARBINOL|DIMETHYLETHYNYLCARBINOL|1,1-DIMETHYLPROPARGYL ALCOHOL|2-HYDROXY-2-METHYL-3-BUTYNE|METHYL BUTYNOL|2-METHYL-2-BUTYNOL|2-METHYL-2-HYDROXY-3-BUTYNE|2-METHYL-3-BUTYN-2-OL	115-19-5	Colorless to straw yellow liquid. (USCG, 1999)	2.5	5.0	2.5	3047.0	302.0	1057.0	504.0	362.0	633.0	66.0	225.0	114.0	75.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1404	2-METHYL-3-NITROANILINE	1-AMINO-2-METHYL-3-NITROBENZENE|6-AMINO-2-NITROTOLUENE|2-AMINO-6-NITROTOLUENE|BENZENAMINE, 2-METHYL-3-NITRO|2-METHYL-3-NITROANILINE|2-METHYL-3-NITROBENZENAMINE|6-NITRO-2-AMINOTOLUENE|3-NITRO-2-METHYLANILINE|3-NITRO-O-TOLUIDINE|O-TOLUIDINE, 3-NITRO-	603-83-8	PHYSICAL DESCRIPTION: Yellow rhombic needles (from water) or bright yellow powder. (NTP, 1992)	1.0	2.5	5.0	3047.0	302.0	1057.0	504.0	362.0	633.0	66.0	225.0	114.0	75.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1400	2-FLUOROPHENOL	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dike to collect large liquid spills. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Positive pressure self-contained breathing apparatus (SCBA) and structural firefighters' protective clothing will provide adequate protection. (ERG, 2012)	Pyrophoric material, spontaneously ignites in air.	THORIUM when heated with chlorine (or sulfur), reacts vigorously with incandescence [Mellor 7:208 1946-47]. When thorium is heated with phosphorus, they unite with incandescence [Svenska Akad. 1829 p.1].	Pyrophoric; Radioactive Material	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									
1401	2-HEPTANOL	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water. Reacts with moisture in the air to produce highly corrosive and toxic fumes of hydrogen chloride gas. Decomposes exothermically in water.	ISOBUTYL CHLOROFORMATE is incompatible with water, with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2742 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1402	2-HYDROXY-1,4-NAPHTHOQUINONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to air and/or light.	2-AMINO-4-CHLORO-6-NITROPHENOL may react with strong oxidizing agents (NTP, 1992).						0																					(NTP, 1992)		306	
1403	2-METHYL-2-HYDROXY-3-BUTYNE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Reacts exothermically with water or moisture-containing materials to form isobutyric acid.	ISOBUTYRIC ANHYDRIDE reacts exothermically with water. The reactions are sometimes slow, but can become violent when local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with a cids, strong oxidizing agents, alcohols, amines, and bases.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NFPA, 2010)		139																		
1404	2-METHYL-3-NITROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It may be sensitive to prolonged exposure to air. Insoluble in water.	2-AMINO-4-METHYLPHENOL reacts with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		279	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1400	2-FLUOROPHENOL																																								Radioactive|Spontaneously Combustible	Th		8.0	0.0	30.0	3.0	3.0
1401	2-HEPTANOL																																								Poison|Corrosive|Flammable Liquid	C5H9ClO2		6.0	0.0	15.0	3.0	3.0
1402	2-HYDROXY-1,4-NAPHTHOQUINONE																										(NTP, 1992)		188.57													C6H5ClN2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	13.0	3.0	3.0
1403	2-METHYL-2-HYDROXY-3-BUTYNE																																								Flammable Liquid|Corrosive	C8H14O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	11.0	3.0	3.0
1404	2-METHYL-3-NITROANILINE																					(NTP, 1992)	Sublimes				(NTP, 1992)		123.16						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C7H9NO		7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1405	2-METHYL-3-NITROBENZOIC ACID	BENZOIC ACID, 2-METHYL-3-NITRO|2-METHYL-3-NITROBENZOIC ACID|3-NITRO-2-METHYLBENZOIC ACID|3-NITRO-O-TOLUIC ACID|O-TOLUIC ACID, 3-NITRO-	1975-50-4	PHYSICAL DESCRIPTION: Fine needles or light beige powder. (NTP, 1992)	1.0	2.5	5.0	3050.0	302.0	1057.0	504.0	362.0	634.0	66.0	225.0	114.0	75.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1406	2-METHYL-5-ETHYLPYRIDINE	ALDEHYDE-COLLIDINE|ALDEHYDECOLLIDINE|ALDEHYDINE|COLLIDINE, ALDEHYDECOLLIDINE|5-ETHYL-2-METHYL PYRIDINE|5-ETHYL-2-METHYLPYRIDINE (2-METHYL-5-PYRINE)|5-ETHYL-2-METHYLPYRIDINE|5-ETHYL-2-PICOLINE|3-ETHYL-6-METHYLPYRIDINE|5-ETHYL-ALPHA-PICOLINE|MEP|METHYL ETHYL PYRIDINE|6-METHYL-3-ETHYLPYRIDINE|2-METHYL-5-ETHYLPYRIDINE|METHYLETHYLPYRIDINE|2-PICOLINE, 5-ETHYL-|PICOLINE, ETHYL-	104-90-5	A colorless to yellow liquid. Insoluble in water and more dense than water. Hence sinks in water. Contact may slightly irritate the skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3050.0	302.0	1060.0	504.0	362.0	634.0	66.0	226.0	114.0	75.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1407	2-METHYL-5-NITROBENZOIC ACID	BENZOIC ACID, 2-METHYL-5-NITRO-|2-METHYL-5-NITROBENZOIC ACID|3-NITRO-6-METHYLBENZOIC ACID|5-NITRO-O-TOLUIC ACID|O-TOLUIC ACID, 5-NITRO-	1975-52-6	PHYSICAL DESCRIPTION: Needles or beige solid. (NTP, 1992)	1.0	2.5	5.0	3050.0	302.0	1060.0	504.0	362.0	634.0	66.0	226.0	114.0	75.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1408	2-METHYL-6-ETHYL ANILINE	6-ETHYL-2-METHYLANILINE|6-ETHYL-O-TOLUIDINE|2-METHYL-6-ETHYL ANILINE|2-METHYL-6-ETHYLBENZENEAMINE	24549-06-2	A clear liquid with a pungent odor. Water insoluble and less dense than water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	3053.0	302.0	1060.0	504.0	362.0	635.0	66.0	226.0	114.0	75.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1409	2-METHYLCYCLOHEXANOL	HEXAHYDROCRESOLS|2-METHYLCYCLOHEXANOL	583-59-5	Straw-colored liquid with a weak odor of coconut oil. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	3056.0	302.0	1060.0	504.0	362.0	636.0	66.0	226.0	114.0	75.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1405	2-METHYL-3-NITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Oxidation of this chemical may occur in the presence of air and violent decomposition may occur if it is allowed to dry out completely at elevated temperatures. It is stable when stored protected from light and under nitrogen for two weeks at temperatures up to 140Â° F, and storage under nitrogen for up to 24 weeks at room temperature (77Â° F) should produce no loss of stability. This chemical is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. It is also incompatible with iron. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(anhydrous)		293 to 297
1406	2-METHYL-5-ETHYLPYRIDINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Produces corrosive toxic fumes containing HCl on contact with moist air. Decomposes in water. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.29 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	lSOBUTYRYL CHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2395 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1407	2-METHYL-5-NITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An organosulfide and amine derivative, carboxylic acid. Look at Reactive Groups 20 (organosulfides), 7 (amines), and 3 (carboxylic acids) may give indications about reactive tendencies.						0																								(NTP, 1992)	(Decomposes)	266	
1408	2-METHYL-6-ETHYL ANILINE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly Flammable. Most isocyanates will react with water to generate toxic fumes.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1409	2-METHYLCYCLOHEXANOL	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Most react with water to generate highly toxic fumes.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer1969].	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1405	2-METHYL-3-NITROBENZOIC ACID																										(NTP, 1992)		154.13						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	23.0	3.0	3.0
1406	2-METHYL-5-ETHYLPYRIDINE																																								Flammable Liquid|Corrosive	C4H7ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	18.0	3.0	3.0
1407	2-METHYL-5-NITROBENZOIC ACID																										(NTP, 1992)		158.18						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C5H6N2O2S	Mineral-Based & Clay-Based Absorbents	8.0	0.0	14.0	3.0	3.0
1408	2-METHYL-6-ETHYL ANILINE																																								Flammable Liquid|Poison		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	11.0	3.0	3.0
1409	2-METHYLCYCLOHEXANOL																																								Poison		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1410	2-METHYLNAPHTHALENE	BETA-METHYLNAPHTHALENE|2-METHYLNAPHTHALENE	91-57-6	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	3056.0	302.0	1063.0	507.0	362.0	636.0	66.0	227.0	115.0	75.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1411	2-METHYLPYRIDINE	ALPHA-METHYLPYRIDINE|ALPHA-PICOLINE|2-METHYLPYRIDINE|O-METHYLPYRIDINE|O-PICOLINE|PICOLINE|2-PICOLINE|PYRIDINE, 2-METHYL-,8RCA WASTE NUMBER U191	109-06-8	Colorless liquid with a strong, unpleasant odor. Floats on water. Poisonous vapor is produced. (USCG, 1999)	2.5	5.0	2.5	3059.0	302.0	1063.0	507.0	362.0	637.0	66.0	227.0	115.0	75.0	INHALATION: move to fresh air. EYES: flush with water for at least 15 min. after contact with liquid. SKIN: wipe off, wash well with soap and water. (USCG, 1999)	Behavior in Fire: May polymerize to gummy solid. Reaction is not violent. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1412	2-NITRODIPHENYLAMINE	BENZENAMINE, 2-NITRO-N-PHENYL-|C.I. 10335|DIPHENYLAMINE, 2-NITRO-|N-PHENYL-O-NITROANILINE|2-NITRO-N-PHENYLBENZENEAMINE|2-NITRODIPHENYLAMINE|O-(PHENYLAMINO)NITROBENZENE|O-NITRO-N-PHENYLANILINE|O-NITRODIPHENYLAMINE|PHENYL 2-NITROPHENYLAMINE|PHENYL(2-NITROPHENYL)AMINE|SUDAN YELLOW 1339	119-75-5	PHYSICAL DESCRIPTION: Red-brown crystalline powder or reddish-brown solid. (NTP, 1992)	1.0	2.5	5.0	3062.0	302.0	1066.0	507.0	362.0	638.0	66.0	228.0	115.0	75.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1413	2-NITRO-P-PHENYLENEDIAMINE	4-AMINO-2-NITROANILINE|1,4-BENZENEDIAMINE, NITRO-|C.I. 76070|C.I. OXIDATION BASE 22|1,4-DIAMINO-2-NITROBENZENE|2,5-DIAMINONITROBENZENE|DURAFUR BROWN|DURAFUR BROWN 2R|DYE GS|FOURAMINE 2R|FOURRINE 36|FOURRINE BROWN 2R|2-N-P-PDA|NCI-C02222|2-NDB|2-NITRO-1,4-BENZENEDIAMINE|2-NITRO-1,4-DIAMINOBENZENE|2-NITRO-1,4-PHENYLENEDIAMINE|2-NITRO-4-AMINOANILINE|NITRO-P-PHENYLENEDIAMINE|2-NITRO-P-PHENYLENEDIAMINE|2-NP|NPD|2-NPPD|O-NITRO-P-PHENYLENEDIAMINE|OXIDATION BASE 22|P-PHENYLENEDIAMINE, 2-NITRO-|P-PHENYLENEDIAMINE, NITRO-|URSOL BROWN	5307-14-2	PHYSICAL DESCRIPTION: Almost black needles with dark-green luster or black powder. (NTP, 1992)	1.0	2.5	5.0	3062.0	302.0	1066.0	507.0	362.0	638.0	66.0	228.0	115.0	75.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1414	2-OCTYL-3-ISOTHIAZOLONE	3(2H)-ISOTHIAZOLONE, 2-OCTYL-|4-ISOTHIAZOLIN-3-ONE, 2-OCTYL-|KATHON 4200|KATHON 893|KATHON LM|KATHON LP PRESERVATIVE|KATHON SP 70|MICRO-CHEK 11|MICRO-CHEK 11D|MICRO-CHEK SKANE|2-N-OCTYL-3-ISOTHIAZOLONE|2-N-OCTYL 4-ISOTHIAZOLIN-3-ONE|2-N-OCTYLISOTHIAZOLIN-3-ONE|OCTHILINONE|2-OCTYL 3(2H)ISOTHIAZOLONE|2-OCTYL-3-ISOTHIAZOLINONE|2-OCTYL 3-ISOTHIAZOLONE|2-OCTYL-4-ISOTHIAZOLIN-3-ONE|2-OCTYL-4-ISOTHIAZOLINONE|PANCIL|PANCIL T|PANCIL-T|RH 893|SKANE 8|SKANE HQ|SKANE M 8|SKANE M8|VINYZENE IT 3000|DIDP	26530-20-1	PHYSICAL DESCRIPTION: Clear dark amber liquid. Used as a fungicide.	2.5	5.0	2.5	3062.0	305.0	1066.0	507.0	362.0	638.0	67.0	228.0	115.0	75.0	(BLOB)	(Non-Specific -- Aldrin) This material may burn but may not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Material is related to aldrin. (Non-Specific -- Aldrin) When heated to decomposition it emits toxic fumes of chlorine. Unstable, reactions induced by light or acid. (EPA, 1998)	(Non-Specific -- Aldrin) Wear full protective clothing, including positive pressure breathing apparatus. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Material is related to aldrin. (Non-Specific -- Aldrin) Extinguish by using water spray, dry chemical, foam, or carbon dioxide. Use water to keep fire exposed containers cool. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1410	2-METHYLNAPHTHALENE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water. It reacts with water and most reactive hydrogen compounds. The rate of hydrolysis in water increases with pH, with temperature and with the presence of copper and possibly other metals that can form chelates. (NTP, 1992)	CHLORPYRIFOS is sensitive to heat and is decomposed by moisture. This chemical is hydrolyzed by strong alkalis. It is corrosive to copper and brass. It is also corrosive to copper alloys. It reacts with water and most reactive hydrogen compounds. The rate of hydrolysis in water increases with pH, with temperature and with the presence of copper and possibly other metals that can form chelates. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			108 to 110
1411	2-METHYLPYRIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ISODECYL ACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Polymerizes readily in the presence of heat and light generating much heat; reacts with strong oxidants. REF [Handling Chemicals Safely, 1980. p. 235]. Reaction is not violent (USCG, 1999).	Polymerizable	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		240																	(USCG, 1999)			-148	
1412	2-NITRODIPHENYLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	SULFURIZED ISOBUTYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release toxic or flammable gases.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1413	2-NITRO-P-PHENYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Water soluble.	2-AMINO-6-NITRO-1-PHENOL-4-SULFONIC ACID may react with strong oxidizers and mineral acids (NTP, 1992). May react with bases.	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1414	2-OCTYL-3-ISOTHIAZOLONE	Material is related to aldrin. (Non-Specific -- Aldrin) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	ISODRIN is related to aldrin. (nonspecific -- Aldrin) When heated to decomposition it emits toxic fumes of chlorine. Unstable, reactions induced by light or acid. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)			464 to 468

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1410	2-METHYLNAPHTHALENE	(NTP, 1992)		1.87E-05		77		mm Hg	(NTP, 1992)	(calculated)	12.09				(NIOSH, 2003)	(Liquid at 110Â° F)	1.4				(NIOSH, 2003)	(Decomposes)	320		760		(NTP, 1992)		350.59							(NTP, 1992)	approximately 2 mg/L at 77Â° F				DUR	Poison	C9H11Cl3NO3PS	Mineral-Based & Clay-Based Absorbents	6.0	0.0	18.0	3.0	3.0
1411	2-METHYLPYRIDINE														(USCG, 1999)		0.885		68								(USCG, 1999)		212.4											IAI	Class 9	C13H24O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	17.0	3.0	3.0
1412	2-NITRODIPHENYLAMINE																																								Combustible Liquid			8.0	0.0	11.0	3.0	3.0
1413	2-NITRO-P-PHENYLENEDIAMINE																											(NTP, 1992)		234.2						(NTP, 1992)	Soluble				Corrosive	C6H6N2O6S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	24.0	3.0	3.0
1414	2-OCTYL-3-ISOTHIAZOLONE																											(EPA, 1998)		364.9											Poison	C12H8Cl6	Dirt/Earth	8.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1415	2-OXIME 2,3-BUTANEDIONE	BIACETYL MONOOXIME|BIACETYL MONOXIME|BIACETYLMONOXIME|2,3-BUTADIONE MONOOXIME|2,3-BUTANEDIONE 2-OXIME|2,3-BUTANEDIONE 3-MONOXIME|2,3-BUTANEDIONE MONOXIME|2,3-BUTANEDIONE OXIME|2,3-BUTANEDIONE, MONOOXIME|2,3-BUTANEDIONE-2-MONOXIME|2,3-BUTANEDIONE-2-OXIME|DAM|DAM (OXIME)|DIACETYL MONOOXIME|DIACETYL MONOXIME|DIACETYLMONOOXIME|DIACETYLMONOXIME|2-HYDROXYIMINO-3-BUTANONE|ISONITROSOETHYL METHYL KETONE|2-OXIME 2,3-BUTANEDIONE|3-OXIMINO-2-BUTANONE|2-OXIMINO-3-BUTANONE|3-OXO-2-BUTANONE OXIME|RA 53	57-71-6	PHYSICAL DESCRIPTION: Cream-colored powder. (NTP, 1992)	1.0	2.5	5.0	3065.0	305.0	1066.0	507.0	362.0	639.0	67.0	228.0	115.0	75.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1416	2-PROPANOLAMINE	ALANINOL|2-AMINO-1-PROPANOL|1-METHYL-2-HYDROXYETHYLAMINE|1-PROPANOL, 2-AMINO-|2-PROPANOLAMINE	6168-72-5	A colorless to pale yellow liquid with a fishy odor. Moderately toxic by ingestion and skin contact. A severe skin irritant. Combustible. The compound contains both the amine group -NH2 and the alcohol group -OH and so has some properties of both. Floats and mixes with water. (USCG, 1999)	2.5	5.0	2.5	3068.0	305.0	1069.0	507.0	362.0	640.0	67.0	229.0	115.0	75.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1417	2-TRIFLUOROMETHYLANILINE	ALPHA,ALPHA,ALPHA-TRIFLUORO-O-TOLUIDINE|2-AMINOBENZOTRIFLUORIDE|O-(TRIFLUOROMETHYL)ANILINE|O-AMINOBENZOTRIFLUORIDE|O-TOLUIDINE, ALPHA,ALPHA,ALPHA-TRIFLUORO-|2-(TRIFLUOROMETHYL)ANILINE|2-(TRIFLUOROMETHYL)BENZENAMINE|2-TRIFLUOROMETHYLANILINE	88-17-5	A colorless liquid with a fishlike odor. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3071.0	305.0	1072.0	507.0	362.0	641.0	67.0	230.0	115.0	75.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1418	3-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE	3-CHLOROMETHYL PYRIDINE HYDROCHLORIDE|3-(CHLOROMETHYL) PYRIDINE, HYDROCHLORIDE|3-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE|3-(CHLOROMETHYL)PYRIDINE MONOHYDROCHLORIDE|NCI-C03838|3-PICOLYL CHLORIDE HYDROCHLORIDE|PYRIDINE, 3-CHLOROMETHYL-, HYDROCHLORIDE|3-PYRIDYLMETHYL CHLORIDE HYDROCHLORIDE	6959-48-4	PHYSICAL DESCRIPTION: Yellow powder or yellow-tan solid with an irritating odor. (NTP, 1992)	1.0	2.5	5.0	3074.0	305.0	1072.0	507.0	362.0	642.0	67.0	230.0	115.0	75.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1419	3,3'-DICHLOROBENZIDINE DIHYDROCHLORIDE	BENZIDINE, 3,3'-DICHLORO-, DIHYDROCHLORIDE|(1,1'-BIPHENYL)-4,4'-DIAMINE, 3,3'-DICHLORO, DIHYDROCHLORIDE|3,3'-DICHLOROL(1,1'-BIPHENYL)-4,4'-DIAMINE DIHYDROCHLORIDE|3,3'-DICHLORO-4,4'-DIAMINOBIPHENYL DIHYDROCHLORIDE|3,3'-DICHLOROBENZIDINE DIHYDROCHLORIDE	612-83-9	PHYSICAL DESCRIPTION: Light tan powder. (NTP, 1992)	1.0	2.5	5.0	3074.0	305.0	1072.0	507.0	362.0	642.0	67.0	230.0	115.0	75.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this chemical may be controlled with a CO2, dry chemical, alcohol foam, and/or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1415	2-OXIME 2,3-BUTANEDIONE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-AMINO-6-NITROBENZOTHIAZOLE is incompatible with strong oxidizing agents and strong acids. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			477 to 480
1416	2-PROPANOLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ISOHEPTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1417	2-TRIFLUOROMETHYLANILINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ISOHEPTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1418	3-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water	CHROMIC ACID SOLUTION reacts rapidly with many materials including common combustibles, often causing ignition. Mixing with reducing reagents can cause explosions. Dangerously reactive with acetone, alcohols, alkali metals (sodium, potassium), ammonia, arsenic, dimethylformamide, hydrogen sulfide, phosphorus, peroxyformic acid, pyridine, selenium, sulfur, and many other chemicals [Sax, 9th ed., 1996, p. 852]. Often mixed with sulfuric acid and used to clean glass ("cleaning solution"). Closed containers for used cleaning solution may explode from the internal pressure of carbon dioxide generated by oxidation of carbon compounds removed from the glass [Bryson, W. R., Chem. Brit., 1975, 11, p. 377].	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1419	3,3'-DICHLOROBENZIDINE DIHYDROCHLORIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in hot water (NTP, 1992).	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																													

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1415	2-OXIME 2,3-BUTANEDIONE																										(NTP, 1992)		195.2						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H5N3O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	24.0	3.0	3.0
1416	2-PROPANOLAMINE																																									Flammable Liquid	C7H14	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	13.0	3.0	3.0
1417	2-TRIFLUOROMETHYLANILINE																																								Combustible Liquid	C9H18O2		8.0	0.0	22.0	3.0	3.0
1418	3-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE																																(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3							Corrosive	CrH2O4.Cr2H2O7 (dichromic acid)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	19.0	3.0	3.0
1419	3,3'-DICHLOROBENZIDINE DIHYDROCHLORIDE																										(NTP, 1992)		150.18						(NTP, 1992)	Soluble						C8H10N2O	Mineral-Based & Clay-Based Absorbents	6.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1420	3,3-DIETHOXYPROPENE	ACROLEIN, DIETHYL ACETAL|ACRYLALDEHYDE DIETHYL ACETAL|ACRYLYLALDEHYDE DIETHYL ACETAL|3,3-DIETHOXY-1-PROPENE|1,1-DIETHOXY-2-PROPENE|DIETHOXYPROPENE|3,3-DIETHOXYPROPENE|PROPENAL DIETHYL ACETAL|PROPENE, 3,3-DIETHOXY-	3054-95-3	A colorless liquid with an agreeable odor. Very volatile. Less dense than water. Vapors heavier than air. Used as a solvent and to make cosmetics.	2.5	5.0	2.5	3074.0	305.0	1072.0	507.0	362.0	642.0	67.0	230.0	115.0	75.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
1421	3,3'-DIMETHOXYBENZIDINE	(BLOB)	119-90-4	PHYSICAL DESCRIPTION: Colorless crystals or a light brown powder. Turns violet on standing. Carcinogen.	1.0	2.5	5.0	3077.0	305.0	1072.0	507.0	362.0	643.0	67.0	230.0	115.0	75.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1422	3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE	BENZIDINE, 3,3'-DIMETHOXY-, DIHYDROCHLORIDE|C.I. DISPERSE BLACK 6 DIHYDROCHLORIDE|CI DISPERSE BLACK 6 DIHYDROCHLORIDE|DIANISIDINE DIHYDROCHLORIDE|3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE|O-DIANISIDINE DIHYDROCHLORIDE	20325-40-0	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	3077.0	305.0	1072.0	507.0	362.0	643.0	67.0	230.0	115.0	75.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1423	3,3'-DIMETHYLBENZIDINE	BENZIDINE, 3,3'-DIMETHYL-|4,4'-BI-O-TOLUIDINE|BIANISIDINE|(1,1'-BIPHENYL)-4,4'-DIAMINE-3,3'-DIMETHYL-|C.I. 37230|C.I. AZOIC DIAZO COMPONENT 113|4,4'-DI-O-TOLUIDINE|4,4'-DIAMINO-3,3'-DIMETHYLBIPHENYL|4,4'-DIAMINO-3,3'-DIMETHYLDIPHENYL|DIAMINODITOLYL|3,3'-DIMETHYL-(1,1'-BIPHENYL)-4,4'-DIAMINE|3,3'-DIMETHYL-4,4'-BIPHENYLDIAMINE|3,3'-DIMETHYL-4,4'-DIAMINOBIPHENYL|3,3'-DIMETHYL-4,4'-DIPHENYLDIAMINE|3,3'-DIMETHYLBENZIDIN|3,3'-DIMETHYLBENZIDINE|3,3'-DIMETHYLBIPHENYL-4,4'-DIAMINE|3,3'-DIMETHYLDIPHENYL-4,4'-DIAMINE|FAST DARK BLUE BASE R|O,O'-TOLIDINE|O-TOLIDIN|O-TOLIDINE|TOLIDINE|2-TOLIDINE|3,3'-TOLIDINE	119-93-7	PHYSICAL DESCRIPTION: White to reddish crystals or crystalline powder or a light tan powder. (NTP, 1992)	1.0	2.5	5.0	3080.0	305.0	1075.0	510.0	365.0	644.0	67.0	231.0	116.0	76.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1424	3,3'-DIMETHYLBENZIDINE DIHYDROCHLORIDE	BENZIDINE, 3,3'-DIMETHYL-, DIHYDROCHLORIDE|3,3'-DIMETHYLBENZIDINE DIHYDROCHLORIDE|O-TOLIDINE DIHYDROCHLORIDE	612-82-8	PHYSICAL DESCRIPTION: Light tan powder. (NTP, 1992)	1.0	2.5	5.0	3080.0	305.0	1075.0	510.0	365.0	644.0	67.0	231.0	116.0	76.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1420	3,3-DIETHOXYPROPENE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class, Bretherick 2nd ed., p 44 1979.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1421	3,3'-DIMETHOXYBENZIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	May be pyrophoric, as dust. Insoluble in water.	CHROMIUM reacts violently with NH4NO3, N2O2, Li, NO, KClO3, SO2 (NTP, 1992). Metal dusts when suspended in atmospheres of carbon dioxide may ignite and explode.	Pyrophoric	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		3452	
1422	3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-AMINOANTHRACENE may be unstable with prolonged exposure to air and light. Solutions of this chemical should be stable for 24 hours under normal lab conditions. (NTP, 1992)						0																		(NTP, 1992)		460 to 466	
1423	3,3'-DIMETHYLBENZIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in an explosion proof refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CHROMIUM CARBONYL decomposes violently at 410Â° F. This compound is decomposed by chlorine and fuming nitric acid. It is incompatible with oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3281 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	230	
1424	3,3'-DIMETHYLBENZIDINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-AMINOBENZIMIDAZOLE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.						0																		(NTP, 1992)		435	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1420	3,3-DIETHOXYPROPENE																																								Organic Peroxide	C18-H38-O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	11.0	3.0	3.0
1421	3,3'-DIMETHOXYBENZIDINE	(NTP, 1992)		1		2941		mm Hg							(NTP, 1992)		7.2				(NTP, 1992)		4788		760		(NTP, 1992)		52		(NIOSH, 2003)	(as Cr)	250	mg/m3	(NIOSH, 2003)	Insoluble					Corrosive	Cr		6.0	0.0	11.0	3.0	3.0
1422	3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE																				(NTP, 1992)	(sublimes)	199		9		(NTP, 1992)		193.25						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL			C14H11N		8.0	0.0	15.0	3.0	3.0
1423	3,3'-DIMETHYLBENZIDINE	(NTP, 1992)	; 760 mm Hg at 304Â° F	1		97		mm Hg							(NTP, 1992)		1.77		64		(NTP, 1992)	(violent decomposition)	410		760		(NTP, 1992)		220.06						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6CrO6		6.0	0.0	16.0	3.0	3.0
1424	3,3'-DIMETHYLBENZIDINE DHHYDROCHLORIDE																										(NTP, 1992)		133.15						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C7H7N3	Mineral-Based & Clay-Based Absorbents	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1425	3,3'-IMINODIPROPYLAMINE	AMINOBIS(PROPYLAMINE)|4-AZA-1,7-DIAMINOHEPTANE|4-AZAHEPTAMETHYLENEDIAMINE|4-AZAHEPTANE-1,7-DIAMINE|BIS(3-AMINOPROPYL)AMINE|BIS-(3-AMINOPROPYL)AMINE|CALDINE|DI(3-AMINOPROPYL)AMINE|1,7-DIAMINO-4-AZAHEPTANE|3,3-DIAMINODIPROPYLAMINE|3,3-DIAMINODIPROPYLAMINE|DIPROPYLAMINE, 3,3'-DIAMINO-|DIPROPYLENETRIAMINE|IMINO-BIS(3-PROPYLAMINE)|IMINOBIS(PROPYLAMINE)|3,3'-IMINOBIS(PROPYLAMINE)|IMINOBISPROPYLAMINE|3,3'-IMINOBISPROPYLAMINE|3,3'-IMINODI(PROPYLAMINE)|3,3'IMINODIPROPYLAMINE|N-(3-AMINOPROPYL)-1,3-PROPANEDIAMINE|N-(3-	56-18-8	A colorless liquid. Less dense than water. Flash point of 170Â°F. Very irritating to skin and eyes, and may be toxic by ingestion. Used to make soaps, dyes, and pharmaceuticals.	2.5	5.0	2.5	3083.0	305.0	1078.0	510.0	365.0	645.0	67.0	232.0	116.0	76.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1426	3,4-DICHLOROANILINE	4-AMINO-1,2-DICHLOROBENZENE|1-AMINO-3,4-DICHLOROBENZENE|ANILINE, 3,4-DICHLORO-|BENZENAMINE, 3,4-DICHLORO|DCA|DCA (AMINE)|3,4-DCA|3,4-DICHLORANILIN|3,4-DICHLORANILINE|3,4-DICHLOROANILINE|4,5-DICHLOROANILINE|3,4-DICHLOROBENZENAMINE|LY 004892|M,P-DICHLOROANILINE	95-76-1	PHYSICAL DESCRIPTION: Light tan to dark gray crystals or brown solid. Melting point 71-72Â°C.	1.0	2.5	5.0	3083.0	305.0	1078.0	513.0	365.0	645.0	67.0	232.0	117.0	76.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1427	3,4-DICHLOROBENZALDEHYDE	BENZALDEHYDE, 3,4-DICHLORO-|3,4-DICHLOROBENZALDEHYDE|3,4-DICHLOROBENZENECARBOXALDEHYDE|M,P-DICHLOROBENZALDEHYDE	6287-38-3	PHYSICAL DESCRIPTION: White crystalline solid or chunky powder. (NTP, 1992)	1.0	2.5	5.0	3086.0	305.0	1078.0	513.0	365.0	646.0	67.0	232.0	117.0	76.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1428	3,4-DICHLOROBENZOTRIFLUORIDE	3,4-DICHLORO(TRIFLUOROMETHYL)BENZENE|3,4-DICHLORO-1-(TRIFLUOROMETHYL)BENZENE|1,2-DICHLORO-4-(TRIFLUOROMETHYL)BENZENE|3,4-DICHLORO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|3,4-DICHLOROBENZOTRIFLUORIDE|(3,4-DICHLOROPHENYL)TRIFLUOROMETHANE|OXSOL 1000|TOLUENE, 3,4-DICHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-|4-(TRIFLUOROMETHYL)-1,2-DICHLOROBENZENE|1-(TRIFLUOROMETHYL)-3,4-DICHLOROBENZENE	328-84-7	A colorless liquid. Irritating and narcotic in high concentrations. Used as a solvent and for making other chemicals and dyes.	2.5	5.0	2.5	3089.0	305.0	1081.0	513.0	365.0	647.0	67.0	233.0	117.0	76.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1429	3,4-DICHLORONITROBENZENE	DCNB|1,2-DICHLORO-4-NITROBENZENE|3,4-DICHLORONITROBENZENE|1-NITRO-3,4-DICHLOROBENZENE	99-54-7	PHYSICAL DESCRIPTION: Colorless crystals or light beige solid. (NTP, 1992)	1.0	2.5	5.0	3092.0	305.0	1081.0	513.0	365.0	648.0	67.0	233.0	117.0	76.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1425	3,3'-IMINODIPROPYLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as ISOOCTANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		10																			
1426	3,4-DICHLOROANILINE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Carboxylic acids donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt. Carboxylic acids in aqueous solution and liquid or molten carboxylic acids can react with active metals to form gaseous hydrogen and a metal salt. Such reactions occur in principle for solid carboxylic acids as well, but are slow if the solid acid remains dry. Even "insoluble" carboxylic acids may absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Carboxylic acids, especially in aqueous solution, also react with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat.						0																						(NTP, 1992)			421 to 423
1427	3,4-DICHLOROBENZALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with release of heat.	Colorless, corrosive, moderately toxic liquid. When heated to decomposition it emits toxic fumes of oxides of sulfur [Lewis, 3rd ed., 1993, p. 1196].	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1428	3,4-DICHLOROBENZOTRIFLUORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ISOOCTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1429	3,4-DICHLORONITROBENZENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with the release of heat.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1425	3,3'-IMINODIPROPYLAMINE																																								Flammable Liquid	C8H18		9.0	0.0	12.0	3.0	3.0
1426	3,4-DICHLOROANILINE																											(NTP, 1992)		468.38													C23H16O11	Cellulose-Based Absorbents	8.0	0.0	31.0	3.0	3.0
1427	3,4-DICHLOROBENZALDEHYDE																																								Corrosive	H2O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	14.0	3.0	3.0
1428	3,4-DICHLOROBENZOTRIFLUORIDE																																								Combustible Liquid	C10H20O2		7.0	0.0	30.0	3.0	3.0
1429	3,4-DICHLORONITROBENZENE																																								Corrosive	Cr.xH2SO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1430	3,4-DICHLOROPHENOL	3,4-DCP|3,4-DICHLOROPHENOL|4,5-DICHLOROPHENOL	95-77-2	PHYSICAL DESCRIPTION: Needles (from benzene, petroleum ether) or light brown and yellow crystals. Odor threshold 100 Âµg/L. Taste threshold 0.3 Âµg/L in water. (NTP, 1992)	1.0	2.5	5.0	3092.0	305.0	1081.0	513.0	365.0	648.0	67.0	233.0	117.0	76.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1431	3,4-DIHYDROCOUMARIN	1,2-BENZODIHYDROPYRONE|2-CHROMANONE|COUMARIN, 3,4-DIHYDRO|DIHYDROCOUMARIN|3,4-DIHYDROCOUMARIN|2H-1-BENZOPYRAN-2-ONE,3,4-DIHYDRO-(9CI)|HYDROCINNAMIC ACID, O-HYDROXY-,LACTONE|HYDROCOUMARIN|MELILOTIC LACTONE|MELILOTIN|MELILOTIN (COUMARIN)|MELILOTOL|NCI-C55890|USAF DO-12	119-84-6	PHYSICAL DESCRIPTION: White to pale yellow clear oily liquid with a sweet odor. Solidifies around room temperature. (NTP, 1992)	2.5	5.0	2.5	3092.0	305.0	1081.0	513.0	365.0	648.0	67.0	233.0	117.0	76.0	(BLOB)	Flash point data for this chemical are not available; it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1432	3,4-DIMETHOXYANILINE	4-AMINOVERATROL|4-AMINOVERATROLE|ANILINE, 3,4-DIMETHOXY-|1,3-DIMETHOXY-5-AMINOBENZENE|3,4-DIMETHOXYANILINE|3,4-DIMETHOXYBENZENAMINE|3,4-DIMETHOXYPHENYLAMINE|2-METHOXY-4-AMINOANISOLE	6315-89-5	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	3095.0	305.0	1084.0	513.0	365.0	649.0	67.0	234.0	117.0	76.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1433	3,4-DIMETHYLPHENOL	AS-O-XYLENOL|3,4-DIMETHYLPHENOL|4,5-DIMETHYLPHENOL|3,4-DMP|4-HYDROXY-1,2-DIMETHYLBENZENE|1-HYDROXY-3,4-DIMETHYLBENZENE|4-HYDROXY-O-XYLENE|O-4-XYLENOL|1,3,4-XYLENOL|3,4 XYLENOL	95-65-8	PHYSICAL DESCRIPTION: Colorless to light tan crystalline powder or solid. Odor threshold 1.2 mg/L. Taste threshold 0.05 mg/L. (NTP, 1992)	1.0	2.5	5.0	3095.0	305.0	1084.0	513.0	365.0	649.0	67.0	234.0	117.0	76.0	Call a doctor. INHALATION: remove to fresh air; administer artificial respiration if required. INGESTION: give water or milk; do NOT induce vomiting. EYES: flush with water for at least 15 min. SKIN: wash with large amounts of water. (USCG, 1999)	Behavior in Fire: Toxic and irritating gases are generated. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1434	3,4-XYLIDINE	4-AMINO-1,2-DIMETHYLBENZENE|1-AMINO-3,4-DIMETHYLBENZENE|4-AMINO-O-TOLUENE|3-AMINO-O-XYLENE|4-AMINO-O-XYLENE|3,4-DIMETHYLAMINOBENZENE|3,4-DIMETHYLANILINE|3,4-DIMETHYLBENZENAMINE|3,4-DIMETHYLPHENYLAMINE|O-XYLIDINE|3,4-XYLIDINE|3,4-XYLYLAMINE	95-64-7	PHYSICAL DESCRIPTION: Pale brown crystals or off-white solid. (NTP, 1992)	1.0	2.5	5.0	3095.0	305.0	1084.0	513.0	365.0	649.0	67.0	234.0	117.0	76.0	Call a physician. INHALATION: Move to fresh air. EYES: Flush with copious amounts of water. SKIN: Wash with soap and plenty of water. INGESTION: If conscious, make victim drink water or milk, then induce vomiting. (USCG, 1999)		
1435	3,5-DICHLORO-2,4,6-TRIFLUOROPYRIDINE	3,5-DICHLORO-2,4,6-TRIFLUOROPYRIDINE|3,5-DICHLOROTRIFLUOROPYRIDINE|2,4,6-TRIFLUORO-3,5-DICHLOROPYRIDINE	1737-93-5	A colorless liquid. Insoluble in water and denser than water. Hence sinks in water. Contact may irritate skin, eyes, and mucous membranes. Very toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3098.0	305.0	1084.0	513.0	365.0	650.0	67.0	234.0	117.0	76.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1430	3,4-DICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	2-AMINO-N6-HYDROXYADENINE is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.							0																							(NTP, 1992)	Decomposes at 428Â° F			
1431	3,4-DIHYDROCOUMARIN	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sparingly water soluble.	(BLOB)							0																			(NTP, 1992)		208		
1432	3,4-DIMETHOXYANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from contact with air. Store it in a refrigerator with the container tightly closed under an inert atmosphere. (NTP, 1992)	(BLOB)	Decomposes in air. Soluble in water.	2-AMINOPYRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Reacts with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		198																(NTP, 1992)		138 to 140	
1433	3,4-DIMETHYLPHENOL	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Chemical goggles and face shield; mask with acid-type canister; rubber gloves and boots. (USCG, 1999)	Fumes in air. Reacts with moist air to give strongly acidic mists that are heavier than air. Decomposes slowly in water to give hydrochloric acid and sulfuric acid [Handling Chemicals Safely p. 881 1980]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 8.7 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	SULFURYL CHLORIDE reacts exothermically with water. Incompatible with strong oxidizing agents, alcohols, amines. Reacts violently with bases. Attacks many metals. Can react explosively with lead dioxide [Mellor 10:676 1946-47]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1834 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																	(USCG, 1999)	Not flammable					
1434	3,4-XYLIDINE		Wear goggles, self-contained breathing apparatus, and rubber gloves. (USCG, 1999)	Stable in dry air, but oxidizes rapidly in moist air or standing water with liberation of Hydrogen, [Merck, 11th ed., 1989]. Soluble in water.	Inorganic reducing agents, such as CHROMOUS CHLORIDE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Long storage of a chromous chloride solution culminated in an explosion. This was ascribed to the slow buildup of hydrogen gas that was produced by reduction of water by the Cr(II) ion [MCA Case History No. 1660].	Strong Reducing Agent; Water-Reactive; Air-Reactive							0																			(USCG, 1999)		1515	
1435	3,5-DICHLORO-2,4,6-TRIFLUOROPYRIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	About the same density as water and slowly dissolves in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1430	3,4-DICHLOROPHENOL																										(NTP, 1992)		152.16															C5H6N6O	Mineral-Based & Clay-Based Absorbents	4.0	0.0	11.0	3.0	3.0
1431	3,4-DIHYDROCOUMARIN																										(NTP, 1992)		303.92						(NTP, 1992)	Sparingly soluble						C8H2Cl4O4		4.0	0.0	13.0	3.0	3.0
1432	3,4-DIMETHOXYANILINE	(NIOSH, 2003)		0.8		77		mm Hg													(NTP, 1992)			399 to 410	760		(NTP, 1992)		94.12		(NIOSH, 2003)		5	ppm	(NTP, 1992)	at 66Â° F		10 to 50	mg/mL		Poison	C5H6N2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	17.0	3.0	3.0
1433	3,4-DIMETHYLPHENOL														(USCG, 1999)		1.67		68		(USCG, 1999)		156.4		760		(USCG, 1999)		134.97											SCL	Poison Inhalation Hazard|Corrosive	SO2Cl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	17.0	3.0	3.0
1434	3,4-XYLIDINE														(USCG, 1999)		2.751		57.2									(USCG, 1999)		122.92		(NIOSH, 2003)	[as Cr(II)]	250	mg/m3						CRC		Cl2Cr		7.0	0.0	17.0	3.0	3.0
1435	3,5-DICHLORO-2,4,6-TRIFLUOROPYRIDINE																																									Corrosive	C8H19O4P		6.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1436	3,5-DICHLOROPHENOL	3,5-DCP|3,5-DICHLOROPHENOL	591-35-5	PHYSICAL DESCRIPTION: Prisms (from petroleum ether) or pink crystals. (NTP, 1992)	1.0	2.5	5.0	3101.0	305.0	1084.0	513.0	365.0	651.0	67.0	234.0	117.0	76.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1437	3,5-XYLIDINE	5-AMINO-1,3-DIMETHYLBENZENE|5-AMINO-1,3-XYLENE|1-AMINO-3,5-DIMETHYLBENZENE|5-AMINO-M-XYLENE|3,5-DIMETHYL-1-AMINOBENZENE|3,5-DIMETHYLANILINE|3,5-DIMETHYLBENZENAMINE|3,5-DIMETHYLPHENYLAMINE|MXYLIDINE|3,5-XYLIDINE|3,5-XYLYLAMINE	108-69-0	PHYSICAL DESCRIPTION: Dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	3104.0	305.0	1084.0	513.0	365.0	652.0	67.0	234.0	117.0	76.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1438	3-AMINO-6-METHYLPHENOL	4-AMINO-2-HYDROXYTOLUENE|5-AMINO-2-METHYLPHENOL|3-AMINO-6-METHYLPHENOL|5-AMINO-O-CRESOL|3-HYDROXY-4-METHYLANILINE|3-HYDROXY-P-TOLUIDINE|1-METHYL-2-HYDROXY-4-AMINOBENZENE|2-METHYL-5-AMINOPHENOL|O-CRESOL, 5-AMINO-	2835-95-2	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	3104.0	305.0	1084.0	513.0	365.0	652.0	67.0	234.0	117.0	76.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1439	3-AMINO-9-ETHYLCARBAZOLE	3-AMINO-9-ETHYLCARBAZOLE|3-AMINO-N-ETHYLCARBAZOLE|CARBAZOLE, 3-AMINO-9-ETHYL-|9-ETHYL-3-CARBAZOLAMINE	132-32-1	PHYSICAL DESCRIPTION: Tan powder. (NTP, 1992)	1.0	2.5	5.0	3104.0	305.0	1084.0	513.0	365.0	652.0	67.0	234.0	117.0	76.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1440	3-AMINOBENZENE SULFONIC ACID	3-AMINOBENZENE SULFONIC ACID|1-AMINOBENZENE-3-SULFONIC ACID|3-AMINOBENZENESULFONIC ACID|3-AMINOPHENYLSULFONIC ACID|ANILINE-M-SULPHONIC ACID|3-ANILINESULFONIC ACID|M-AMINOBENZENE SULFONIC ACID|M-AMINOBENZENESULFONIC ACID|M-AMINOPHENYLSULFONIC ACID|M-ANILINE SULFONIC ACID|M-ANILINESULFONIC ACID|M-SULFANILIC ACID|META-AMINOBENZENE SULFONIC ACID|METANILIC ACID|3-SULFOANILINE	121-47-1	PHYSICAL DESCRIPTION: White powder. Small colorless needles; toxic.	1.0	2.5	5.0	3104.0	305.0	1084.0	513.0	365.0	652.0	67.0	234.0	117.0	76.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1436	3,5-DICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-AMINOTHIAZOLE reacts violently when nitrated with nitric or nitric-sulfuric acids. It is also incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides. (NTP, 1992)								0																												
1437	3,5-XYLIDINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)	180		(USCG, 1999)		0.9		%	(USCG, 1999)		5.7		%	(USCG, 1999)		530		(USCG, 1999)		less than 212
1438	3-AMINO-6-METHYLPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as 2-BROMO-1-CHLOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.								0																												
1439	3-AMINO-9-ETHYLCARBAZOLE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Water soluble.	Incompatible with strong oxidizing agents, strong bases, strong reducing agents, acid chlorides and acid anhydrides. It is also incompatible with sulfhydryl compounds or with aluminum or iron containers (it is stable in contact with tin or stainless steel). (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												(NTP, 1992)		266 to 271
1440	3-AMINOBENZENE SULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-BROMOBIPHENYL is sensitive to light. Low reactivity. (NTP, 1992)								0																								(NTP, 1992)		34.7 to 35.6

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1436	3,5-DICHLOROPHENOL																				(NTP, 1992)	Decomposes					(NTP, 1992)		100.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C3H4N2S	Mineral-Based & Clay-Based Absorbents	6.0	0.0	11.0	3.0	3.0
1437	3,5-XYLIDINE	(USCG, 1999)		1.03				mm Hg							(USCG, 1999)		0.832		68		(USCG, 1999)		367		760		(USCG, 1999)		130.22						(NIOSH, 2003)	Insoluble				IOA	Combustible Liquid	C8H18O	Cellulose-Based Absorbents	6.0	0.0	15.0	3.0	3.0
1438	3-AMINO-6-METHYLPHENOL														(NTP, 1992)		1.537				(NTP, 1992)		244		760		(NTP, 1992)		157.44													C3H6BrCl		8.0	0.0	29.0	3.0	3.0
1439	3-AMINO-9-ETHYLCARBAZOLE	(NTP, 1992)		1.26E-05		68		mm Hg													(NTP, 1992)		305.1		760		(NTP, 1992)		200.01						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL		Flammable Solid	C3H6BrNO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1440	3-AMINOBENZENE SULFONIC ACID														(NTP, 1992)		1.2175				(NTP, 1992)			565 to 568	760		(NTP, 1992)		233.12						(NTP, 1992)	Insoluble						C12H9Br		7.0	0.0	32.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1441	3'-AZIDO-3'-DEOXYTHYMIDINE	3'-AZIDO-3'-DEOXYTHYMIDINE|AZIDODEOXYTHYMIDINE|AZIDOTHYMIDINE|3'-AZIDOTHYMIDINE|AZITIDINE|AZT|AZT (PHARMACEUTICAL)|BW-A509U|3'-DEOXY-3'-AZIDOTHYMIDINE|NSC 602670|RETROVIR|THYMIDINE, 3'-AZIDO-3'-DEOXY-|TIMAZID|ZDV|ZIDOVUDINE	30516-87-1	PHYSICAL DESCRIPTION: Slightly off-white odorless powdery solid. (NTP, 1992)	1.0	2.5	5.0	3104.0	311.0	1087.0	513.0	368.0	652.0	69.0	235.0	117.0	77.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1442	3-BROMO-1-PROPANOL	3-BROMO-1-PROPANOL|1-BROMO-3-HYDROXYPROPANE|1-BROMO-3-PROPANOL|3-BROMOPROPYL ALCOHOL|3-HYDROXYPROPYL BROMIDE|TRIMETHYLENE BROMOHYDRIN	627-18-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3107.0	311.0	1087.0	513.0	368.0	653.0	69.0	235.0	117.0	77.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1443	3-BROMOBIPHENYL	BIPHENYL, 3-BROMO-[[1,1'-BIPHENYL]-3-YL BROMIDE|1-BROMO-3-PHENYLBENZENE|3-BROMOBIPHENYL|3-BROMODIPHENYL|M-BROMOBIPHENYL|M-BROMODIPHENYL|3-XENYL BROMIDE	2113-57-7	PHYSICAL DESCRIPTION: Clear yellow viscous liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3107.0	311.0	1087.0	513.0	368.0	653.0	69.0	235.0	117.0	77.0	(BLOB)	Combustible. (USCG, 1999)	
1444	3-BROMOPROPYNE	3-BROMO-1-PROPYNE|1-BROMO-2-PROPYNE|BROMOPROPYNE|3-BROMOPROPYNE|GAMMA-BROMOALLYLENE|PROPARGYL BROMIDE|PROPYNE, 3-BROMO-|2-PROPYNYL BROMIDE	106-96-7	A colorless to light yellow liquid substance with a sharp odor. Flash point 65Â°F. Denser than water and insoluble in water. Vapors are heavier than air. May be irritating to skin and eyes. Used to make other chemicals. It may decompose explosively with mild shock.	2.5	5.0	2.5	3110.0	311.0	1087.0	513.0	368.0	654.0	69.0	235.0	117.0	77.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
1445	3-chloro-1-propanol	3-CHLORO-1-HYDROXYPROPANE|3-CHLORO-1-PROPANOL|1-CHLORO-3-HYDROXYPROPANE|1-CHLORO-3-PROPANOL|3-CHLOROPROPANOL-1|3-CHLOROPROPANOL|3-CHLOROPROPYL ALCOHOL|TRIMETHYLENE CHLOROHYDRIN	627-30-5	A colorless liquid with a mild odor. Slightly denser than water. Toxic by ingestion and inhalation . Flash point 270Â°F. Used to make plastics, resins and other chemicals.	2.5	5.0	2.5	3110.0	311.0	1090.0	519.0	368.0	654.0	69.0	236.0	119.0	77.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1446	3-CHLORONITROBENZENE	3-CHLORO-1-NITROBENZENE|1-CHLORO-3-NITROBENZENE|CHLORO-M-NITROBENZENE|3-CHLORONITROBENZENE|M-CHLORONITROBENZENE|M-NITROCHLOROBENZENE|NITROCHLOROBENZENE|NITROCHLOROBENZENE, META-, SOLID|3-NITROCHLOROBENZENE	121-73-3	PHYSICAL DESCRIPTION: Pale yellow crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3110.0	311.0	1090.0	519.0	368.0	654.0	69.0	236.0	119.0	77.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1441	3'-AZIDO-3'-DEOXYTHYMIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	[[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)			284 to 290
1442	3-BROMO-1-PROPANOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is slightly soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2																							
1443	3-BROMOBIPHENYL		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water.	Ketones, such as ISOPHORONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. Forms explosive peroxides	Peroxidizable Compound		(NFPA, 2010)		2	2	1	3		(NTP, 1992)		184		(NTP, 1992)		0.8		%	(NTP, 1992)		3.8		%	(USCG, 1999)		864		(NTP, 1992)		18	
1444	3-BROMOPROPYNE	(BLOB)	(BLOB)	Insoluble in water. This chemical may be sensitive to moisture.	ISOPHORONE DIISOCYANATE reacts with all substances containing active hydrogen atoms such as water, alcohols, phenols, amines, mercaptans, amides, urethanes and ureas. (NTP, 1992)	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	1	2	No Water	(NTP, 1992)		greater than 200													(NTP, 1992)		-76	
1445	3-chloro-1-propanol	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Flammable. Insoluble in water.	(BLOB)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		60		(NTP, 1992)		1		%	(NTP, 1992)		7		%								
1446	3-CHLORONITROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A brominated acylic acid ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkalt metals and hydrides.	Polymerizable						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1441	3'-AZIDO-3'-DEOXYTHYMIDINE																										(NTP, 1992)		252.35						(NTP, 1992)	at 68Â° F	5		mg/mL			C10H16N6S	Mineral-Based & Clay-Based Absorbents	8.0	0.0	45.0	3.0	3.0
1442	3-BROMO-1-PROPANOL																																									Poison	C5H10O2		7.0	0.0	13.0	3.0	3.0
1443	3-BROMOBIPHENYL	(NTP, 1992)	; 1 mm Hg at 100Â° F	0.2		68		mm Hg	(NTP, 1992)		4.77				(USCG, 1999)		0.921		77		(NTP, 1992)		419.4		760		(NTP, 1992)		138.21		(NIOSH, 2003)		200	ppm	(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL	IPH		C9H14O	Dirt/Earth	7.0	0.0	15.0	3.0	3.0
1444	3-BROMOPROPYNE	(NTP, 1992)	; 0.0007 mm Hg at 122Â° F	0.0003		68		mm Hg							(USCG, 1999)			1.056 to 1.062	68		(NTP, 1992)		316		10		(EPA, 1998)		222.32						(NTP, 1992)	at 77Â° F		less than 1	mg/mL	IPD	Poison	C12H18N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	23.0	3.0	3.0
1445	3-chloro-1-propanol	(NTP, 1992)		21		100		mm Hg							(NTP, 1992)		0.9				(NTP, 1992)		286		760										(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid	C8H6O4. C5H12O3	Cellulose-Based Absorbents	7.0	0.0	20.0	3.0	3.0
1446	3-CHLORONITROBENZENE														(NTP, 1992)		1.4581		77		(NTP, 1992)			311 to 316	760		(NTP, 1992)		179.03						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C5H7BrO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1447	3-CHLOROPEROXYBENZOIC ACID	3-CHLOROBENZENECARBOPEROXOIC ACID|3-CHLOROPERBENZOIC ACID|3-CHLOROPEROXYBENZOIC ACID, [<= 86% WITH 3-CHLOROBENZOIC ACID]|3-CHLOROPEROXYBENZOIC ACID|M-CHLOROBENZOYL HYDROPEROXIDE|M-CHLOROPERBENZOIC ACID|M-CHLOROPEROXOBENZOIC ACID|M-CHLOROPEROXYBENZOIC ACID|MCPBA|PEROXYBENZOIC ACID, M-CHLORO-	937-14-4	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide in a solvent slurry.	1.0	2.5	5.0	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1448	3-CHLOROPROPIONIC ACID	BETA-CHLOROPROPIONIC ACID|BETA-MONOCHLOROPROPIONIC ACID|3-CHLOROPROPANOIC ACID|3-CHLOROPROPIONIC ACID|PROPIONIC ACID, 3-CHLORO-	107-94-8	A white crystalline solid with a sharp odor. Denser than water. (USCG, 1999)	1.0	2.5	5.0	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1449	3-CHLORO-P-TOLUIDINE	4-AMINO-2-CHLOROTOLUENE|1-AMINO-3-CHLORO-4-METHYLBENZENE|2-CHLORO-4-AMINOTOLUENE|3-CHLORO-4-METHYLANILINE|3-CHLORO-4-METHYLBENZENAMINE|3-CHLORO-P-TOLUIDINE|3-CHLORO-PARA-TOLUIDINE|CPT|3-CPT|DKC 1347|DRC 1339|DRC 1347|4-METHYL-3-CHLOROANILINE|NCI-C02040|P-TOLUIDINE, 3-CHLORO-|STARLICIDE	95-74-9	PHYSICAL DESCRIPTION: Brown solid with a mild odor. (NTP, 1992)	1.0	2.5	5.0	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1450	3-DIETHYLAMINOPHENOL	3-(DIETHYLAMINO)PHENOL|3-DIETHYLAMINOPHENOL|3-HYDROXY-N,N-DIETHYLANILINE|3-HYDROXYDIETHYLAMINOBENZENE|M-(DIETHYLAMINO)PHENOL|M-DIETHYLAMINOPHENOL|META-DIETHYLAMINOPHENOL|N,N-DIETHYL-3-AMINOPHENOL|N,N-DIETHYL-3-HYDROXYANILINE|N,N-DIETHYL-M-AMINOPHENOL|PHENOL, M-(DIETHYLAMINO)-	91-68-9	PHYSICAL DESCRIPTION: Black solid. (NTP, 1992)	1.0	2.5	5.0	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	Call a physician. EYES: Flush with plenty of water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes, flush affected areas with water for at least 15 minutes. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of Br Behavior in Fire: May form explosive mixtures with air in fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1451	3-DIETHYLAMINOPROPYLAMINE	1-AMINO-3-(DIETHYLAMINO)PROPANE|3-(DIETHYLAMINO)-N-PROPYLAMINE|3-(DIETHYLAMINO)PROPANAMINE|3-(DIETHYLAMINO)PROPYLAMINE|3-DIETHYLAMINO-1-PROPYLAMINE|DIETHYLAMINOPROPYLAMINE|3-DIETHYLAMINOPROPYLAMINE|DIETHYLAMINOTRIMETHYLENAMINE|GAMMA-(DIETHYLAMINO)PROPYLAMINE|N,N-DIETHYL-1,3-DIAMINOPROPANE|N,N-DIETHYL-1,3-PROPANEDIAMINE|N,N-DIETHYL-1,3-PROPYLENEDIAMINE|3-(N,N-DIETHYLAMINO)-1-PROPYLAMINE|3-(N,N-DIETHYLAMINO)PROPYLAMINE|N,N-DIETHYLTRIMETHYLENEDIAMINE|N-(3-DIETHYLAMINOPROPYL)AMINE|N-(DIETHYLAMINOPROPYL)A	104-78-9	A water-white liquid with a fishlike odor. May be very irritating to skin and eyes. Used to make other chemicals and as a component of adhesives.	2.5	5.0	2.5	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	(BLOB)	Flash point data are not available for this chemical. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, car bon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1447	3-CHLOROPEROXYBENZOIC ACID	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water and slightly denser than water.	Ethers, such as 2-BROMOETHYL ETHYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1448	3-CHLOROPROPIONIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to oxidation and hydrolysis. Insoluble in water.	CINNAMYL ANTHRANILATE is sensitive to oxidation and hydrolysis. It is subject to photooxidation. This chemical reacts with various aldehydes, forming highly colored compounds. (NTP, 1992)						0																					(NTP, 1992)		142 to 143
1449	3-CHLORO-P-TOLUIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	The acidic organic salt (HBr) of the amine. Acidic salts are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																					(NTP, 1992)		342 to 345
1450	3-DIETHYLAMINOPHENOL	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, safety goggles, chemical-resistant gloves, other protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	2-BROMOPENTANE is incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		69																	(USCG, 1999)		-140	
1451	3-DIETHYLAMINOPROPYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ISOPHTHALIC DIGLYCIDYL ESTER is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																					(NTP, 1992)		142 to 145

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1447	3-CHLOROPEROXYBENZOIC ACID																																								Flammable Liquid	C4H9BrO		9.0	0.0	18.0	3.0	3.0
1448	3-CHLOROPROPIONIC ACID														(NTP, 1992)		1.18		59.9		(NTP, 1992)		630		760		(NTP, 1992)		253.32						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C16H15NO2	Dirt/Earth	8.0	0.0	13.0	3.0	3.0
1449	3-CHLORO-P-TOLUIDINE																										(NTP, 1992)		204.92						(NTP, 1992)	Soluble						C2H6BrN.BrH		6.0	0.0	15.0	3.0	3.0
1450	3-DIETHYLAMINOPHENOL														(USCG, 1999)		1.208		68		(USCG, 1999)		243		760		(USCG, 1999)		151.07											BPE	Flammable Liquid	C5H11Br		6.0	0.0	15.0	3.0	3.0
1451	3-DIETHYLAMINOPROPYLAMINE																										(NTP, 1992)		278.25						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C14H14O6	Mineral-Based & Clay-Based Absorbents(Dirt/Earth	9.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1452	3-FLUOROTOLUENE	1-FLUORO-3-METHYLBENZENE|3-FLUOROTOLUENE|M-FLUOROTOLUENE|M-TOLYL FLUORIDE|1-METHYL-3-FLUOROBENZENE	352-70-5	A colorless liquid with an aromatic odor. Boiling point 239Â°C. Flash point 63Â°F. Density 0.991 g / cm3 --- may float or sink in water. (USCG, 1999)	2.5	5.0	2.5	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1453	3-METHYL-2-NITROBENZOIC ACID	BENZOIC ACID, 3-METHYL-2-NITRO-|M-TOLUIC ACID, 2-NITRO-|3-METHYL-2-NITROBENZOIC ACID|2-NITRO-M-TOLUIC ACID	5437-38-7	PHYSICAL DESCRIPTION: Prisms or white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	3113.0	311.0	1093.0	519.0	368.0	655.0	69.0	237.0	119.0	77.0	(BLOB)	Combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1454	3-METHYL-3-PHENYLGLYCIDIC ACID ETHYL ESTER	ALDEHYDE C16|ALPHA,BETA-EPOXY-BETA-METHYLHYDROCINNAMIC ACID ETHYL ESTER|ALPHA,BETA-EPOXY-BETA-METHYLHYDROCINNAMIC ACID,ETHYL ESTER|C-16 ALDEHYDE|EMPG|ETHYL 2,3-EPOXY-3-METHYL-3-PHENYLPROPIONATE|ETHYL 3-METHYL-3-PHENYLGLYCIDATE|ETHYL ALPHA,BETA-EPOXY-BETA-METHYLHYDROCINNAMATE|ETHYL ESTER OF 2,3-EPOXY-3-PHENYLBUTANOIC ACID|ETHYL METHYLPHENYLGLYCIDATE|FRAESEOL|FRAESOL|HYDROCINNAMIC ACID, ALPHA,BETA-EPOXY-BETA-METHYL-, ETHYL ESTER|3-METHYL-3-PHENYLGLYCIDIC ACID ETHYL ESTER|OXIRANECARBOXYL	77-83-8	PHYSICAL DESCRIPTION: Clear, colorless to yellowish liquid with a strawberry-like odor. (NTP, 1992)	2.5	5.0	2.5	3116.0	311.0	1096.0	519.0	368.0	656.0	69.0	238.0	119.0	77.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1455	3-METHYL-4-NITROBENZOIC ACID	BENZOIC ACID, 3-METHYL-4-NITRO|M-METHYL-P-NITROBENZOIC ACID|M-TOLUIC ACID, 4-NITRO-|3-METHYL-4-NITROBENZOIC ACID|4-NITRO-3-METHYLBENZOIC ACID|4-NITRO-M-TOLUIC ACID	3113-71-1	PHYSICAL DESCRIPTION: Needles or off white powder. (NTP, 1992)	1.0	2.5	5.0	3119.0	311.0	1096.0	519.0	368.0	657.0	69.0	238.0	119.0	77.0	(BLOB)	This compound is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1456	3-METHYLAMINOPROPYLAMINE	3-AMINO-1-(METHYLAMINO)PROPANE|1-AMINO-3-(METHYLAMINO)PROPANE|(3-AMINOPROPYL)METHYLAMINE|KOEI 3306|3-(METHYLAMINO)PROPYLAMINE|3-METHYLAMINOPROPYLAMINE|N-METHYL-1,3-DIAMINOPROPANE|N-METHYL-1,3-PROPANEDIAMINE|N-METHYL-1,3-PROPYLENEDIAMINE|1-(N-METHYLAMINO)-3-AMINOPROPANE|N-METHYLTRIMETHYLENEDIAMINE	6291-84-5	PHYSICAL DESCRIPTION: Dark amber liquid. (NTP, 1992)	2.5	5.0	2.5	3122.0	311.0	1099.0	519.0	368.0	658.0	69.0	239.0	119.0	77.0	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1452	3-FLUOROTOLUENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	ISOPROPANOL reacts with air or oxygen to form dangerously unstable peroxides. Contact with 2-butanone increases the rate of peroxide formation. An explosive reaction occurs when it is heated with (aluminum isopropoxide + crotonaldehyde). Forms explosive mixtures with trinitromethane and hydrogen peroxide. Reacts with barium perchlorate to form a highly explosive compound. Ignites on contact with dioxygenyl tetrafluoroborate, chromium trioxide and potassium-tert-butoxide. Vigorous reactions occur with (hydrogen + palladium), nitroform, oleum, COCl2, aluminum triisopropoxide and oxidizing agents. Reacts explosively with phosgene in the presence of iron salts. Incompatible with acids, acid anhydrides, halogens and aluminum (NTP, 1992). Isopropanol can react with PCl3, forming toxic HCl gas. (Logsdon, John E., Richard A. Loke., "Isopropyl Alcohol." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 1996.).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		53		(NTP, 1992)		2		%	(NTP, 1992)		12		%	(USCG, 1999)		750		(NTP, 1992)		-127.3	
1453	3-METHYL-2-NITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and away from all mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable.	CIS-1,4-DICHLORO-2,3-EPOXYBUTANE is a halogenated epoxide. Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable					0																							
1454	3-METHYL-3-PHENYLGLYCIDIC ACID ETHYL ESTER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Salts, basic, such as ISOPROPANOLAMINE DODECYLBENZENE SULFONATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
1455	3-METHYL-4-NITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Nitrile Edmont 37-175 0.64 mm 190 min PVA Edmont 25-545 0.89 mm 480 min PVC Edmont 34-100 0.20 mm 5 min Viton North F-101 0.36 mm 480 min Butyl rubber North B-144 0.43 mm 480 min (NTP, 1992)	Water soluble.	2-CHLORO-1-PROPANOL may be sensitive to prolonged exposure to light. This chemical can react with oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		125																	
1456	3-METHYLAMINOPROPYLAMINE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	ISOPROPENYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)		60																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1452	3-FLUOROTOLUENE	(NTP, 1992)	; 40 mm Hg at 74.8Â° F	33		68		mm Hg	(NTP, 1992)		2.07				(USCG, 1999)		0.785		68		(NTP, 1992)		180.5		760		(NTP, 1992)		60.1		(NIOSH, 2003)		2000	ppm	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	IPA	Flammable Liquid	C3H8O	Cellulose-Based Absorbents	8.0	0.0	17.0	3.0	3.0
1453	3-METHYL-2-NITROBENZOIC ACID																										(NTP, 1992)		141													C4H6Cl2O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	17.0	3.0	3.0
1454	3-METHYL-3-PHENYLGLYCIDIC ACID ETHYL ESTER																																								Class 9	C21H39NO4S		8.0	0.0	23.0	3.0	3.0
1455	3-METHYL-4-NITROBENZOIC ACID								(NTP, 1992)		3.26				(NTP, 1992)		1.1				(NTP, 1992)		271 to 273	760		(NTP, 1992)		94.54						(NTP, 1992)	Soluble					Poison|Flammable Liquid	C3H7ClO	Cellulose-Based Absorbents	8.0	0.0	25.0	3.0	3.0
1456	3-METHYLAMINOPROPYLAMINE																																								Flammable Liquid	C5H8O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	8.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1457	3-METHYLBUTAN-2-ONE	2-ACETYL PROPANE|2-ACETYLPROPANE|ISOPROPYL METHYL KETONE|3-METHYL BUTAN-2-ONE|METHYL BUTANONE|METHYL ISOPROPYL KETONE|3-METHYL-2-BUTANONE|3-METHYLBUTAN-2-ONE|2-METHYLBUTAN-3-ONE|MIPK	563-80-4	A colorless liquid with a pleasant odor. Flash point below 70Â°F. Less dense than water. May be toxic by inhalation and skin absorption. Used as a solvent.	2.5	5.0	2.5	3125.0	311.0	1102.0	519.0	368.0	659.0	69.0	240.0	119.0	77.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1458	3-METHYLPIPERIDINE (CORROSIVE LIQUID, FLAMMABLE, N.O.S.)	BETA-METHYLPIPERIDINE|BETA-PIPECOLINE|3-METHYLPIPERIDINE (CORROSIVE LIQUID, FLAMMABLE, N.O.S.)|(+-)-3-METHYLPIPERIDINE|3-METHYLPIPERIDINE|3-PIPECOLINE|PIPERIDINE, 3-METHYL-, (+-)-	626-56-2	A colorless liquid with a characteristic odor. Less dense than water. Contact may cause severe irritation to skin, eyes, and mucous membranes. Toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	3125.0	311.0	1102.0	519.0	368.0	659.0	69.0	240.0	119.0	77.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1459	3-NITRO-4-CHLOROBENZOTRIFLUORIDE	1-CHLORO-2-NITRO-4-(TRIFLUOROMETHYL)BENZENE|6-CHLORO-3-(TRIFLUOROMETHYL)NITROBENZENE|4-CHLORO-3-NITRO-1-(TRIFLUOROMETHYL)BENZENE|4-CHLORO-3-NITROBENZOTRIFLUORIDE|1-CHLORO-4-TRIFLUOROMETHYL-2-NITROBENZENE|2-CHLORO-5-(TRIFLUOROMETHYL)-1-NITROBENZENE|2-CHLORO-5-(TRIFLUOROMETHYL)NITROBENZENE|4-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-3-NITROTOLUENE|2-NITRO-4-(TRIFLUOROMETHYL)-1-CHLOROBENZENE|2-NITRO-4-(TRIFLUOROMETHYL)CHLOROBENZENE|3-NITRO-4-CHLORO-1-(TRIFLUOROMETHYL)BENZENE|3-NITRO-4-CHLOROBENZOTRIFLUORID	121-17-5	A colorless to dark-colored liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3128.0	311.0	1102.0	519.0	368.0	660.0	69.0	240.0	119.0	77.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1460	3-NITROACETOPHENONE	ACETOPHENONE, 3'-NITRO-|1-ACETYL-3-NITROBENZENE|3-ACETYLNITROBENZENE|M-ACETYLNITROBENZENE|M-NITROACETOPHENONE|METHYL 3-NITROPHENYL KETONE|3'-NITROACETOPHENONE|3-NITROACETOPHENONE|3-NITROPHENYL) METHYL KETONE|1-(3-NITROPHENYL)ETHANONE|USAF MA-1	121-89-1	PHYSICAL DESCRIPTION: Light beige powder. (NTP, 1992)	1.0	2.5	5.0	3131.0	311.0	1102.0	525.0	368.0	661.0	69.0	240.0	121.0	77.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride may form. Behavior in Fire: Unburned material may become volatile and cause severe eye irritation. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1461	3-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	ALPHA,ALPHA,ALPHA-TRIFLUORO-M-NITROTOLUENE|M-(TRIFLUOROMETHYL)NITROBENZENE|M-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|M-NITROBENZOTRIFLUORIDE|M-NITROFLUOROMETHYLBENZENE|M-NITROTRIFLUOROTOLUENE|3-NITRO-1-(TRIFLUOROMETHYL)BENZENE|1-NITRO-3-(TRIFLUOROMETHYL)BENZENE|3-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|3-NITROBENZOTRIFLUORIDE|TOLUENE, ALPHA,ALPHA,ALPHA-TRIFLUORO-M-NITRO-|3-(TRIFLUOROMETHYL)-1-NITROBENZENE|3-(TRIFLUOROMETHYL)NITROBENZENE	98-46-4	PHYSICAL DESCRIPTION: Pale oily liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3134.0	311.0	1105.0	525.0	368.0	662.0	69.0	241.0	121.0	77.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1457	3-METHYLBUTAN-2-ONE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.	ISOPROPENYLBENZENE is easily peroxidizable; the peroxide may initiate exothermic polymerization of the bulk material. Reacts violently with strong oxidizing agents [Handling Chemicals Safely, 1980 p. 866; Bretherick, 1979 p. 160].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		129		(NTP, 1992)		1.9		%	(NTP, 1992)		6.1		%	(USCG, 1999)		1066		(NTP, 1992)		-9	
1458	3-METHYLPIPERIDINE (CORROSIVE LIQUID, FLAMMABLE, N.O.S.)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Less dense than water and slightly soluble in water.	ISOPROPYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react vigorously with nitrates, strong oxidizers, strong alkalis and strong acids. This chemical may also attack some forms of rubber, plastics and coatings. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		36		(NTP, 1992)		1.7		%	(NTP, 1992)		7.8		%	(USCG, 1999)		860		(NTP, 1992)		-100.1	
1459	3-NITRO-4-CHLOROBENZOTRIFLUORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1460	3-NITROACETOPHENONE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water. Reacts slowly with water to form hydrogen chloride.	2-CHLOROACETOPHENONE reacts slowly with metals causing mild corrosion.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: If this material is being used as a weapon, see ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1697 datasheet. Otherwise increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		244														(NTP, 1992)		133.7	
1461	3-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	ISOPROPYL BUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1457	3-METHYLBUTAN-2-ONE	(NTP, 1992)	; 5 mm Hg at 93Â° F	1.9		68		mm Hg	(NTP, 1992)		4.08				(USCG, 1999)		0.91		68		(NTP, 1992)		329.7		760		(NTP, 1992)		118.18		(NIOSH, 2003)		700	ppm	(NTP, 1992)	at 72Â° F		less than 1	mg/mL	MSR	Flammable Liquid	C9H10	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	12.0	3.0	3.0
1458	3-METHYLPIPERIDINE (CORROSIVE LIQUID, FLAMMABLE, N.O.S.)	(NTP, 1992)	; 100 mm Hg at 96.3Â° F; 760 mm Hg at 192.2Â° F	1		-36.9		mm Hg	(NTP, 1992)		3.5				(USCG, 1999)		0.874		68		(NTP, 1992)			190 to 196	743.3		(NTP, 1992)		102.15		(NIOSH, 2003)		1800	ppm	(NTP, 1992)	at 68Â° F		1 to 10	mg/mL	IAC	Flammable Liquid	C5H10O2		8.0	0.0	13.0	3.0	3.0
1459	3-NITRO-4-CHLOROBENZOTRIFLUORIDE																																							Corrosive	C3H9O4P		9.0	0.0	21.0	3.0	3.0
1460	3-NITROACETOPHENONE	(NTP, 1992)		0.0054		68		mm Hg	(NTP, 1992)		5.2				(USCG, 1999)		1.32		59		(NTP, 1992)			441 to 442	760		(NTP, 1992)		154.6		(NIOSH, 2003)		15	mg/m3	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	CRA	Poison	C6H5COCH2Cl		7.0	0.0	18.0	3.0	3.0
1461	3-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE																																							Flammable Liquid	C7H14O2		7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1462	3-TRIFLUOROMETHYLANILINE	ALPHA,ALPHA,ALPHA-TRIFLUORO-M-TOLUIDINE|1-AMINO-3-(TRIFLUOROMETHYL)BENZENE|3-AMINOBENZOTRIFLUORIDE|3-AMINOBENZOTRIFLUORIDE|BENZENAMINE, 3-(TRIFLUOROMETHYL)-|M-(TRIFLUOROMETHYL)ANILINE|M-AMINO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|M-AMINO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|M-AMINOBENZAL FLUORIDE|M-AMINOBENZOTRIFLUORIDE|M-TOLUIDINE, ALPHA,ALPHA,ALPHA-TRIFLUORO-|TOLUENE, 3-AMINO-ALPHA,ALPHA,ALPHA-TRIFLUORO-|3-(TRIFLUOROMETHYL)ANILINE|3-(TRIFLUOROMETHYL)BENZENAMINE|3-	98-16-8	A colorless liquid with a fishlike odor. Insoluble in water and denser than water. Toxic by ingestion and inhalation. Used to make dyes and pharmaceuticals.	2.5	5.0	2.5	3134.0	311.0	1108.0	525.0	368.0	662.0	69.0	242.0	121.0	77.0	INHALATION: Remove victim to fresh air; if breathing stops, give artificial respiration and administer oxygen. SKIN OR EYE CONTACT: Remove contaminated clothing and gently flush affected areas with water for 15 minutes; call a physician. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may not be effective on fire Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical (USCG, 1999)
1463	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID	AMSONIC ACID|DAS|DASD|4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID|DIAMINOSTILBENEDISULFONIC ACID|2,2'-DISULFO-4,4'-STILBENEDIAMINE|2,2'-(1,2-ETHYLENEDIYL)BIS(5-AMINOBENZENESULFONIC ACID)|FLAVONIC ACID|NCI-C50162|P,P'-DIAMINODIPHENYLETHYLENE-O,O'-DISULFONIC ACID|P,P'-DIAMINOSTILBENE-O,O'-DISULFONIC ACID|2,2'-STILBENEDISULFONIC ACID, 4,4'-DIAMINO-|TINOPAL BHS	81-11-8	PHYSICAL DESCRIPTION: Odorless yellowish microscopic needles or cream-colored powder. pH approximately 4.3 at 30 g/L water (suspension). (NTP, 1992)	1.0	2.5	5.0	3137.0	311.0	1108.0	525.0	368.0	663.0	69.0	242.0	121.0	77.0	(BLOB)	Highly flammable. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1464	4,4'-DIAMINODICYCLOHEXYL METHANE	AMICURE PACM|BIS(4-AMINOCYCLOHEXYL)METHANE|BIS(P-AMINOCYCLOHEXYL)METHANE|CYCLOHEXYLAMINE, 4,4'-METHYLENEBIS-|CYCLOHEXYLAMINE, 4,4-METHYLENEBIS-|DI(P-AMINOCYCLOHEXYL)METHANE|4,4'-DIAMINODICYCLOHEXYL METHANE|4,4'-DIAMINODICYCLOHEXYLMETHANE|DICYCLOHEXYLMETHANE-4,4'-DIAMINE|HLR 4219|HLR 4448|METHYLENEBIS(4-AMINOCYCLOHEXANE)|METHYLENEBIS(4-CYCLOHEXYLAMINE)|4,4'-METHYLENEBIS(AMINOCYCLOHEXANE)|4,4'-METHYLENEBIS(CYCLOHEXYLAMINE)|4,4'-METHYLENEBIS[CYCLOHEXANAMINE]|4,4'-METHYLENEDICYCLOHEXANAMINE|4,4'-METHYLENEDI(CYCLOHEXY	1761-71-3	PHYSICAL DESCRIPTION: Yellowish white liquid or brown solid paste. (NTP, 1992)	2.5	5.0	2.5	3137.0	311.0	1108.0	531.0	368.0	663.0	69.0	242.0	123.0	77.0	(BLOB)	Flash point data are not available for this chemical; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1465	4,4'-DIAMINODIPHENYL ETHER	4-AMINOPHENYL ETHER|ANILINE, 4,4'-OXYDI-|BENZENAMINE, 4,4'-OXYBIS-|BIS(4-AMINOPHENYL) ETHER|BIS(4-AMINOPHENYL)ETHER|BIS(P-AMINOPHENYL) ETHER|BIS(P-AMINOPHENYL)ETHER|DADPE|4,4-DADPE|4,4'-DIAMINOBIPHENYL ETHER|4,4'-DIAMINOBIPHENYLOXIDE|DIAMINODIPHENYL ETHER|4,4-DIAMINODIPHENYL ETHER|4,4-DIAMINODIPHENYL ETHER|4,4'-DIAMINODIPHENYL OXIDE|4,4'-DIAMINOPHENYL ETHER|4,4'-DIAMINOPHENYL OXIDE|ETHER, 4,4'-DIAMINODIPHENYL|NCI-C50146|ODA|OXYBIS(4-AMINOBENZENE)|4,4'-OXYBIS(ANILINE)|4,4'-OXYBISANILINE|4,4'-	101-80-4	Odorless colorless crystals or an odorless fine, beige powder. (NTP, 1992)	1.0	2.5	5.0	3140.0	311.0	1108.0	531.0	368.0	664.0	69.0	242.0	123.0	77.0	(BLOB)	Behavior in Fire: Melts and decomposes. The reaction is not hazardous. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
1466	4,4'-DIAMINODIPHENYLMETHANE	ACMEX H 84BM|4-(4-AMINOBENZYL)ANILINE|ANCAMINE 1692|ANCAMINE TL|ANILINE, 4,4'-METHYLENEDI-|ARALDITE HARDENER 972|ARALDITE HARDENER HT 972|ARALDITE HT 972|ARALDITE R 972|BIS(4-AMINOPHENYL)METHANE|BIS(AMINOPHENYL)METHANE|BIS(P-AMINOPHENYL)METHANE|CURITHANE|DADPM|DAPM|DDM|DI-(4-AMINOPHENYL)METHANE|DIAMINODIPHENYLMETHANE|4,4'-DIAMINODIPHENYLMETHANE|4,4'-DIAMINODITAN|DIANILINE METHANE|DIANILINOMETHANE|4,4'-DIPHENYLMETHANEDIAMINE|EPICURE DDM|EPIKURE DDM|HT 972|JEFFAMINE AP-20|MDA|METHYLENEBIS(ANILINE)|4,4'-METHYLENEBIS(ANILINE)|4,	101-77-9	A tan flake or lump solid with a faint fishlike odor. May be toxic by inhalation or ingestion, and may be irritating to skin. Insoluble in water.	1.0	2.5	5.0	3140.0	311.0	1108.0	531.0	368.0	664.0	69.0	242.0	123.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1462	3-TRIFLUOROMETHYLANILINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Hydrocarbon vapor canister, supplied-air, or hose mask, hydrocarbon-insoluble rubber or plastic gloves, chemical goggles or face splash shield, hydrocarbon- insoluble rubber or plastic apron. (USCG, 1999)	Flammable. Water insoluble.	ISOPROPYL CYCLOHEXANE may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1		0	0		(USCG, 1999)		96											(USCG, 1999)		541		(USCG, 1999)		-129	
1463	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear an impervious full-body suit equipped with an air line respirator or a self-contained breathing apparatus. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.	2-CHLOROETHYL VINYL ETHER forms salts with strong acids and addition complexes with Lewis acids. May react violently with strong oxidizing agents. Typically stabilized against polyermizable by addition of triethanolamine.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		61														(NTP, 1992)				-94.5	
1464	4,4'-DIAMINODICYCLOHEXYL METHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from bases and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	TETRACHLORVINPHOS is slowly hydrolyzed in neutral and aqueous acidic media. Is rapidly hydrolyzed in alkaline media.					0														(NTP, 1992)				203 to 207
1465	4,4'-DIAMINODIPHENYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	The pure material is moisture sensitive (undergoes slow hydrolysis) Water soluble.	CITRIC ACID reacts with oxidizing agents, bases, reducing agents and metal nitrates (NTP, 1992). Reactions with metal nitrates are potentially explosive. Heating to the point of decomposition causes emission of acrid smoke and fumes [Lewis].					0							(NTP, 1992)	(dust)	0.28		kg/m3	(NTP, 1992)	(dust)	2.29		kg/m3	(USCG, 1999)		1850		(NTP, 1992)	(anhydrous)	307	
1466	4,4'-DIAMINODIPHENYLMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is hygroscopic. Soluble in water.	2-CHLORO-N,N-DIMETHYL-1-PROPANAMINE HYDROCHLORIDE is incompatible with strong oxidizing agents. (NTP, 1992). Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)				381 to 383

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1462	3-TRIFLUOROMETHYLANILINE														(USCG, 1999)		0.8023		68		(USCG, 1999)		310		760		(USCG, 1999)		126.24											IPX	Flammable Liquid	C9H18		7.0	0.0	28.0	3.0	3.0
1463	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID														(NTP, 1992)		1.0475		68		(NTP, 1992)		228		760		(NTP, 1992)		106.55												Flammable Liquid|Poison	C4H7ClO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	20.0	3.0	3.0
1464	4,4'-DIAMINODICYCLOHEXYLMETHANE	(NTP, 1992)		4.20E-08		68		mm Hg													(NTP, 1992)		365.96											(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C10H9Cl4O4P		7.0	0.0	13.0	3.0	3.0
1465	4,4'-DIAMINODIPHENYL ETHER														(USCG, 1999)		1.54		68		(NTP, 1992)	Decomposes					(NTP, 1992)		192.14						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	CIT		C6H8O7	Cellulose-Based Absorbents	9.0	0.0	20.0	3.0	3.0
1466	4,4'-DIAMINODIPHENYLMETHANE																				(NTP, 1992)		158.07											(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C5H12ClN.ClH	Mineral-Based & Clay-Based Absorbents	9.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1467	4,4'-DICHLORODIPHENYL SULFONE	BENZENE, 1,1'-SULFONYLBIS(4-CHLORO-|BIS(4-CHLOROPHENYL) SULFONE|BIS(P-CHLOROPHENYL) SULFONE|4-CHLORO-1-(4-CHLOROPHENYLSULFONYL)BENZENE|4-CHLOROPHENYL SULFONE|DI-4-CHLOROPHENYL SULFONE|DI-P-CHLOROPHENYL SULFONE|4,4'-DICHLORODIPHENYL SULFONE|4,4'-DICHLOROPHENYL SULFONE|P,P'-DICHLORODIPHENYL SULFONE|P-CHLOROPHENYL SULFONE|SULFONE, BIS(P-CHLOROPHENYL)|SULFONE, BIS(P-CHLOROPHENYL)-|1,1'-SULFONYLBIS(4-CHLOROBENZENE)	80-07-9	PHYSICAL DESCRIPTION: Crystals or off-white powder. (NTP, 1992)	1.0	2.5	5.0	3140.0	311.0	1108.0	531.0	368.0	664.0	69.0	242.0	123.0	77.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1468	4,4'-METHYLENEBIS(2-CHLOROANILINE)	ANILINE, 4,4'-METHYLENEBIS[2-CHLORO-|BIS AMINE|BIS(3-CHLORO-4-AMINOPHENYL)METHANE|BIS(4-AMINO-3-CHLOROPHENYL)METHANE|BIS-AMINE A|BISAMINE S|CLMDA|CUAMINE M|CUAMINE MT|CURALIN M|CURENE 442|CYANASET|DACPM|DI(4-AMINO-3-CHLOROPHENYL)METHANE|DIAMET KH|DIAMET X|4,4'-DIAMINO-3,3'-DICHLORODIPHENYLMETHANE|3,3'-DICHLORO-4,4'-DIAMINODIPHENYLMETHANE|MBOCA|METHYLENE 4,4'-BIS(O-CHLOROANILINE)|4,4'-METHYLENE[BIS(2CHLOROANILINE|METHYLENE-BIS-ORTHOCHLOROANILINE|4,4'-METHYLENEBIS(2-CHLORANILINE)|4,4'-METHYLENEBIS(2-CHLOROANILINE)|4,4'-METHYLENEBIS(2-CHLOROBENZENAMINE)|METHYLENEBIS(3-CHLORO-4-	101-14-4	PHYSICAL DESCRIPTION: Tan-colored pellets or an off-white solid. Slight odor. (NTP, 1992)	1.0	2.5	5.0	3140.0	311.0	1108.0	531.0	368.0	664.0	69.0	242.0	123.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1469	4-ACETYLPYRIDINE	4-ACETYLPYRIDINE|ETHANONE, 1-(4-PYRIDINYL)-|GAMMA-ACETYLPYRIDINE|KETONE, METHYL 4-PYRIDYL|METHYL 4-PYRIDYL KETONE|PYRIDINE, 4-ACETYL-|1-(4-PYRIDINYL)ETHANONE|4-PYRIDYL METHYL KETONE	1122-54-9	PHYSICAL DESCRIPTION: Dark amber liquid. (NTP, 1992)	2.5	5.0	2.5	3143.0	311.0	1111.0	531.0	368.0	665.0	69.0	243.0	123.0	77.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1470	4-BROMOBENZOIC ACID	BENZOIC ACID, 4-BROMO-(9CI)|BENZOIC ACID, P-BROMO-|4-BROMOBENZOIC ACID|P-BROMOBENZENECARBOXYLIC ACID|P-BROMOBENZOIC ACID|P-CARBOXYBROMOBENZENE	586-76-5	PHYSICAL DESCRIPTION: Colorless to red crystals. (NTP, 1992)	1.0	2.5	5.0	3146.0	311.0	1111.0	531.0	368.0	666.0	69.0	243.0	123.0	77.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases may be generated. Behavior in Fire: Can react with oxidizing materials. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1471	4-BROMOBIPHENYL	BIPHENYL, 4-BROMO-|4-BIPHENYLYL BROMIDE|4-BROMO-1,1'-BIPHENYL|4-BROMOBIPHENYL|4-BROMODIPHENYL|(4-BROMOPHENYL)BENZENE|P-BIPHENYLYL BROMIDE|P-BROMOBIPHENYL|P-BROMODIPHENYL|P-PHENYLBROMOBENZENE|P-PHENYLPHENYL BROMIDE	92-66-0	PHYSICAL DESCRIPTION: Colorless crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3149.0	311.0	1114.0	531.0	368.0	667.0	69.0	244.0	123.0	77.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1467	4,4'-DICHLORODIPHENYL SULFONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	CITRUS RED NO. 2 is an azo compound. Toxic gases are formed by mixing compounds containing azo groups with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							(NTP, 1992)			311 to 315
1468	4,4'-METHYLENEBIS(2-CHLOROANILINE)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Oxidizes on exposure to air, becoming purple and eventually black [Hawley]. Insoluble in water.	An acidic salt of an amine. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			484 to 487
1469	4-ACETYLPYRIDINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	ISOPROPYL ISOBUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1470	4-BROMOBENZOIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Soluble in water. This chemical is sensitive to moisture. Slowly hydrolyzes.	2-DIETHYLAMINOETHANOL is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound can react with strong oxidizers and acids. (NTP, 1992)		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		140		(NIOSH, 2003)		6.7		%	(NIOSH, 2003)		11.7		%						(NTP, 1992)		-94	
1471	4-BROMOBIPHENYL	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1467	4,4'-DICHLORODIPHENYL SULFONE																									(NTP, 1992)		308.34						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C18H16N2O3		8.0	0.0	20.0	3.0	3.0
1468	4,4'-METHYLENEBIS(2-CHLOROANILINE)																									(NTP, 1992)		240.68						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C6H7ClN2.H2O4S		7.0	0.0	13.0	3.0	3.0
1469	4-ACETYLPYRIDINE																																								Flammable Liquid	C7H14O2		8.0	0.0	16.0	3.0	3.0
1470	4-BROMOBENZOIC ACID	(NTP, 1992)		21		68		mm Hg	(NTP, 1992)		4.03				(USCG, 1999)		0.8921		77		(NTP, 1992)		325	760	(NTP, 1992)		117.19		(NIOSH, 2003)		100	ppm	(NTP, 1992)	Very soluble					DAE	Corrosive|Flammable Liquid	C6H15NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	23.0	3.0	3.0
1471	4-BROMOBIPHENYL																																								Flammable Liquid|Poison	C4H8N2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1472	4-CHLORO-2-NITROANILINE	(BLOB)	89-63-4	PHYSICAL DESCRIPTION: Bright orange powder. (NTP, 1992)	1.0	2.5	5.0	3152.0	311.0	1114.0	531.0	368.0	668.0	69.0	244.0	123.0	77.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving the compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1473	4-CHLORO-3,5-DINITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	CHLORALIN|2-CHLORO-1,3-DINITRO-5-(TRIFLUOROMETHYL)BENZENE|1-CHLORO-2,6-DINITRO-4-(TRIFLUOROMETHYL)BENZENE|4-CHLORO-3,5-DINITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|4-CHLORO-3,5-DINITROBENZOTRIFLUORIDE|4-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-3,5-DINITROTOLUENE|2,6-DINITRO-4-(TRIFLUOROMETHYL)CHLOROBENZENE|3,5-DINITRO-4-CHLOROBENZOTRIFLUORIDE|TOLUENE, 4-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-3,5-DINITRO-|4-(TRIFLUOROMETHYL)-2,6-DINITROCHLOROBENZENE	393-75-9	PHYSICAL DESCRIPTION: Yellow crystals. (NTP, 1992)	1.0	2.5	5.0	3152.0	311.0	1114.0	531.0	368.0	668.0	69.0	244.0	123.0	77.0	(BLOB)	This compound is non-flammable. (NTP, 1992)	Fires involving this compound can controlled with dry chemical, carbon dioxide, or Halon extinguishers. (NTP, 1992)
1474	4-CHLOROBENZALDEHYDE	BENZALDEHYDE, P-CHLORO-|4-CHLOROBENZALDEHYDE|4-CHLOROBENZOIC ALDEHYDE|P-CHLOROBENZALDEHYDE|P-CHLOROBENZENECARBOXALDEHYDE|P-CHLOROBENZOIC ALDEHYDE|PARA-CHLOROBENZALDEHYDE	104-88-1	PHYSICAL DESCRIPTION: Colorless to yellow powder or white crystalline solid. Pungent odor. (NTP, 1992)	1.0	2.5	5.0	3152.0	311.0	1114.0	531.0	368.0	668.0	69.0	244.0	123.0	77.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1475	4-CHLORO-O-PHENYLENEDIAMINE	2-AMINO-4-CHLOROANILINE|2-AMINO-4-CHLOROBENZENAMINE|2-AMINO-5-CHLOROANILINE|C.I. 76015|4-CHLORO-1,2-BENZENEDIAMINE|4-CHLORO-1,2-DIAMINOBENZENE|4-CHLORO-1,2-PHENYLENEDIAMINE|5-CHLORO-1,2-PHENYLENEDIAMINE|3-CHLORO-1,6-PHENYLENEDIAMINE|4-CHLORO-2-AMINOANILINE|1-CHLORO-3,4-DIAMINOBENZENE|4-CHLORO-O-PHENYLENEDIAMINE|4-CL-O-PD3,4-DIAMINO-1-CHLOROBENZENE|1,2-DIAMINO-4-CHLOROBENZENE|3,4-DIAMINOCHLOROBENZENE|NCI-C03292O-PHENYLENEDIAMINE, 4-CHLORO-|P-CHLORO-1,2-PHENYLENEDIAMINE|P-	95-83-0	PHYSICAL DESCRIPTION: Brown crystalline solid or powder. (NTP, 1992)	1.0	2.5	5.0	3155.0	311.0	1117.0	531.0	368.0	669.0	69.0	245.0	123.0	77.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1476	4-DIMETHYLAMINOANTIPYRINE	(BLOB)	58-15-1	PHYSICAL DESCRIPTION: Small colorless crystals or white crystalline powder. Aqueous solution slightly alkaline to litmus. pH (5% water solution) 7.5-9. Odorless. Slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	3155.0	311.0	1117.0	531.0	368.0	669.0	69.0	245.0	123.0	77.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1472	4-CHLORO-2-NITROANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Insoluble in water. It hydrolyzes slowly in water to produce acrylic acid and dimethylaminoethanol.	Lachrymater. The reactive groups, in this substance, are the amine and ester and their possible reactivity concerns are listed below: Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		85																			
1473	4-CHLORO-3,5-DINITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	May decompose in water to form organic acids (NTP, 1992)	2-DODECEN-1-YLSUCCINIC ANHYDRIDE can react with strong oxidizing agents. React with water to give the corresponding organic acid (NTP, 1992).	Water-Reactive						0		(NTP, 1992)		352																			
1474	4-CHLOROBENZALDEHYDE	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Reacts with moist air to give corrosive acid mists that are heavier than air. Decomposes with water forming hydrofluoric acid and sulfuric acid. Reacts violently with bases [Handling Chemicals Safely p. 881 1980].	SULFURYL FLUORIDE is incompatible with water, strong oxidizing agents, alcohols, amines, and bases. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2191 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NIOSH, 2003)		-212	
1475	4-CHLORO-O-PHENYLENEDIAMINE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
1476	4-DIMETHYLAMINOANTIPYRINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	COBALT NAPHTHENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1	2	0	2		(NFPA, 2010)																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1472	4-CHLORO-2-NITROANILINE																																	(NTP, 1992)	Insoluble (<1mg/ml)					Poison	C7H13NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	19.0	3.0	3.0
1473	4-CHLORO-3,5-DINITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE														(NTP, 1992)		1.002		77		(NTP, 1992)			356 to 360	5		(NTP, 1992)		266.38						(NTP, 1992)	MAY DECOMPOSE						C16H26O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	22.0	3.0	3.0
1474	4-CHLOROBENZALDEHYDE	(NIOSH, 2003)		15.8		70		atm													(NIOSH, 2003)		-68		760		(NIOSH, 2003)		102.1		(NIOSH, 2003)		200	ppm	(NIOSH, 2003)	at 32Â° F	0.2		%		Poison Gas	F2SO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	33.0	3.0	3.0
1475	4-CHLORO-O-PHENYLENEDIAMINE	(NIOSH, 2003)			less than 8			mm Hg							(NIOSH, 2003)		1.2										(NIOSH, 2003)		322.5						(NIOSH, 2003)	Low					Poison	C12H19O2PS3		7.0	0.0	15.0	3.0	3.0
1476	4-DIMETHYLAMINOANTIPYRINE																																							Flammable Solid	C22H14CoO4	Dirt/Earth	7.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1477	4-DIMETHYLAMINOAZOBENZENE	(BLOB)	60-11-7	PHYSICAL DESCRIPTION: Yellow crystalline leaflets or an orange powder. (NTP, 1992)	1.0	2.5	5.0	3158.0	311.0	1117.0	531.0	368.0	670.0	69.0	245.0	123.0	77.0	INHALATION: move to fresh air; if breathing has stopped, begin artificial respiration and call a doctor. INGESTION: give large amount of water; induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase the intensity of fire (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1478	4-FLUOROANILINE	1-AMINO-4-FLUOROBENZENE|ANILINE, P-FLUORO-|FLUOROANILINE|4-FLUOROANILINE|FLUOROANILINES|4-FLUOROBENZENAMINE|4-FLUOROPHENYLAMINE|P-FLUOROANILINE|P-FLUOROPHENYLAMINE	371-40-4	Light-colored oily liquid. Mixture of three isomers. Insoluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3161.0	311.0	1120.0	531.0	368.0	671.0	69.0	246.0	123.0	77.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1479	4-FLUOROTOLUENE	4-FLUORO-1-METHYLBENZENE|1-FLUORO-4-METHYLBENZENE|4-FLUOROTOLUENE|P-FLUOROTOLUENE|P-TOLYL FLUORIDE	352-32-9	A colorless liquid with an aromatic odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	3161.0	311.0	1120.0	531.0	368.0	671.0	69.0	246.0	123.0	77.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1480	4-HYDROXY-3-NITROPHENYL ARSONIC ACID	AKLOMIX-3|BENZENEARSONIC ACID, 4-HYDROXY-3-NITRO-|4-HYDROXY-3-NITROBENZENEARSONIC ACID|4-HYDROXY-3-NITROPHENYL ARSONIC ACID|4-HYDROXY-3-NITROPHENYLARSONIC ACID|3N4HPA|NCI-C56508|NITRO ACID 100 PER CENT|2-NITRO-1-HYDROXYBENZENE-4-ARSONIC ACID|3-NITRO-10|3-NITRO-20|3-NITRO-4-HYDROXYBENZENEARSONIC ACID|3-NITRO-4-HYDROXYPHENYLARSONIC ACID|3-NITRO-50|3-NITRO-80|3-NITRO|NITROPHENOLOARSONIC ACID|NSC-2101|P-HYDROXY-M-NITROPHENYLARSONIC ACID|REN O-SAL|REN-O-SAL|RISTAT|ROXARSONE	121-19-7	PHYSICAL DESCRIPTION: Pale yellow crystals or light tan powder. (NTP, 1992)	1.0	2.5	5.0	3161.0	311.0	1120.0	531.0	368.0	671.0	69.0	246.0	123.0	77.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1481	4-METHOXYPHENYLACETIC ACID	ACETIC ACID, (P-METHOXYPHENYL)-|HOMOANISIC ACID|4-METHOXYBENZENEACETIC ACID|(4-METHOXYPHENYL)ACETIC ACID|4-METHOXYPHENYLACETIC ACID|2-(P-ANISYL)ACETIC ACID|P-ANISYLACETIC ACID|(P-METHOXYPHENYL)ACETIC ACID|2-(P-METHOXYPHENYL)ACETIC ACID	104-01-8	Pale yellow or off white colored flakes. Severely irritates skin and eyes. May be toxic by ingestion.	1.0	2.5	5.0	3164.0	311.0	1120.0	531.0	368.0	672.0	69.0	246.0	123.0	77.0	(BLOB)	Flash point data for this compound are not available, however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1482	4-METHYL PYRIDINE	BA 35846|GAMMA-METHYLPYRIDINE|GAMMA-PICOLINE|4-METHYL PYRIDINE|4-METHYLPYRIDINE|P-METHYLPYRIDINE|P-PICOLINE|4-PICOLINE|PYRIDINE, 4-METHYL-	108-89-4	PHYSICAL DESCRIPTION: Colorless moderately volatile liquid. (NTP, 1992)	2.5	5.0	2.5	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1477	4-DIMETHYLAMINOAZOBENZENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; safety goggles; protective clothing (USCG, 1999)	Water soluble.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick, 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(USCG, 1999)		131	
1478	4-FLUOROANILINE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Organonitrates, such as ISOPROPYL NITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Contact with either strong oxidizers or with combustibles may cause fires and explosions.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1479	4-FLUOROTOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ISOPROPYL PHENYLACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.				0		(NTP, 1992)		203																				
1480	4-HYDROXY-3-NITROPHENYL ARSONIC ACID	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. This material will spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite surrounding combustible materials. Insoluble in water.	Inorganic reducing agents, such as COBALT RESINATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1481	4-METHOXYPHENYLACETIC ACID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Flash point data for this compound are not available, however it is probably combustible. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1482	4-METHYL PYRIDINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water	ISOPROPYLAMINOETHANOL is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1477	4-DIMETHYLAMINOAZOBENZENE														(USCG, 1999)		1.54		68								(USCG, 1999)		291.04												CCO	Oxidizer	Co(NO3)2.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	24.0	3.0	3.0
1478	4-FLUOROANILINE																																								Flammable Liquid	C3H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	34.0	3.0	3.0
1479	4-FLUOROTOLUENE														(NTP, 1992)		1.3		70.7		(NTP, 1992)			486 to 489	760		(NTP, 1992)		178.23						(NTP, 1992)	at 68.9Â°F		less than 1	mg/mL			C11H14O2		7.0	0.0	21.0	3.0	3.0
1480	4-HYDROXY-3-NITROPHENYL ARSONIC ACID																																								Flammable Solid	C88H124CoO8		5.0	0.0	13.0	3.0	3.0
1481	4-METHOXYPHENYLACETIC ACID																																								Poison	C7H2Cl6	Dirt/Earth	8.0	0.0	32.0	3.0	3.0
1482	4-METHYL PYRIDINE																																								Flammable Liquid	C5H13NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1483	4-METHYL-2-NITROANILINE	(BLOB)	89-62-3	PHYSICAL DESCRIPTION: Red crystals or bright orange powder. (NTP, 1992)	1.0	2.5	5.0	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	(BLOB)	Vendor information indicates that this chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1484	4-METHYL-3-NITROBENZOIC ACID	BENZOIC ACID, 4-METHYL-3-NITRO|4-METHYL-3-NITROBENZOIC ACID|3-NITRO-4-METHYLBENZOIC ACID|3-NITRO-P-TOLUIC ACID|P-TOLUIC ACID, 3-NITRO-	96-98-0	PHYSICAL DESCRIPTION: Prismatic crystals or off-white powder. (NTP, 1992)	1.0	2.5	5.0	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	Call a doctor. INHALATION: Move to fresh air. EYES: Wash with water then irrigate with 0.9% saline for at least 15 minutes. SKIN: Wash with water. INGESTION: Induce vomiting by use of salt water. Caffeine and sodium benzoate may be of value for respiratory failure. Call physician. (USCG, 1999)	Not flammable. POISONOUS FUMES ARE PRODUCED WHEN HEATED TO DECOMPOSITION. When heated to decomposition can give off highly toxic fumes of Br. (USCG, 1999)	
1485	4-METHYLMORPHOLINE	METHYLMORPHOLINE|1-METHYLMORPHOLINE|4-METHYLMORPHOLINE|N-METHYLMORPHOLINE|NMM	109-02-4	A water-white liquid with an ammonia-like odor. Less dense than water and insoluble in water. May be moderately toxic by ingestion, inhalation and skin absorption. Very irritating to skin, eyes, and mucous membranes. Used as a solvent and to make pharmaceuticals.	2.5	5.0	2.5	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	As with other liquid carbamate pesticides, keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Use methods for liquid carbamate pesticides. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
1486	4-NITRO-1,3-BENZENEDIAMINE	3-AMINO-4-NITROANILINE|C.I. 76030|1,3-DIAMINO-4-NITROBENZENE|2,4-DIAMINONITROBENZENE|M-PHENYLENEDIAMINE, 4-NITRO-|4-NITRO-1,3-BENZENEDIAMINE|4-NITRO-1,3-DIAMINOBENZENE|4-NITRO-M-PHENYLENEDIAMINE, 8CI|4-NITRO-M-PHENYLENEDIAMINE	5131-58-8	PHYSICAL DESCRIPTION: Orange prisms with blue luster or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	Call a physician. EYES: Flush with copious amounts of water. SKIN: Wash thoroughly. (USCG, 1999)	Behavior in Fire: Decomposes at 175Â°C. (USCG, 1999)	
1487	4-NITROANTHRANILIC ACID	2-AMINO-4-NITROBENZOIC ACID|ANTHRANILIC ACID, 4-NITRO-|2-CARBOXY-5-NITROANILINE|NCI-C01945|4-NITRO-2-AMINOBENZOIC ACID|4-NITROANTHRANILIC ACID	619-17-0	PHYSICAL DESCRIPTION: Orange prisms or orange powder. Sweet taste. (NTP, 1992)	1.0	2.5	5.0	3167.0	311.0	1123.0	531.0	368.0	673.0	69.0	247.0	123.0	77.0	Remove to fresh air. Remove contaminated clothing. Wash affected skin areas with water. Flush eyes with water for at least 15 min. and get medical care. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1488	4-NITRO-O-PHENYLENEDIAMINE	2-AMINO-4-NITROANILINE|2-AMINO-5-NITROANILINE|1,2-BENZENEDIAMINE, 4-NITRO-|C.I. 76020|1,2-DIAMINO-4-NITROBENZENE|3,4-DIAMINONITROBENZENE|4-N-O-PDA|NCI-C03941|4-NDB|4-NITRO-1,2-BENZENEDIAMINE|4-NITRO-1,2-DIAMINOBENZENE|4-NITRO-1,2-PHENYLENEDIAMINE|4-NITRO-2-AMINOANILINE|4-NITRO-O-PHENYLENEDIAMINE|4-NO|4-NOP|4-NOPD|O-PHENYLENEDIAMINE, 4-NITRO-|P-NITRO-O-PHENYLENEDIAMINE	99-56-9	PHYSICAL DESCRIPTION: Dark red needles or red solid. (NTP, 1992)	1.0	2.5	5.0	3170.0	311.0	1126.0	531.0	368.0	674.0	69.0	248.0	123.0	77.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1483	4-METHYL-2-NITROANILINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. All handling should be under an inert atmosphere. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Air-sensitive. Highly flammable. Insoluble in water.	COBALTOCENE is very sensitive to air and is readily oxidized. It is also sensitive to exposure to light. Readily oxidized by water and dilute acids (NTP, 1992).	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			343 to 345
1484	4-METHYL-3-NITROBENZOIC ACID		Wear goggles, self-contained breathing apparatus and rubber overclothing (including gloves). (USCG, 1999)	Water soluble.	Acidic salts, such as COBALTOUS BROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. When heated to decomposition can give off highly toxic fumes of Br (USCG, 1999).							0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)	For anhydrate; 117.5Â° F for hexahydrate.	1252.4	
1485	4-METHYLMORPHOLINE	Avoid breathing vapors. Treat as a liquid carbamate pesticide. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	ISOPROPYLMETHYLPYRAZOLYL DIMETHYLCARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									
1486	4-NITRO-1,3-BENZENEDIAMINE		NIOSH approved respirator if needed, rubberized fabric gloves, chemical dust goggles. (USCG, 1999)	Water soluble.	Salts, basic, such as COBALTOUS FORMATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.							0																									
1487	4-NITROANTHRANILIC ACID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Fresh-air mask; plastic gloves; coverall goggles; safety shower and eye bath. (USCG, 1999)	Flammable. Slightly soluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols, such as 2-ETHYLBUTANOL, with alkali metals, nitrides, and strong reducing agents. Alcohols react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		128	(USCG, 1999)		1.9		%	(USCG, 1999)		8.8		%	(USCG, 1999)		580		(USCG, 1999)		-173	
1488	4-NITRO-O-PHENYLENEDIAMINE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. With air slowly form peroxides. Insoluble in water.	2-ETHYLBUTYRALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NFPA, 2010)		70																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1483	4-METHYL-2-NITROANILINE																									(NTP, 1992)		189.13						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Flammable Solid	C10H10Co		9.0	0.0	19.0	3.0	3.0
1484	4-METHYL-3-NITROBENZOIC ACID														(USCG, 1999)		4.909		77		(USCG, 1999)	Loses 4 H2O at 212Â° F, and all H2O at 266Â° F.					(USCG, 1999)		218.77											COB		Br2Co		8.0	0.0	22.0	3.0	3.0
1485	4-METHYLMORPHOLINE	(EPA, 1998)		0.001		68		mm Hg							(EPA, 1998)		1.07		68		(EPA, 1998)		217		0.7		(EPA, 1998)		211.27												Poison	C10H17NO2		9.0	0.0	25.0	3.0	3.0
1486	4-NITRO-1,3-BENZENEDIAMINE														(USCG, 1999)	dihydrate	2.13		71.6		(USCG, 1999)	Becomes anhydrous at 284.0Â° F Decomposes at 175Â°C.					(USCG, 1999)	148.98 anhydrous; 185.00 dihydrate										CFM		CH2O2.1I2Co		7.0	0.0	15.0	3.0	3.0
1487	4-NITROANTHRANILIC ACID	(USCG, 1999)		3.62				mm Hg							(USCG, 1999)		0.834		68		(USCG, 1999)		293		760		(USCG, 1999)		102.17											EBT	Flammable Liquid	C6H14O	Cellulose-Based Absorbents	7.0	0.0	14.0	3.0	3.0
1488	4-NITRO-O-PHENYLENEDIAMINE																																								Flammable Liquid	C6H12O	Cellulose-Based Absorbents	7.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1489	4-NITROPHENYLHYDRAZINE, [WETTED WITH NOT LESS THAN 30% WATER BY MASS]	HYDRAZINE, (P-NITROPHENYL)-|(4-NITROPHENYL)HYDRAZINE|4-NITROPHENYLHYDRAZINE, WITH NOT LESS THAN 30% WATER BY MASS|4-NITROPHENYLHYDRAZINE, [WETTED WITH NOT LESS THAN 30% WATER BY MASS]|4-NITROPHENYLHYDRAZINE|NSC 4079|P-HYDRAZINONITROBENZENE|(P-NITROPHENYL)HYDRAZINE|P-NITROPHENYLHYDRAZINE|PNPH	100-16-3	4-Nitrophenylhydrazine is a orange-red leaflet or needles wetted with water. It will emit toxic oxides of nitrogen when heated to decomposition. It is slightly heavier than water and insoluble in water. It may be irritating to skin, eyes and mucous membranes. It may be toxic by ingestion. It may be explosive and sensitive to friction in the dry state. It is used as a reagent for ketones and aliphatic aldehydes.	1.0	2.5	5.0	3170.0	311.0	1126.0	531.0	368.0	674.0	69.0	248.0	123.0	77.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1490	4-NITROPHTHALIC ANHYDRIDE	4-NITRO-1,2-BENZENEDICARBOXYLIC ACID ANHYDRIDE|5-NITRO-1,3-ISOBENZOFURANDIONE|4-NITROPHTHALIC ACID ANHYDRIDE|4-NITROPHTHALIC ANHYDRIDE|5-NITROPHTHALIC ANHYDRIDE|PHTHALIC ANHYDRIDE, 4-NITRO-	5466-84-2	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	3173.0	311.0	1126.0	531.0	368.0	675.0	69.0	248.0	123.0	77.0	(BLOB)	Behavior in Fire: Heat can result in a severe polymerization with rapid release of energy. Sealed containers may rupture explosively if hot. (USCG, 1999)	
1491	4-NITROPHTHALIMIDE	4-NITRO-1,2-BENZENEDICARBOXYLICACID, IMIDE|5-NITRO-1H-ISOINDOLE-1,3(2H)-DIONE|4-NITROPHTHALIMIDE|5-NITROPHTHALIMIDE|PHTHALIMIDE, 4-NITRO-	89-40-7	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	3176.0	311.0	1126.0	531.0	368.0	676.0	69.0	248.0	123.0	77.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1492	4-THIAPENTANAL	BETA-(METHYLMERCAPTO)PROPIONALDEHYDE|BETA-(METHYLTHIO)PROPIONALDEHYDE|BETA-(METHYLTHIO)PROPIONICALDEHYDE|METHIONAL|METHYL MERCAPTOPROPIONALDEHYDE|3-(METHYLMERCAPTO)PROPIONALDEHYDE|3-(METHYLTHIO)PROPANAL|3-(METHYLTHIO)PROPIONALDEHYDE|PROPIONALDEHYDE, 3-(METHYLTHIO)-|THIA-4-PENTANAL|THIAPENTANAL|4-THIAPENTANAL	3268-49-3	A colorless to amber liquid with an extremely foul and persistent odor. Slightly soluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. Moderately toxic. Used as a food additive.	2.5	5.0	2.5	3176.0	311.0	1126.0	531.0	368.0	676.0	69.0	248.0	123.0	77.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1493	5-AZA-2'-DEOXYCYTIDINE	4-AMINO-1-(2-DEOXY-BETA-D-ERYTHRO-PENTOFURANOSYL)-1,3,5-TRIAZIN-2(1H)-ONE|4-AMINO 1-(2-DEOXY-BETA-D-ERYTHRO-PENTOFURANOSYL)-S-TRIAZIN-2(1H)-ONE|5-AZA-2'-DEOXYCYTIDINE|5-AZADEOXYCYTIDINE|DAC|DECITABINE|2'-DEOXY-5-AZACYTIDINE|2'-DESOXY-5-AZACYTIDINE|2-DESOXY-5-AZACYTIDINE|NSC 127716|S-TRIAZIN-2(1H)-ONE, 4-AMINO-1-(2-DEOXY-BETA-D-ERYTHRO-PENTOFURANOSYL)-	2353-33-5	PHYSICAL DESCRIPTION: Fine white crystalline powder. Used as a drug.	1.0	2.5	5.0	3176.0	311.0	1129.0	537.0	368.0	676.0	69.0	249.0	125.0	77.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1494	5-BROMO-2'-DEOXYURIDINE	BDU|5-BDU|5-BROMO-2'-DEOXYURIDINE|5-BROMO-2'-DESOXYURIDINE|5-BROMO-2-DEOXYURIDINE|BROMODEOXYURIDINE|5-BROMODEOXYURIDINE|5-BROMODESOXYURIDINE|BROMOURACIL DEOXYRIBOSIDE|5-BROMOURACIL DEOXYRIBOSIDE|5-BROMOURACIL-2-DEOXYRIBOSIDE|BROXURIDINE|BRUDR|BUDR|5-BUDR|2'-DEOXY-5-BROMOURIDINE|NSC 38297	59-14-3	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3176.0	311.0	1129.0	537.0	368.0	676.0	69.0	249.0	125.0	77.0	(BLOB)	Stable. (EPA, 1998)	For drugs, solid, n.o.s., avoid breathing dusts and fumes from burning material. Keep upwind. Wear boots, protective gloves, and goggles. Slight fire potential. Material is a drug, with the following procedures for fires. Extinguish fire using agent suitable for type of surrounding fire. Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1489	4-NITROPHENYLHYDRAZINE, [WETTED WITH NOT LESS THAN 30% WATER BY MASS]	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1,2,3,4-TETRACHLOROBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.					0		(NTP, 1992)			greater than 235															(NTP, 1992)			113 to 115
1490	4-NITROPHTHALIC ANHYDRIDE		Self-contained breathing apparatus; rubber gloves; vapor- proof chemical safety goggles; impervious apron and boots. (USCG, 1999)	Insoluble in water.	2-ETHYLHEXYL ACRYLATE polymerizes readily in the presence of heat and light generating much heat; reacts with strong oxidants. REF [Handling Chemicals Safely, 1980. p. 235].	Polymerizable		(NFPA, 2010)		1	2	1	3		(NTP, 1992)		180		(USCG, 1999)		0.8		%	(USCG, 1999)		6.4		%	(USCG, 1999)		496		(NTP, 1992)		-130	
1491	4-NITROPHTHALIMIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Produces corrosive toxic fumes containing HCl on contact with moist air. Decomposes in water.	2-ETHYLHEXYL CHLOROFORMATE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1492	4-THIAPENTANAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as ISOPROPYLPHENYL DIPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.					0		(NTP, 1992)			greater than 200																		
1493	5-AZA-2'-DEOXYCYTIDINE	(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is light sensitive and sensitive to prolonged exposure to air. Insoluble in water.	CODEINE is incompatible with bromides, iodides and salts of heavy metals. (NTP, 1992). It is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		167																			(NTP, 1992)	(after drying at 176Â° F)		309 to 313
1494	5-BROMO-2'-DEOXYURIDINE	Precautions for drugs, solid, n.o.s., include the following. Avoid breathing dusts, and fumes from burning materials. Keep upwind. Avoid bodily contact with the material. Wear full protective clothing. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slowly hydrolyzed in acidic solution, but unbuffered solutions are stable at 68Â°F for at least six months. Isomerizes on exposure to ultraviolet radiation.	COLCHICINE darkens on exposure to light. Incompatible with strong oxidizing agents. Also incompatible with mineral acids (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)			288 to 302

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1489	4-NITROPHENYLHYDRAZINE, [WETTED WITH NOT LESS THAN 30% WATER BY MASS]	(NTP, 1992)	: 5 mm Hg at 211.3Â° F; 760 mm Hg at 489Â° F	1		155.3		mm Hg													(NTP, 1992)		489		760		(NTP, 1992)		215.89						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C6H2Cl4		7.0	0.0	15.0	3.0	3.0
1490	4-NITROPHTHALIC ANHYDRIDE	(NTP, 1992)		0.01		68		mm Hg	(NTP, 1992)		6.35				(USCG, 1999)		0.885		68		(NTP, 1992)			417 to 424	760		(NTP, 1992)		184.3						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	EAI		C11H20O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	16.0	3.0	3.0
1491	4-NITROPHTHALIMIDE																																							Poison|Corrosive	C9H17ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	23.0	3.0	3.0
1492	4-THIAPENTANAL																											(NTP, 1992)		368.37						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C21H21O4P		7.0	0.0	13.0	3.0	3.0
1493	5-AZA-2'-DEOXYCYTIDINE														(NTP, 1992)		1.32		68		(NTP, 1992)	(sublimes)	482		22		(NTP, 1992)		299.37						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C18H21N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	49.0	3.0	3.0
1494	5-BROMO-2'-DEOXYURIDINE																											(EPA, 1998)		399.43						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C22H25NO6		9.0	0.0	20.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1495	5-BROMOURACIL	5-BROMO-2,4(1H,3H)-PYRIMIDINEDIONE|5-BROMO-2,4-DIHYDROXYPYRIMIDINE|5-BROMO-2,4-PYRIMIDINEDIONE|BROMOURACIL|5-BROMOURACIL|URACIL, 5-BROMO-	51-20-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	3179.0	311.0	1132.0	537.0	368.0	677.0	69.0	250.0	125.0	77.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1496	5-FLUORODEOXYURIDINE	1-BETA-D-2'-DEOXYRIBOFURANOSYL-5-FLUOROURACIL|2'-DEOXY-5-FLUOROURIDINE|1-(2-DEOXY-BETA-D-RIBOFURANOSYL)-5-FLUOROURACIL|DEOXYFLUOROURIDINE|FDUR|FDU|RDJF LOXURIDIN|FLOXURIDINE|5-FLUORO-2'-DEOXY-BETA-URIDINE|5-FLUORO-2'-DEOXYURIDINE|5-FLUORO-2-DEOXYURIDINE|FLUORODEOXYURIDINE|5-FLUORODEOXYURIDINE|5-FLUOROURACIL 2'-DEOXYRIBOSIDE|5-FLUOROURACIL DEOXYRIBOSIDE|FUDR|5-FUDR|NSC 27640|NSC-27640	50-91-9	PHYSICAL DESCRIPTION: Inhibits DNA synthesis. (NTP, 1992)	1.0	2.5	5.0	3179.0	311.0	1135.0	537.0	368.0	677.0	69.0	251.0	125.0	77.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If breathing has stopped give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. (USCG, 1999)	Combustible. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1497	5-METHYL-2-NITROBENZOIC ACID	BENZOIC ACID, 5-METHYL-2-NITRO-|M-TOLUIC ACID, 6-NITRO-|5-METHYL-2-NITROBENZOIC ACID|3-METHYL-6-NITROBENZOIC ACID|2-NITRO-5-METHYLBENZOIC ACID|6-NITRO-M-TOLUIC ACID	3113-72-2	PHYSICAL DESCRIPTION: Crystals or very light yellow solid. (NTP, 1992)	1.0	2.5	5.0	3179.0	311.0	1135.0	537.0	368.0	677.0	69.0	251.0	125.0	77.0	INHALATION: remove victim to fresh air; initiate artificial respiration if breathing has stopped; call physician. (USCG, 1999)	Special Hazards of Combustion Products: The formation of extremely toxic gases, notably oxides of nitrogen, hydrogen cyanide, and carbon monoxide is possible. Behavior in Fire: Highly flammable solvent vapors are formed. May travel a long distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
1498	5-NITRO-4-TOLUIDINE	4-AMINO-2-NITROTOLUENE|1-AMINO-3-NITRO-4-METHYLBENZENE|BENZENAMINE, 4-METHYL-3-NITRO-|M-NITRO-P-TOLUIDINE|4-METHYL-3-NITROANILINE|4-METHYL-3-NITROBENZENAMINE|METHYLNITROANILINE|MONONITROTOLUIDINES|3-NITRO-4-AMINOMETHYLBENZENE|2-NITRO-4-AMINOTOLUENE|3-NITRO-4-METHYLANILINE|3-NITRO-4-TOLUIDINE|5-NITRO-4-TOLUIDINE|3-NITRO-P-TOLUIDINE|NITROTOLUIDINE|NITROTOLUIDINES (MONO)|P-TOLUIDINE, 3-NITRO-	119-32-4	A orange-red or yellow crystalline solid. Insoluble in water. May be toxic by ingestion. Used to make dyes and pigments.	1.0	2.5	5.0	3182.0	311.0	1138.0	537.0	368.0	678.0	69.0	252.0	125.0	77.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1499	5-NITRO-O-ANISIDINE	2-AMINO-1-METHOXY-4-NITROBENZENE|1-AMINO-2-METHOXY-5-NITROBENZENE|3-AMINO-4-METHOXYNITROBENZENE|2-AMINO-4-NITROANISOLE|2-AMINO-5-NITROANISOLE|AZOAMINE SCARLET|AZOAMINE SCARLET K|AZOGENE ECARLATE R|AZOIC DIAZO COMPONENT 13, BASE|C.I. 37130|C.I. AZOIC DIAZO COMPONENT 13|FAST SCARLET R|1-METHOXY-2-AMINO-4-NITROBENZENE|2-METHOXY-5-NITROANILINE|2-METHOXY-5-NITROBENZENAMINE|NCI-C01934|4-NITRO-2-AMINOANISOLE|5-NITRO-2-METHOXYANILINE|3-NITRO-6-METHOXYANILINE|5-NITRO-O-ANISIDINE|O-ANISIDINE NITRATE|O-ANISIDINE, 5-NITRO-	99-59-2	PHYSICAL DESCRIPTION: Orange-red needles or orange powder. (NTP, 1992)	1.0	2.5	5.0	3182.0	311.0	1138.0	537.0	368.0	678.0	69.0	252.0	125.0	77.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1495	5-BROMOURACIL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 2-FLUOROBIPHENYL, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NTP, 1992)			164.3	
1496	5-FLUORODEOXYURIDINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 1,2,3,5-TETRAMETHYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		146		(USCG, 1999)	Data not available.				(USCG, 1999)	Data not available.							(USCG, 1999)			-10.6	
1497	5-METHYL-2-NITROBENZOIC ACID	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; rubber gloves; goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	COLLODION is a solution of pyroxylin in ether and alcohol with a flash point of approximately 0åF.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(USCG, 1999)	(ether)	-49		(USCG, 1999)	(ether solution)	1.9		%	(USCG, 1999)	(ether solution)	36		%	(USCG, 1999)		356				
1498	5-NITRO-4-TOLUIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Very water insoluble.	These sulfides are rather inert, dissolve into acid, insoluble in water and alkalis.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1499	5-NITRO-O-ANISIDINE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Organonitrate compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1495	5-BROMOURACIL														(NTP, 1992)		1.2452		77		(NTP, 1992)		478		760		(NTP, 1992)		172.2												Class 9	C12H9F		8.0	0.0	25.0	3.0	3.0
1496	5-FLUORODEOXYURIDINE								(USCG, 1999)		4.63				(USCG, 1999)		0.891		68		(USCG, 1999)		388.4		760		(USCG, 1999)		134.22											TTB	Combustible Liquid	C10H14		7.0	0.0	30.0	3.0	3.0
1497	5-METHYL-2-NITROBENZOIC ACID														(USCG, 1999)		0.772		77		(USCG, 1999)	(ether solvent)	93		760															CLD	Flammable Liquid	(C6H8N2O9)n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	13.0	3.0	3.0
1498	5-NITRO-4-TOLUIDINE																																							Class 9	CuS (copper sulfide)|PbS (lead sulfide)		8.0	0.0	19.0	3.0	3.0
1499	5-NITRO-O-ANISIDINE																										(NTP, 1992)		227.22												C13H9NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1500	5-NITRO-O-TOLUIDINE	(BLOB)	99-55-8	PHYSICAL DESCRIPTION: Bright yellow powder. (NTP, 1992)	1.0	2.5	5.0	3182.0	314.0	1141.0	543.0	368.0	678.0	70.0	253.0	127.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1501	5-SULFOANTHRANILIC ACID	4-AMINO-3-CARBOXYBENZENESULFONIC ACID|2-AMINO-5-SULFOBENZOIC ACID|ANTHRANILIC ACID, 5-SULFO-|4-SULFO-2-CARBOXYANILINE|5-SULFOANTHRANILIC ACID	3577-63-7	PHYSICAL DESCRIPTION: Off-pink powder. (NTP, 1992)	1.0	2.5	5.0	3185.0	314.0	1144.0	543.0	368.0	679.0	70.0	254.0	127.0	77.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1502	5-TERT-BUTYL-2,4,6-TRINITRO-M-XYLENE	M-XYLENE, 5-TERT-BUTYL-2,4,6-TRINITRO-|MUSK XYLENE|MUSK XYLOL|TERT BUTYL-2,4,6-TRINITRO-M-XYLENE|5-TERT-BUTYL-2,4,6 TRINITRO-M-XYLENE|2,4,6-TRINITRO-3,5-DIMETHYL-TERT-BUTYLBENZENE|XYLENE MUSK	81-15-2	5-tert-Butyl-2,4,6-trinitro-m-xylene is a white to light-colored crystalline solid. It is insoluble in water and denser than water. Hence sinks in water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	3185.0	314.0	1144.0	543.0	368.0	679.0	70.0	254.0	127.0	77.0	Following ingestion or unusually severe exposure to dust, get medical attention. Alert doctor to possibility of arsenic poisoning. EYES: flush with water for 15 min. SKIN: wash with soap and water. INGESTION: give large amounts of water; induce vomiting; give cathartic, such as 2 oz. of Epsom salt in water. (USCG, 1999)	Special Hazards of Combustion Products: Poisonous, volatile arsenic oxides may be formed in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1503	6-AMINO-4-CHLORO-1-PHENOL-2-SULFONIC ACID	6-AMINO-4-CHLORO-1-PHENOL-2-SULFONIC ACID|2-AMINO-4-CHLORO-6-SULFOPHENOL|6-AMINO-4-CHLOROPHENOL-2-SULFONIC ACID|1-AMINO-5-CHLORO-2-HYDROXY-3-BENZENESULFONIC ACID|3-AMINO-5-CHLORO-2-HYDROXYBENZENESULFONIC ACID|5-CHLORO-2-HYDROXYMETANILIC ACID|2-HYDROXY-3-AMINO-5-CHLOROBENZENESULFONIC ACID|METANILIC ACID, 5-CHLORO-2-HYDROXY-	88-23-3	Off-white solid. (NTP, 1992)	1.0	2.5	5.0	3185.0	314.0	1144.0	543.0	368.0	679.0	70.0	254.0	127.0	77.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1504	6-AMINO-4-NITRO-1-PHENOL-2-SULFONIC ACID	1-AMINO-2-HYDROXY-5-NITRO-3-BENZENESULFONIC ACID|3-AMINO-2-HYDROXY-5-NITROBENZENE SULFONIC ACID|3-AMINO-2-HYDROXY-5-NITROBENZENESULFONIC ACID|6-AMINO-4-NITRO-1-PHENOL-2-SULFONIC ACID|2-AMINO-4-NITRO-6-SULFOPHENOL|6-AMINO-4-NITROPHENOL-2-SULPHONIC ACID|2-HYDROXY-5-NITRO-3-SULFOANILINE|2-HYDROXY-5-NITROMETANILIC ACID|METANILIC ACID, 2-HYDROXY-5-NITRO-	96-67-3	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	3188.0	314.0	1144.0	543.0	368.0	680.0	70.0	254.0	127.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1505	6-METHYLCOUMARIN	COUMARIN, 6-METHYL-|6-MC|6-METHYL-1,2-BENZOPYRONE|6-METHYL-2H-1-BENZOPYRAN-2-ONE|6-METHYLBENZOPYRONE|6-METHYLCOUMARIN|6-METHYLCOUMARINIC ANHYDRIDE|TONCARINE	92-48-8	PHYSICAL DESCRIPTION: White crystals with a flavor of vanilla. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3188.0	314.0	1144.0	543.0	368.0	680.0	70.0	254.0	127.0	77.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1500	5-NITRO-O-TOLUIDINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It darkens on exposure to air. (NTP, 1992). Insoluble in water.	2-HYDROXYBENZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical may be sensitive to prolonged exposure to light. (NTP, 1992)						0																							(NTP, 1992)		284	
1501	5-SULFOANTHRANILIC ACID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Halogenated aliphatic compounds, such as 2-IODOBUTANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1502	5-TERT-BUTYL-2,4,6-TRINITRO-M-XYLENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; rubber gloves; goggles or face shield. (USCG, 1999)	Insoluble in water.	COPPER ARSENITE, also known as Scheele's green, reacts with acids to release toxic fumes of arsine gas. This substance decomposes upon heating to produce toxic arsenic-containing fumes. (International Chemical Safety Card 1211)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1503	6-AMINO-4-CHLORO-1-PHENOL-2-SULFONIC ACID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL KETONE is an organosulfide/ketone. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.						0																													
1504	6-AMINO-4-NITRO-1-PHENOL-2-SULFONIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to moisture. Keep it in a tightly closed container under inert atmosphere and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust explosion: 0.140 oz/ft3. Insoluble in water. This chemical is moisture sensitive. (NTP, 1992).	An organosulfide and an amine. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												(NTP, 1992)		577 to 579
1505	6-METHYLCOUMARIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2-METHYL-1-NITROANTHRAQUINONE is easily reduced. This chemical is also readily oxidized. (NTP, 1992)						0																										(NTP, 1992)		518 to 520

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1500	5-NITRO-O-TOLUIDINE														(NTP, 1992)		1.175		284		(NTP, 1992)	(decomposes)	518		760		(NTP, 1992)		137.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C7H7NO2		6.0	0.0	26.0	3.0	3.0
1501	5-SULFOANTHRANILIC ACID																																									Flammable Liquid	C4H9I		4.0	0.0	14.0	3.0	3.0
1502	5-TERT-BUTYL-2,4,6-TRINITRO-M-XYLENE														(USCG, 1999)	(est)		greater than 1.1	68								(USCG, 1999)		277.4		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						CPA	Poison	AsH3O3.Cu		8.0	0.0	13.0	3.0	3.0
1503	6-AMINO-4-CHLORO-1-PHENOL-2-SULFONIC ACID																										(NTP, 1992)		173.27														C6H7NO S2		5.0	0.0	19.0	3.0	3.0
1504	6-AMINO-4-NITRO-1-PHENOL-2-SULFONIC ACID	(NTP, 1992)		30.2		142		mm Hg							(NTP, 1992)		1.42										(NTP, 1992)		150.21						(NTP, 1992)	at 74.3Â° F		less than 1	mg/mL		Poison	C7H6N2S	Mineral-Based & Clay-Based Absorbents	4.0	0.0	14.0	3.0	3.0
1505	6-METHYLCOUMARIN																										(NTP, 1992)		267.25						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C15H9NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1506	6-METHYLQUINOLINE	6-METHYLQUINOLINE|P-METHYLQUINOLINE|P-TOLUQUINOLINE	91-62-3	PHYSICAL DESCRIPTION: Clear pale yellow liquid or oil. (NTP, 1992)	2.5	5.0	2.5	3188.0	314.0	1144.0	543.0	368.0	680.0	70.0	254.0	127.0	77.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1507	6-N-PROPYL-2-THIOURACIL	2,3-DIHYDRO-6-PROPYL-2-THIOXO-4(1H)-PYRIMIDINONE|4(1H)-PYRIMIDINONE,2,3-DIHYDRO-6-PROPYL-2-THIOXO-|4-HYDROXY-2-MERCAPTO-6-PROPYLPYRIMIDINE|2-MERCAPTO-6-PROPYLPYRIMID-4-ONE|6-N-PROPYL-2-THIOURACIL|6-N-PROPYLTHIOURACIL|PROCASIL|PROPACIL|PROPYCIL|6-PROPYL-2-THIO-2,4(1H,3H)PYRIMIDINEDIONE|6-PROPYL-2-THIOURACIL|PROPYL-THIORIST|PROPYL-THYRACIL|PROPYLTHIORIT|PROPYLTHIOURACIL|6-PROPYLTHIOURACIL|PROTHIUCIL|PROTHIURONE|PROTHYCIL|PROTHYRAN|PROTIURAL|PTU|PTU (THYREOSTATIC)|PTU(THYREOSTATIC)|T 72|THIURAGYL|THYREOSTAT II|THYREOSTAT PROPYL-THYRACIL|URACIL, 6-	51-52-5	PHYSICAL DESCRIPTION: Odorless white crystalline powder of starch-like appearance. Bitter taste. Saturated solution is neutral or slightly acid to litmus. (NTP, 1992)	1.0	2.5	5.0	3188.0	314.0	1147.0	543.0	368.0	680.0	70.0	255.0	127.0	77.0	(BLOB)	Special Hazards of Combustion Products: Toxic hydrogen cyanide gas may form in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1508	6-THIOGUANINE	2-AMINO-1,7-DIHYDRO-6H-PURINE-6-THIONE|2-AMINO-6-MERCAPTOPURINE|2-AMINO-6-MP|2-AMINO-6-PURINETHIOL|2-AMINO-9H-PURINE-6(1H)-THIONE|2-AMINOPURINE-6(1H)-THIONE|2-AMINOPURINE-6-THIOL|BW 507|GUANINE, THIO-|LANVIS|6-MERCAPTO-2-AMINOPURINE|6-MERCAPTOGUANINE|NSC 752|NSC-752|PURINE-6(1H)-THIONE, 2,3-DIHYDRO-2-IMINO-|PURINE-6(1H)-THIONE, 2-AMINO-|PURINE-6-THIOL, 2-AMINO-|TABLOID|TG|6-TG|THG|THIOGUANINE|6-THIOGUANINE|TIOGUANIN|TIOGUANINE|WELLCOME U3B|WR 1141|X 27	154-42-7	PHYSICAL DESCRIPTION: Odorless or almost odorless pale yellow crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3191.0	314.0	1147.0	543.0	368.0	681.0	70.0	255.0	127.0	77.0	INHALATION: move to fresh air. INGESTION: give large amounts of water and induce vomiting if required. EYES: flush with water for at least 15 min.; get medical attention if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen fluoride gas may form in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1509	7-DIETHYLAMINO-4-METHYLCOUMARIN	ACLARAT 8678|BLANCOPHOR AW|BLANCOPHOR FFG|C 47|C 47 (COUMARIN DERIVATIVE)|CALCOFLUOR WHITE RW|CALCOFLUOR WHITE SD|COUMARIN 1|COUMARIN 460|COUMARIN 47|COUMARIN, 7-(DIETHYLAMINO)-4-METHYL-|7D4MC|DEMC|7-(DIETHYLAMINO)-4-METHYL-2H-1-BENZOPYRAN-2-ONE|7-(DIETHYLAMINO)-4-METHYLCOUMARIN|7-DIETHYLAMINO-4-METHYLCOUMARIN|HAKKOL P|HILTAMINE ARTIC WHITE SOL|MDAC|4-METHYL-7-(DIETHYLAMINO)COUMARIN|UVITEX WGS	91-44-1	PHYSICAL DESCRIPTION: Light tan grains. Gives bright blue-white fluorescence in very dilute solutions. (NTP, 1992)	1.0	2.5	5.0	3191.0	314.0	1147.0	543.0	368.0	681.0	70.0	255.0	127.0	77.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1510	7-METHYLQUINOLINE	M-TOLUQUINOLINE|7-METHYLQUINOLINE	612-60-2	PHYSICAL DESCRIPTION: Clear yellow liquid or oil. (NTP, 1992)	2.5	5.0	2.5	3191.0	314.0	1147.0	543.0	368.0	681.0	70.0	255.0	127.0	77.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1A® or Met-L-X A® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1506	6-METHYLQUINOLINE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	ISOSAFROLE may react with strong reducing agents.						0																										
1507	6-N-PROPYL-2-THIOURACIL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; protective goggles or face mask; protective clothing (USCG, 1999)	Insoluble in water.	COPPER CYANIDE is decomposed by acids to give off hydrogen cyanide, a flammable poisonous gas. Tends to explosive instability. Capable of violent oxidation under certain condition: fusion with metal chlorates, perchlorates, nitrates or nitrites can cause explosions [Bretherick, 1979 p. 101]. Reacts with incandescence with magnesium [Mellor, 1940, Vol. 4, 271].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		883	
1508	6-THIOGUANINE	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute solution of sodium bicarbonate or soda ash. (USCG, 1999)	Goggles or face shield; rubber apron and gloves (USCG, 1999)	Mixes with water.	COPPER FLUOROBORATE may corrode some metals (USCG, 1999).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3287 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1509	7-DIETHYLAMINO-4-METHYLCOUMARIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound should be stored at ambient temperatures and protected from light. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN is the type of compound that is extremely stable, even on heating to 1292Â° F. Solutions of this compound may be sensitive to light. Solutions of this type of compound in methanol are degraded by exposure to summer sunlight or irradiation with an ultraviolet lamp (300 nm). (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		545 to 547	
1510	7-METHYLQUINOLINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Nitroalkanes, such as ISOSORBIDE DINITRATE MIXTURE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. This heart drug is detonable when dry, but non-explosive with 30% of water.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1506	6-METHYLQUINOLINE														(NTP, 1992)		1.1224		68		(NTP, 1992)		487		760		(NTP, 1992)		162.19													C10H10O2	Dirt/Earth	9.0	0.0	19.0	3.0	3.0
1507	6-N-PROPYL-2-THIOURACIL														(USCG, 1999)		2.92		68								(NTP, 1992)		89.56											CCY	Poison	CCuN		9.0	0.0	17.0	3.0	3.0
1508	6-THIOGUANINE														(USCG, 1999)		1.54		68		(USCG, 1999)	(approx.)	212		760		(USCG, 1999)	(solute only)	237.16											CPF	Poison|Corrosive	BF4 . 1|2 Cu		9.0	0.0	13.0	3.0	3.0
1509	7-DIETHYLAMINO-4-METHYLCOUMARIN																											(NTP, 1992)		390.84												Poison	C12H2Cl6O2		7.0	0.0	21.0	3.0	3.0
1510	7-METHYLQUINOLINE																																									Flammable Solid	C6H8N2O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1511	8-METHOXYPSORALEN	AMMOIDIN|5-BENZOFURANACRYLIC ACID, 6-HYDROXY-7-METHOXY-, DELTA-LACTONE|5-BENZOFURANACRYLIC ACIDE, 6-HYDROXY-7-METHOXY-, DELTA-LACTONE|7-FUROCOUMARIN|GEROXALEN|7H-FURO(3,2-G)(1)BENZOPYRAN-7-ONE, 9-METHOXY-|6-HYDROXY-7-METHOXY-5-BENZOFURANACRYLIC ACID DELTA-LACTONE|MELADININ|MELADININE|MELADOXEN|MELOXINE|METHOXA-DOME|METHOXALEN|METHOXSALEN|8-METHOXY-(FURANO-3',2':6,7-COUMARIN)|8-METHOXY-2',3',6,7-FUROCOUMARIN|8-METHOXY-4',5',6,7-FUROCOUMARIN|8-METHOXY-6,7-FURANOCOUMARIN|9-METHOXY-7H-FURO(3,2-	298-81-7	PHYSICAL DESCRIPTION: Odorless white to cream-colored crystalline solid. Bitter taste followed by tingling sensation. (NTP, 1992)	1.0	2.5	5.0	3194.0	314.0	1147.0	543.0	368.0	682.0	70.0	255.0	127.0	77.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1512	ACENAPHTHENE	ACENAPHTHENE|1,2-DIHYDROACENAPHTHYLENE|1,8-DIHYDROACENAPHTHYLENE|ETHYLENENAPHTHALENE|1,8-ETHYLENENAPHTHALENE|NAPHTHYLENEETHYLENE|PERI-ETHYLENENAPHTHALENE|PERIETHYLENENAPHTHALENE	83-32-9	White needles. Melting point 93.6Â°C. Soluble in hot alcohol. Denser than water and insoluble in water. Hence sinks in water. May irritate skin and mucous membranes. Emits acrid smoke and irritating fumes when heated to decomposition. Derived from coal tar and used to make dyes, pharmaceuticals, insecticides, fungicides, and plastics.	1.0	2.5	5.0	3194.0	314.0	1150.0	543.0	371.0	682.0	70.0	256.0	127.0	78.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1513	ACEPHATE	ACEPHATE|ACETYLPHOSPHORAMIDOTHIOIC ACID O,S-DIMETHYL ESTER	30560-19-1	A white solid. Used as a contact and systemic insecticide.	1.0	2.5	5.0	3194.0	314.0	1150.0	543.0	371.0	682.0	70.0	256.0	127.0	78.0	(BLOB)		
1514	ACETAL	ACETAL|ACETALDEHYDE DIETHYLACETAL|ACETALDEHYDE ETHYL ACETAL|ACETALDEHYDE, DIETHYL ACETAL|1,1-DIETHOXYETHANE|DIETHYL ACETAL|ETHANAL DIETHYL ACETAL|ETHYLIDENE DIETHYL ETHER|ETHYLIDENE DIETHYLETHER|USAF DO-45	105-57-7	A clear colorless liquid with a pleasant odor. Boiling point 103-104Â°C. Flash point -5Â°F. Density 0.831 g / cm3. Slightly soluble in water. Vapors heavier than air. Moderately toxic and narcotic in high concentrations.	2.5	5.0	2.5	3194.0	314.0	1150.0	549.0	371.0	682.0	70.0	256.0	129.0	78.0	ASPIRATION: enforce bed rest; administer oxygen; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: wash with plenty of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
1515	ACETAZOLAMIDE	#6063|6063|ACETAMIDE|ACETAMIDE, N-(5-SULFAMOYL-1,3,4-THIADIAZOL-2-YL)-|5-ACETAMIDE-1,3,4-THIADIAZOLE-2-SULFONAMIDE|2-ACETAMIDO-1,3,4-THIADIAZOLE-5-SULFONAMIDE|2-ACETAMIDO-5-SULFONAMIDO-1,3,4-THIADIAZOLE|ACETAMIDOTHIADIAZOLESULFONAMIDE|ACETAMOX|ACETAZIDE|ACETAZOLAMID|ACETAZOLAMIDE|ACETAZOLEAMIDE|2-ACETYLAMINO-1,3,4-THIADIAZOLE-5-SULFONAMIDE|ATENAZOL|CARBONIC ANHYDRASE INHIBITOR NO. 6063|CIDAMEX|DEFILTRAN|DEHYDRATIN|DIACARB|DIAKARB|DIAMOX|4-DIAMOX|DIDOC|DILURAN|DIURAMID|DIURAMIDE|DIURETICUM-HOLZINGER|DIURIWAS|DIUTAZOL|DONMOX|EDEMOX|EU	59-66-5	PHYSICAL DESCRIPTION: White to yellowish-white fine crystalline powder. No odor or taste. (NTP, 1992)	1.0	2.5	5.0	3197.0	314.0	1150.0	549.0	371.0	683.0	70.0	256.0	129.0	78.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention if injury was caused by solid. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen bromide gas may form in fire. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1511	8-METHOXYPSORALEN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	COPPER SELENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The pentahydrate loses water above 80Â°C forming the monohydrate at 150-220Â°C.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1512	ACENAPHTHENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound should be stored under refrigeration at 41Â° F and protected from light. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: It is recommended that you wear two dissimilar glove types when working with this chemical. (NTP, 1992)	Insoluble in water.	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN is stable under normal laboratory conditions. Solutions may be sensitive to light. Methanol solutions are degraded on exposure to sunlight or ultraviolet irradiation. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		469 to 471
1513	ACEPHATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations. Insoluble in water.	2-METHYL-4-DIMETHYLAMINOAZOBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																									
1514	ACETAL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	JET FUELS, [JP-4] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)			-10 to +30	(USCG, 1999)		1.3		%	(USCG, 1999)		8		%	(USCG, 1999)		464		(USCG, 1999)			less than -54
1515	ACETAZOLAMIDE		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Deliquescent. Water soluble.	Acidic inorganic salts, such as COPPER BROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Known Catalytic Activity						0																						(USCG, 1999)		928	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	tdlh_source	tdlh_note	tdlh_value	tdlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chiris_codes	det_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1511	8-METHOXYPSORALEN																																															
1512	ACENAPHTHENE																										(NTP, 1992)		390.84													C12H2Cl6O2		8.0	0.0	14.0	3.0	3.0
1513	ACEPHATE																										(NTP, 1992)		239.35						(NTP, 1992)	at 66Å° F	less than 1	mg/mL				C1SH17N3	Mineral-Based & Clay-Based Absorbents	9.0	0.0	49.0	3.0	3.0
1514	ACETAL																0.81		68		(USCG, 1999)			349 to 549	760													JPF	Flammable Liquid			8.0	0.0	12.0	3.0	3.0
1515	ACETAZOLAMIDE														(USCG, 1999)		4.77		68																				CPB		Br2Cu		9.0	0.0	23.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1516	ACETONE THIOSEMICARBAZIDE	ACETONE THIOSEMICARBAZIDE|ACETONE, THIOSEMICARBAZONE|DIMETHYL KETONE THIOSEMICARBAZONE|HYDRAZINECARBOTHIOAMIDE, 2-(1-METHYLETHYLIDENE)-|THIOSEMICARBAZONE ACETONE	1752-30-3	Solid. (EPA, 1998)	1.0	2.5	5.0	3200.0	314.0	1150.0	549.0	371.0	684.0	70.0	256.0	129.0	78.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
1517	ACETYLENE TETRABROMIDE	ACETYLENE TETRABROMIDE|MUTHMAN'S LIQUID|SYMMETRICAL TETRABROMOETHANE|TBE|TETRABROMOACETYLENE|TETRABROMOETHANE|1, 1, 2, 2-TETRABROMOETHANE|1,1,2,2-TETRABROMOETHANE|1,1,2,2-TETRABROMOETHYLENE	79-27-6	A yellowish liquid with a pungent odor, much like camphor. Irritates skin. Ingestion or inhalation may produce irritation or a narcotic effect. Chronic exposure may damage liver. Noncombustible, but decomposes at 374Â°F, releasing flammable and toxic fumes. Much denser than water. Used as a solvent for fats, oils and waxes.	2.5	5.0	2.5	3200.0	314.0	1150.0	549.0	371.0	684.0	70.0	256.0	129.0	78.0	(BLOB)	Flash point data for this chemical is not available, but it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled using a carbon dioxide, dry chemical, or Halon extinguisher. (NTP, 1992)
1518	ACROLEIN DIMER, STABILIZED	ACROLEIN DIMER|ACROLEIN DIMER, STABILIZED|ACROLEIN DIMER, [STABILIZED]|3,4-DIHYDRO-2-FORMYL-2H-PYRAN|3,4-DIHYDRO-2H-PYRAN-2-CARBOXALDEHYDE|2-FORMYL-3,4-DIHYDRO-2H-PYRAN|5-HEXENAL, 2,6-EPOXY-|2-PROPENAL, DIMER	100-73-2	A colorless or yellow liquid with a pungent disagreeable odor. May be irritating to the eyes and mucous membranes; long-term exposure may result in adverse health effects. Vapors denser than air. Used to make other chemicals, plastics.	2.5	5.0	2.5	3200.0	317.0	1150.0	549.0	371.0	684.0	71.0	256.0	129.0	78.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1519	ACROLEIN, INHIBITED	ACQUINITE|ACRALDEHYDE|ACROLEIN|ACROLEIN, INHIBITED|ACROLEIN, [INHIBITED]|ACRYLALDEHYDE|ACRYLIC ALDEHYDE|ALLYL ALDEHYDE|AQUALIN|AQUALINE|BIOCIDE|CROLEAN|ETHYLENE ALDEHYDE|MAGNACIDE|MAGNACIDE B|MAGNACIDE H|NSC 8819|PROP-2-EN-1-AL|PROP-2-ENAL|2-PROPEN-1-ONE|PROPENAL|2-PROPENAL|PROPYLENE ALDEHYDE|SLIMICIDE|TRANS-ACROLEIN	107-02-8	A colorless to yellow volatile liquid with a disagreeable choking odor. Flash point below 0Â°F. Initially irritating to the eyes and mucous membranes. Very toxic by inhalation. Less dense than water (7.0 lb / gal). Vapors heavier than air. Used to make other chemicals, plastics, and as a herbicide. Rate of onset: Immediate Persistence: Minutes to hour Odor threshold: 1 ppm Source/use/other hazard: Herbicide; tox and corrosive fumes.	2.5	5.0	2.5	3200.0	317.0	1150.0	549.0	371.0	684.0	71.0	256.0	129.0	78.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1520	ACRYLYL CHLORIDE	ACRYLIC ACID CHLORIDE|ACRYLOYL CHLORIDE|ACRYLYL CHLORIDE|PROPENOYL CHLORIDE|2-PROPENOYL CHLORIDE	814-68-6	A liquid. Boiling point 75Â°C. Used to make plastics. Polymerization in a closed container can cause pressurization and explosive rupture. (EPA, 1998)	2.5	5.0	2.5	3200.0	317.0	1150.0	549.0	371.0	684.0	71.0	256.0	129.0	78.0	(BLOB)	Flash point data for this compound are unavailable, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1521	ADIPONITRILE	ADIPIC ACID DINITRILE|ADIPIC ACID NITRILE|ADIPIC DINITRILE|ADIPODINITRILE|ADIPONITRIL|ADIPONITRILE|1,4-DICYANOBUTANE|HEXANE DINITRILE|HEXANEDIOIC ACID, DINITRILE|TETRAMETHYL CYANIDE|TETRAMETHYLENE CYANIDE|TETRAMETHYLENE DICYANIDE	111-69-3	A colorless to light colored solid, or a solid in a solution. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	3203.0	317.0	1153.0	549.0	371.0	685.0	71.0	257.0	129.0	78.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1516	ACETONE THIOSEMICARBAZIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		347 to 352
1517	ACETYLENE TETRABROMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material under refrigerated temperatures and protect from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Water soluble.	LANTHANUM NITRATE HEXAHYDRATE forms double salts with bivalent ion nitrates and ammonium nitrates. This compound is an oxidizer. (NTP, 1992)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		104
1518	ACROLEIN DIMER, STABILIZED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Sensitive to moisture. Soluble in water. Aqueous solutions are oxidized by air in a reaction that is accelerated by alkalis, iron and copper. The rate depends on the pH and on oxygen concentration. Also subject to degradation under anaerobic conditions.	L-ASCORBIC ACID is a lactone. Reacts as a relatively strong reducing agent and decolorizes many dyes. Forms stable metal salts. Incompatible with oxidizers, dyes, alkalis, iron and copper. Also incompatible with ferric salts and salts of heavy metals, particularly copper, zinc and manganese (NTP, 1992).	Strong Reducing Agent					0																					(NTP, 1992)		1220		(NTP, 1992)	(decomposes)		374 to 378
1519	ACROLEIN, INHIBITED	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Decomposes slowly on standing in air at room temperature. Insoluble in water.	LASIOCARPINE is readily hydrolyzed by alkali. Reacts readily with oxidizing agents. Reacts slowly with atmospheric oxygen (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		206 to 207
1520	ACRYLYL CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An alcohol and amide. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																					(NTP, 1992)		108 to 117
1521	ADIPONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	2-METHYLFURAN is incompatible with strong acids and strong bases. May react vigorously with oxidizing materials (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(NTP, 1992)		-22															(NTP, 1992)		-127.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1516	ACETONE THIOSEMICARBAZIDE																										(NTP, 1992)		181.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C8H7NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1517	ACETYLENE TETRABROMIDE																				(NTP, 1992)		259		760		(NTP, 1992)		433.02						(NTP, 1992)	at 68.9Â° F		greater than or equal to 100	mg/mL		Oxidizer	La(NO3)3.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	14.0	3.0	3.0
1518	ACROLEIN DIMER, STABILIZED														(NTP, 1992)		1.65										(NTP, 1992)		176.14						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL			C6H8O6	Cellulose-Based Absorbents|Dirt/ Earth	7.0	0.0	12.0	3.0	3.0
1519	ACROLEIN, INHIBITED																										(NTP, 1992)		411.55						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL		Poison	C21H33NO7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	12.0	3.0	3.0
1520	ACRYLYL CHLORIDE																				(NTP, 1992)			462 to 471	760		(NTP, 1992)		287.5						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C16H33NO3	Cellulose-Based Absorbents	5.0	0.0	15.0	3.0	3.0
1521	ADIPONITRILE	(NTP, 1992)	; 95 mm Hg at 50Â° F; 142 mm Hg at 68Â° F	59		32		mm Hg	(NTP, 1992)		2.8				(NTP, 1992)		0.9132		68		(NTP, 1992)			145 to 151	760		(NTP, 1992)		82.1						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Flammable Liquid	C5H6O		9.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1522	ALLETHRIN	(+-)-ALLERETHONYL (+-)-CIS,TRANS-CHRYSANTHEMATE|ALLETHRIN|ALLETHRINE|ALLYL CINERIN I|3-ALLYL-4-KETO-2-METHYLCYCLOPENTENYL CHRYSANTHEMUMMONOCARBOXYLATE|BIOALLETHRIN|CHRYSANTHEMUMMONOCARBOXYLIC ACID, 3-ALLYL-2-METHYL-4-OXO-2-CYCLOPENTEN-1-YL ESTER|2-CYCLOPENTEN-1-ONE, 2-ALLYL-4-HYDROXY-3-METHYL-, 2,2-DIMETHYL-3(2-METHYLPROPENYL)CYCLOPROPANECARBOXYLATE|CYCLOPROPANECARBOXYLIC ACID, 2,2-DIMETHYL-3-(2-METHYLPROPENYL)-, ESTER WITH 2-ALLYL-4-HYDROXY-3-METHYL-2-CYCLOPENTEN-1-ONE|D-ALLETHRIN|EBT|ENT 17510|ESBIOTHRIN|ESBIOTHRINE|EXTHRIN|MATOX|OMS 3045|PYNAMIN|PYNAMIN	584-79-2	A clear amber-colored viscous liquid. Insoluble and denser than water. Toxic by ingestion, inhalation, and skin absorption. A synthetic household insecticide that kills flies, mosquitoes, garden insects, etc.	2.5	5.0	2.5	3206.0	320.0	1153.0	549.0	371.0	686.0	72.0	257.0	129.0	78.0	(BLOB)	Flash point data for this compound are not available, however, it is probably non-combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)
1523	ALLYL ALCOHOL	AA|ALLYL AL|ALLYL ALCOHOL|ALLYLIC ALCOHOL|3-HYDROXY PROPENE|3-HYDROXY-1-PROPENE|1-HYDROXY-2-PROPENE|3-HYDROXYPROPENE|ORVINYLCARBINOL|PROPEN-1-OL-3|2-PROPEN-1-OL|1-PROPEN-3-OL|1-PROPENE-3-OL|PROPENOL|2-PROPENOL|PROPENYL ALCOHOL|2-PROPENYL ALCOHOL|SHELL UNKRAUTTED A|SHELL UNKRAUTTOD A|VINYL CARBINOL|VINYLCARBINOL|2-VINYLCARBINOL|WEED DRENCH	107-18-6	A clear colorless liquid with a mustard-like odor. Flash point 70Â°F. Very toxic by inhalation and ingestion. Less dense than water (7.1 lb / gal). Vapors are heavier than air. Prolonged exposure to low concentrations or short exposure to high concentrations may have adverse health effects from inhalation.	2.5	5.0	2.5	3209.0	320.0	1156.0	549.0	371.0	687.0	72.0	258.0	129.0	78.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1524	ALLYL CHLOROCARBONATE	ALLYL CHLOROCARBONATE|ALLYL CHLOROFORMATE|ALLYL CHLOROFORMATE (ALLYL CHLOROCARBONATE)|ALLYLOXYCARBONYL CHLORIDE|CHLOROFORMIC ACID ALLYL ESTER|FORMIC ACID, CHLORO-, ALLYL ESTER	2937-50-0	A colorless liquid with a pungent odor. Flash point 88Â°F. Corrosive to metals and tissue. Very toxic by inhalation, ingestion and/or skin contact. Vapors are heavier than air.	2.5	5.0	2.5	3212.0	320.0	1156.0	549.0	371.0	688.0	72.0	258.0	129.0	78.0	(BLOB)	Flammability and Flash point data are unavailable; this compound is probably non-flammable. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1525	ALLYL ISOTHIOCYANATE, INHIBITED	AITC|AITK|ALLYL ISORHODANIDE|ALLYL ISOSULFOCYANATE|ALLYL ISOSULPHOCYANATE|ALLYL ISOTHIOCYANATE|ALLYL ISOTHIOCYANATE, INHIBITED|ALLYL ISOTHIOCYANATE, STABILIZED|ALLYL ISOTHIOCYANATE, [INHIBITED]|ALLYL MUSTARD OIL|ALLYL SEVENOLUM|ALLYL THIOCARBONIMIDE|ALLYLTHIOISOCYANATE|ALLYLSENEVOL|ALLYLSEVENOLUM|ALLYSPOL|ALLYSPOL 75EC|ARTIFICIAL MUSTARD OIL|ARTIFICIAL OIL OF MUSTARD|CARBOSPOL|FEMA NO. 2034|3-ISOTHIOCYANATO-1-PROPENE|3-ISOTHIOCYANATOPROPENE|ISOTHIOCYANIC ACID, ALLYL ESTER|MUSTARD OIL|NCI-C50464|OIL OF MUSTARD BPC 1949|OIL OF MUSTARD,	57-06-7	A colorless to pale-yellow oily liquid with an irritating odor. Flash point 135Â°F. Boiling point 300Â°F. Poisonous by ingestion and skin absorption. Emits toxic fumes when heated to high temperature. Insoluble in water and slightly denser than water. Hence sinks in water. Used to make other chemicals and as a fumigant.	2.5	5.0	2.5	3215.0	320.0	1156.0	549.0	371.0	689.0	72.0	258.0	129.0	78.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES or SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1526	ALPHA, ALPHA, ALPHA, PARA-TETRACHLOROTOLUENE	ALPHA, ALPHA, ALPHA, PARA-TETRACHLOROTOLUENE|ALPHA,ALPHA,4-TETRACHLOROTOLUENE|ALPHA,ALPHA,ALPHA,P-TETRACHLOROTOLUENE|4,ALPHA,ALPHA,ALPHA-TETRACHLOROTOLUENE|ALPHA,ALPHA,ALPHA-TRICHLORO-4-CHLOROTOLUENE|1-CHLORO-4-(TRICHLOROMETHYL)BENZENE|4-CHLOROBENZOTRICHLORIDE|P,ALPHA,ALPHA,ALPHA-TETRACHLOROTOLUENE|P-(TRICHLOROMETHYL)CHLOROBENZENE|P-CHLORO-ALPHA,ALPHA,ALPHA-TRICHLOROTOLUENE|P-CHLOROBENZOTRICHLORIDE|P-CHLOROPHENYLTRICHLOROMETHANE|TOLUENE, P,ALPHA,ALPHA,ALPHA-TETRACHLORO-	5216-25-1	Clear colorless liquid.	2.5	5.0	2.5	3215.0	320.0	1156.0	549.0	371.0	689.0	72.0	258.0	129.0	78.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1522	ALLETHRIN	STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	In the presence of carbon, the combination of chlorine trifluoride with aluminum, copper, lead, magnesium, silver, tin, or zinc results in a violent reaction [Mellor 2, Supp. 1: 1956]. A solution of sodium azide in copper pipe with lead joints formed copper and lead azide, both are detonating compounds [Klotz 1973]. Sodium acetylide becomes pyrophoric when mixed with metals like lead. Mixtures of trioxane with 60% hydrogen peroxide in contact with metallic lead when heated detonated. Lead containing rubber ignited in a nitric acid atmosphere. Lead is incompatible with strong oxidants such as: ammonium nitrate, chlorine trifluoride, hydrogen peroxide, etc.						0																					(NTP, 1992)		621.5	
1523	ALLYL ALCOHOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; protective clothing to prevent accidental inhalation or ingestion of dust. (USCG, 1999)	Insoluble in water.	LEAD ARSENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)	Not flammable						
1524	ALLYL CHLOROCARBONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with dilute acid or dilute alkali (e.g. dilute HNO3), then transfer the dampened material to a suitable container. Use absorbent paper dampened with the dilute acid or alkali to pick up any remaining material. Seal the absorbent paper and any of your clothing which may be contaminated in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with dilute acid or alkali followed by washing with strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	LEAD CHROMATE reacts violently with ferric ferrocyanide. (NTP, 1992). The mixture of sulfur and the chromate is pyrophoric, as is the case of tantalum and the chromate. Under certain conditions, combinations of dry mixtures of lead chromate pigment and azo-dyes (nitrobenzeneazo derivatives) may lead to explosions. When these materials are intimately mixed, violent reactions may result, [Loss Prev. Bull., 1978, (022), 117].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		1551	
1525	ALLYL ISOTHIOCYANATE, INHIBITED	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust and fumes of all but the most insoluble lead compounds are readily absorbed on inhalation and, to a lesser degree, after ingestion. Respirator for heavy dust exposure; safety goggles (USCG, 1999)	Slightly soluble in water.	Calcium carbide mixed with LEAD FLUORIDE, at ordinary temperatures, becomes incandescent [Mellor 5:862-64. 1946-47].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1526	ALPHA, ALPHA, ALPHA, PARA-TETRACHLOROTOLUENE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	LEAD PHOSPHITE, DIBASIC is self-reactive. A fiber drum of lead diphosphite caught fire apparently without any external cause. A gradual decomposition appears to have taken place, yielding lead phosphate, water, and phosphine. Phosphine, in turn, is spontaneously flammable in air and was probably the ignition source for the resulting fire [Kirk and Othmer 10:489. 1947]. Reacts violently with hydrogen sulfide [Bretherick 1979. p. 977-978].	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1522	ALLETHRIN	(NTP, 1992)		1.77				mm Hg							(NTP, 1992)		11.3437		61		(NTP, 1992)		3164		760		(NTP, 1992)		207.19		(NIOSH, 2003)	(as Pb)	100	mg/m3	(NTP, 1992)	Insoluble						Pb		5.0	0.0	12.0	3.0	3.0
1523	ALLYL ALCOHOL														(USCG, 1999)		5.79		59								(USCG, 1999)		347.12											LAR	Poison	As2O8Pb3		6.0	0.0	13.0	3.0	3.0
1524	ALLYL CHLOROCARBONATE														(NTP, 1992)		6.12		59		(NTP, 1992)	Decomposes					(NTP, 1992)		323.18		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3	(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Oxidizer\ Corrosive	PbCrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	16.0	3.0	3.0
1525	ALLYL ISOTHIOCYANATE, INHIBITED														(USCG, 1999)		8.24		68								(USCG, 1999)		245.19											LFR	Poison	F2Pb	Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	9.0	0.0	17.0	3.0	3.0
1526	ALPHA, ALPHA, ALPHA, PARA-TETRACHLOROTOLUENE																																								Flammable Solid	H2O.2HO5FPb3		8.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1527	ALPHA-CYCLODEXTRIN	ALFADEX|ALPHA-CYCLOAMYLOSE|ALPHA-CYCLODEXTRIN|ALPHA-DEXTRIN|ALPHA-SCHARDINGER DEXTRIN|CYCLOHEXAAMYLOSE|CYCLOHEXADEXTRIN|CYCLOMALTOHEXAOSE|CYCLOMALTOHEXOSE|DEXTRIN, ALPHA-CYCLO[2,4,7,9,12,14,17,19,22,24,27,29-DODECAOXAHEPTACYCLO[26.2.2.23,6.28,11.213,16.218,21.223,26]DOTETRACONTANE, ALPHA-CYCLODEXTRIN DERIV.|RINGDEX A|STEREOISOMER OF 5,10,15,20,25,30-HEXAKIS(HYDROXYMETHYL)-2,4,7,9,12,14,17,19,22,24,27,29-DODECAOXAHEPTACYCLO[26.2.2.23,6.28,11.213,16.218,21.223,26]DOTETRACONTANE-31,32,33,34,35,36,37,38,39,40,41,42-DODECOL	10016-20-3	PHYSICAL DESCRIPTION: Hexagonal plates or blade-shaped needles. (NTP, 1992)	1.0	2.5	5.0	3218.0	323.0	1156.0	549.0	374.0	690.0	73.0	258.0	129.0	79.0	(BLOB)	Special Hazards of Combustion Products: May contain toxic hydrogen chloride and phosgene. Behavior in Fire: Decomposes to form hydrogen chloride and phosgene. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
1528	ALPHA-METHYLBENZYL ALCOHOL	(BLOB)	98-85-1	A colorless liquid. Insoluble in water and less dense than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3221.0	323.0	1156.0	549.0	374.0	691.0	73.0	258.0	129.0	79.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1529	ALPHA-METHYLCINNAMALDEHYDE	ALPHA-METHYCINNAMAL|ALPHA-METHYLCINNAMALDEHYDE|ALPHA-METHYLCINNAMIC ALDEHYDE|CINNAMALDEHYDE, ALPHA-METHYL-|METHYL CINNAMIC ALDEHYDE|2-METHYL-3-PHENYL-2-PROPENAL|2-METHYL-3-PHENYLACROLEIN|2-METHYL-3-PHENYLACRYLALDEHYDE	101-39-3	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	3224.0	323.0	1159.0	549.0	374.0	692.0	73.0	259.0	129.0	79.0	Get medical aid. INHALATION: Remove from source of exposure and keep quiet. EYES: Wash with running water. SKIN: Wash with soap and water. INGESTION: Wash mouth, give emetic then epsom salts (30 g/250 ml hot water); get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic metal fumes (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1530	ALPHA-METHYLVALERALDEHYDE	ALPHA-METHYLPENTANAL|ALPHA-METHYLVALERALDEHYDE|2-FORMYLPENTANE|METHYLVALERALDEHYDE|METHYLVALERALDEHYDE (ALPHA)|(-+-)-2-METHYLPENTANAL|2-METHYLPENTANAL|2-METHYLVALERALDEHYDE|2-METHYLVALERIC ALDEHYDE|VALERALDEHYDE, 2-METHYL-	123-15-9	A colorless liquid. Less dense than water. Used to make rubber and artificial flavorings.	2.5	5.0	2.5	3227.0	323.0	1159.0	549.0	374.0	693.0	73.0	259.0	129.0	79.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1531	ALPHA-NAPHTHYLAMINE	ALPHA-AMINONAPHTHALENE|ALPHA-NAPHTHYLAMINE|1-AMINONAPHTHALENE|C.I. 37265|C.I. AZOIC DIAZO COMPONENT 114|FAST GARNET B BASE|FAST GARNET BASE B|1-NAPHTHALAMINE|1-NAPHTHALENAMINE|NAPHTHALIDAM|NAPHTHALIDINE|NAPHTHYLAMINE (ALPHA)|1-NAPHTHYLAMINE	134-32-7	A crystalline solid or a solid dissolved in a liquid. Insoluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	3227.0	323.0	1159.0	549.0	374.0	693.0	73.0	259.0	129.0	79.0	EYES: flush with water until solid is removed. SKIN: wash thoroughly with soap and water. INGESTION: get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Yields toxic gaseous oxides of nitrogen when involved in fire Behavior in Fire: When large quantities are involved in fire, nitrate may fuse or melt, in which condition application of water may result in extensive scattering of molten material. Will increase the intensity of a fire. (USCG, 1999)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). Dike fire-control water for later disposal. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1527	ALPHA-CYCLODEXTRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	1,2,4-TRICHLOROBENZENE can react vigorously with oxidizing materials (NTP, 1992). Yields hydrogen chloride and phosgene when heated to decomposition (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		230		(NTP, 1992)	at 302Â° F	2.5		%	(NTP, 1992)	at 302Â° F	6.6		%	(USCG, 1999)		1060		(NTP, 1992)		63	
1528	ALPHA-METHYLBENZYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Keep container well closed.	Acidic organic/inorganic salts, such as LEAD SUBACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1529	ALPHA-METHYLCINNAMALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear approved filter mask, rubber gloves, and safety glasses. (USCG, 1999)	Insoluble in water.	LEAD SULFATE reacts explosively with boric acid [Bretherick 1979. p. 1029]. Special Hazards of Combustion Products: Toxic metal fumes (USCG, 1999).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		2138	
1530	ALPHA-METHYLVALERALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The adhering sulfuric acid dissolves in water producing heat and an acidic solution.	LEAD SULFATE reacts explosively with boric acid [Bretherick 1979. p. 1029]. Special Hazards of Combustion Products: Toxic metal fumes (USCG, 1999).	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1531	ALPHA-NAPHTHYLAMINE	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dike to collect large liquid spills. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Dust respirator; gloves; rubber shoes or boots (USCG, 1999)	Somewhat soluble in water.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride. or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. With water forms a weak solution of nitric acid, the reaction is not hazardous.	Strong Oxidizing Agent; Radioactive Material	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1527	ALPHA-CYCLODEXTRIN	(NTP, 1992)	; 5 mm Hg at 153.1Â° F	1		101.1		mm Hg	(NTP, 1992)		6.26				(USCG, 1999)		1.454		68		(NTP, 1992)		415		760		(NTP, 1992)		181.45						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	TCB	Poison	C6H3Cl3		6.0	0.0	17.0	3.0	3.0
1528	ALPHA-METHYLBENZYL ALCOHOL																									(NTP, 1992)		807.71														Poison	C4H10O8Pb3		6.0	0.0	11.0	3.0	3.0
1529	ALPHA-METHYLCINNAMALDEHYDE														(USCG, 1999)		6.2		68								(USCG, 1999)		303.28											LSF	Corrosive	PbSO4		7.0	0.0	14.0	3.0	3.0
1530	ALPHA-METHYLVALERALDEHYDE																																								Corrosive	PbSO4[H2SO4	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	5.0	0.0	11.0	3.0	3.0
1531	ALPHA-NAPHTHYLAMINE														(USCG, 1999)	(est)		greater than 1	68								(USCG, 1999)		555.2											TRN	Radioactive[Oxidizer	HNO3.I]4Th	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	9.0	0.0	20.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1532	ALUMINUM PHOSPHATE, SOLUTION	ADJU-PHOS|ALPO|ALPO 5|ALUMINOPHOSPHATE (ALPO4)|ALUMINUM MONOPHOSPHATE|ALUMINUM ORTHOPHOSPHATE|ALUMINUM PHOSPHATE|ALUMINUM PHOSPHATE (1:1)|ALUMINUM PHOSPHATE (AL(PO4))|ALUMINUM PHOSPHATE SOLUTION|ALUMINUM PHOSPHATE, SOLUTION|ALUPHOS|FABUTIT 320|FABUTIT 748|FB 67|FFB 32|FOSFALUMIN|K-BOND 90|MONOALUMINUM PHOSPHATE|PHOSPHALJEL|PHOSPHALUGEL|PHOSPHALUVET|VPI	7784-30-7	A colorless liquid. Insoluble in water. Corrosive to metals and tissue.	2.5	5.0	2.5	3227.0	323.0	1159.0	549.0	374.0	693.0	73.0	259.0	129.0	79.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1533	ALUMINUM PHOSPHIDE	AIP|AL-PHOS|ALUMINIUM PHOSPHIDE (ALP)|ALUMINUM MONOPHOSPHIDE|ALUMINUM PHOSPHIDE|ALUMINUM PHOSPHIDE(AP)|CELPHOS|DELICIA|DELICIA GASTOXIN|DETIA|DETIA GAS EX-B|DETIA-EX-B|FIFUME|GASTION|PHOSFUME|PHOSTOXIN|PHOSTOXIN A|PHOSTOXIN-A|QUICKPHOS	20859-73-8	Aluminum phosphide is a dark gray or dry, yellow, crystalline solid. It reacts with moisture to give phosphine, a flammable and poisonous gas. Normally, phosphine will spontaneously ignite upon contact with air. If there is an excess of water, the phosphine fire will not normally ignite any surrounding combustible material.	1.0	2.5	5.0	3227.0	323.0	1159.0	555.0	374.0	693.0	73.0	259.0	131.0	79.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1534	ALUMINUM PHOSPHIDE PESTICIDE	ALUMINUM PHOSPHIDE PESTICIDE	20859-73-8	Dark gray or dark yellow solid. Contact may irritate skin, eyes, and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used as an insecticide.	1.0	2.5	5.0	3230.0	323.0	1159.0	555.0	374.0	694.0	73.0	259.0	131.0	79.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1535	AMARANTH	(BLOB)	915-67-3	PHYSICAL DESCRIPTION: Dark red to dark purple powder. Almost no odor. Tastes salty. pH (1% solution in water) approximately 10.8. Used to dye wool and silk bright bluish-red from an acid bath.	1.0	2.5	5.0	3233.0	323.0	1159.0	555.0	374.0	695.0	73.0	259.0	131.0	79.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1536	AMILORIDE HYDROCHLORIDE	AMILORID HYDROCHLORIDE|AMILORIDE HCL|AMILORIDE HYDROCHLORIDE|AMIPRAMIDINE|AMIPRAMIZIDE|AMIPRAZIDE|ARUMIL|COLECTRIL|1-(3,5-DIAMINO-6-CHLOROPYRAZINECARBOXYL)GUANIDINE HYDROCHLORIDE|3,5-DIAMINO-6-N-(DIAMINOMETHYLENE) PYRAZINECARBOXAMIDE MONOHYDROCHLORIDE|3,5-DIAMINO-N-(AMINOIMINOMETHYL)-6-CHLORO-PYRAZINECARBOXAMIDE MONOHYDROCHLORIDE|GUANAMPRAZINE HYDROCHLORIDE|MIDAMOR|MK-870 HYDROCHLORIDE|MODAMIDE|N-AMIDINO-3,5-DIAMINO-6-CHLORO-PYRAZINECARBOXAMIDE MONOHYDROCHLORIDE|N-AMIDINO-3,5-DIAMINO-6-CHLOROPYRAZINAMIDE	2016-88-8	PHYSICAL DESCRIPTION: Crystalline solid or very light yellow powder. (NTP, 1992)	1.0	2.5	5.0	3236.0	323.0	1159.0	555.0	374.0	696.0	73.0	259.0	131.0	79.0	(BLOB)	Extremely poisonous. (Non-Specific -- Poison A, Liquid) Keep away from sparks, flames, and sources of ignition. Keep out of water sources and sewers. Hydrolysis forms hydrogen cyanide. When heated to decomposition, it emits very toxic fumes of oxides of phosphorus and nitrogen. Avoid water and acids. Can react with oxidizing materials. (EPA, 1998)	Complete protection required; have available decontaminants (bleach, alkali) and atropine. Bleaching powder (chlorinated line) destroys Tabun but gives rise to cyanogen chloride. (Non-Specific -- Poison A, Liquid) Extinguish with alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1532	ALUMINUM PHOSPHATE, SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical slowly oxidizes in air to Indigotin. (NTP, 1992)	LEUCO VAT BLUE 1 is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.								0																									
1533	ALUMINUM PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIS(2-ETHYLHEXYL)PHOSPHATE is incompatible with oxidizing materials. It may soften or deteriorate certain plastics and elastomers. It is incompatible with cellulose acetate and cellulose acetate butyrate. (NTP, 1992)								0		(NTP, 1992)		305										(NTP, 1992)		698		(NTP, 1992)		-94	
1534	ALUMINUM PHOSPHIDE PESTICIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to light and air. Insoluble in water.	2-NITRO-P-PHENYLENEDIAMINE is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																						(NTP, 1992)		279	
1535	AMARANTH	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly soluble in water.	Nitriles, such as 2-PENTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(NTP, 1992)		73.8																			
1536	AMILORIDE HYDROCHLORIDE	(Non-Specific -- Poison A, Liquid) When handling, avoid breathing vapors, keep upwind, avoid bodily contact with the material, and upon skin contact wash with soap and water. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolysis forms hydrogen cyanide.	When heated to decomposition, TABUN emits very toxic fumes of oxides of phosphorus and nitrogen. Avoid water and acids. Can react with oxidizing materials. [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(EPA, 1998)		172																		(EPA, 1998)		-58	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1532	ALUMINUM PHOSPHATE, SOLUTION																										(NTP, 1992)		264.28															C16H12N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	14.0	3.0	3.0
1533	ALUMINUM PHOSPHIDE	(NTP, 1992)		1.9		392		mm Hg	(NTP, 1992)		14.95				(NTP, 1992)		0.9262		68		(NTP, 1992)	(decomposes)		374 to 451	760		(NTP, 1992)		434.65						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C24H51O4P		7.0	0.0	18.0	3.0	3.0
1534	ALUMINUM PHOSPHIDE PESTICIDE																										(NTP, 1992)		153.14						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C6H7N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	18.0	3.0	3.0
1535	AMARANTH	(NTP, 1992)	: 110 mm Hg at 122Â° F; 134 mm Hg at 158Â° F	6		77		mm Hg							(NTP, 1992)		0.82		39		(NTP, 1992)		234		760		(NTP, 1992)		81.12						(NTP, 1992)	at 66Â° F		5 to 10	mg/mL		Poison	C5H7N	Dirt/Earth	9.0	0.0	31.0	3.0	3.0
1536	AMILORIDE HYDROCHLORIDE	(EPA, 1998)		0.07		77		mm Hg	(EPA, 1998)		5.63				(EPA, 1998)		1.073				(EPA, 1998)		464		760		(EPA, 1998)		162.15												Poison	C5H11N2O2P	Mineral-Based & Clay-Based Absorbents	8.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1537	AMINOETHYLETHANOLAMINE	A-EA|2-AMINO-2'-HYDROXYDIETHYLAMINE|AMINOETHYL ETHANOLAMINE|2-[(2-AMINOETHYL) AMINO] ETHANOL|2-((AMINOETHYL)AMINO)ETHANOL|2-(2-AMINOETHYL)AMINOETHANOL|2-(2'-AMINOETHYLAMINO)ETHANOL|2-(2-AMINOETHYLAMINO)ETHANOL|AMINOETHYLETHANOLAMINE|(BETA-HYDROXYETHYL)ETHYLENEDIAMINE|(2-HYDROXYETHYL)ETHYLENE DIAMINE|(2-HYDROXYETHYL)ETHYLENEDIAMINE|1-(2-HYDROXYETHYLAMINO)-2-AMINOETHANE|2-(2-HYDROXYETHYLAMINO)ETHYLAMINE|MONOETHANOLETHYLENEDIAMINE|N-(2'-HYDROXYETHYL)ETHYLENEDIAMINE|N-(2-AMINOETHYL)	111-41-1	A clear colorless liquid with an ammonia-like odor. Corrosive to tissue. Combustible, but may be difficult to ignite. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion. Used to make other chemicals.	2.5	5.0	2.5	3239.0	323.0	1159.0	555.0	374.0	697.0	73.0	259.0	131.0	79.0	(BLOB)	(Non-Specific -- Arsenic Compound, Liquid, n.o.s.) Container may explode in heat of fire. Fire may produce irritating and poisonous gases. Hydrolyzed by alkalies; neutralized by sodium hypochlorite. (EPA, 1998)	(Non-Specific -- Arsenic Compound, Liquid, n.o.s.) Wear special protective clothing and positive pressure breathing apparatus. (Non-Specific -- Arsenic Compound, Liquid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, or foam. Use water spray, fog, or foam for large fires. (EPA, 1998)
1538	AMMONIUM DICHROMATE	AMMONIUM BICHROMATE|AMMONIUM CHROMATE ((NH4)2CR2O7)|AMMONIUM DICHROMATE|AMMONIUM DICHROMATE(VI)|DIAMMONIUM DICHROMATE|DICHROMIC ACID (H2CR2O7), DIAMMONIUM SALT	7789-09-5	Ammonium dichromate is a bright orange red crystalline solid. It is readily ignited and burns producing a voluminous green residue. If heated in a closed container, the container may rupture due to the decomposition of the material. It may also act as a strong oxidizing agent if mixed with or contaminated with combustible material. It is soluble in water.	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1539	AMMONIUM FLUOBORATE	AMMONIUM BOROFLUORIDE|AMMONIUM BOROFLUORIDE (NH4BF4)|AMMONIUM FLUOBORATE|AMMONIUM FLUOROBORATE|AMMONIUM FLUOROBORATE (NH4BF4)|AMMONIUM TETRAFLUOBORATE|AMMONIUM TETRAFLUOROBORATE|AMMONIUM TETRAFLUOROBORATE (NH4BF4)|AMMONIUM TETRAFLUOROBORATE(1-)	13826-83-0	Odorless white crystals. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1540	AMMONIUM FLUOROSILICATE	AMMONIUM FLUOROSILICATE|AMMONIUM FLUOROSILICATE ((NH4)2SIF6)|AMMONIUM FLUOSILICATE|AMMONIUM HEXAFLUOROSILICATE|AMMONIUM HEXAFLUOROSILICATE ((NH4)2SIF6)|AMMONIUM SILICOFLUORIDE|AMMONIUM SILICON FLUORIDE ((NH4)2SIF6)|DIAMMONIUM FLUOSILICATE ((NH4)2SIF6)|DIAMMONIUM HEXAFLUOROSILICATE|DIAMMONIUM HEXAFLUOROSILICATE(2-)|DIAMMONIUM SILICON HEXAFLUORIDE|LPE 6	16919-19-0	A white crystalline solid. Noncombustible. Corrodes aluminum. Used as a disinfectant, in etching glass, metal casting, and electroplating.	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Unburned vapors are highly toxic. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. Containers may explode in fire, releasing the highly toxic gas. (USCG, 1999)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1541	AMMONIUM LACTATE	AMMONIUM LACTATE|AMMONIUM LACTATE SYRUP|DL-LACTIC ACID, AMMONIUM SALT	515-98-0	White solid or liquid. Has no odor. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	INGESTION: induce vomiting if large amount has been swallowed. EYES: flush with water. SKIN: wipe off; wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1542	AMMONIUM PENTABORATE	AMMONIUM DECABORATE OCTAHYDRATE|AMMONIUM PENTABORATE|AMMONIUM PENTABORATE TETRAHYDRATE	12007-89-5	Odorless white solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1537	AMINOETHYLETHANOLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slowly decomposed by water.	LEWISITE is hydrolyzed by alkalis. It is neutralized or inactivated as a vesicant by sodium hypochlorite [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	None																	(EPA, 1998)		32	
1538	AMMONIUM DICHROMATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Slowly decomposed by water to give off hydrogen cyanide, a flammable poison gas.	CYANIDES, INORGANIC, N.O.S react slowly with water to evolve gaseous hydrogen cyanide (HCN). Acids cause the rapid evolution of HCN; carbon dioxide from the air is sufficiently acidic to liberate HCN from solutions of inorganic cyanides. Incompatible with isocyanates, nitrides, and peroxides. May initiate polymerization reactions of epoxides. Form compounds with metal salt in exothermic reactions that may produce flammable hydrogen. Some inorganic cyanides can detonate when shocked, heated or rubbed.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1539	AMMONIUM FLUOBORATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)						0																		(NTP, 1992)			greater than 572
1540	AMMONIUM FLUOROSILICATE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Soluble in water and slowly decomposed by water to oxalic acid and ammonia.	Colorless, flammable, highly toxic gas. It can react explosively with strong oxidants (dichlorine oxide, fluorene, oxygen, ozone). When heated to decomposition or on contact with acids, acid fumes, water or steam it will react to produce deadly hydrogen cyanide gas and oxides of nitrogen [Sax, 9th ed., 1996, p. 945].	Highly Flammable	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1026 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5						(USCG, 1999)		6.6		%	(USCG, 1999)		43		%						(USCG, 1999)		-18.2	
1541	AMMONIUM LACTATE		Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as TETRADECYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. May attack some forms of plastics (USCG, 1999).						0																						(USCG, 1999)		61	
1542	AMMONIUM PENTABORATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	3,3'-DIMETHOXYBENZIDINE DIHYDROCHLORIDE is an ether substituted acidic organic salt. Reacts weakly as a acid to neutralize bases. May react with strong oxidizing agents or strong reducing agents.						0																						(NTP, 1992)		514	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1537	AMINOETHYLETHANOLAMINE	(EPA, 1998)		0.395		68		mm Hg	(EPA, 1998)		7.1				(EPA, 1998)		1.888		68		(EPA, 1998)	decomposes	374		760		(EPA, 1998)		207.31												Poison	ClCHCH AsCl2	Dirt/Earth	9.0	0.0	21.0	3.0	3.0
1538	AMMONIUM DICHROMATE																																									Poison	CN		8.0	0.0	29.0	3.0	3.0
1539	AMMONIUM FLUOBORATE																										(NTP, 1992)		218.21						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C12H10O4	Dirt/Earth	7.0	0.0	23.0	3.0	3.0
1540	AMMONIUM FLUOROSILICATE	(NIOSH, 2003)		5.1		70		atm							(USCG, 1999)		0.954		-5.8		(USCG, 1999)		-6.1		760		(USCG, 1999)		52						(NIOSH, 2003)		1		%	CYG	Poison Gas	Flammable Gas	C2N2		7.0	0.0	20.0	3.0	3.0
1541	AMMONIUM LACTATE														(USCG, 1999)		0.855		68		(USCG, 1999)		678		760		(USCG, 1999)		274.47										TDB		C20H34		9.0	0.0	13.0	3.0	3.0
1542	AMMONIUM PENTABORATE																										(NTP, 1992)		317.24						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL			C14H16N2O2.2HCl		8.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1543	AMMONIUM PERCHLORATE	AMMONIUM PERCHLORATE|AMMONIUM PERCHLORATE (NH4CLO4)|AMMONIUM PERCHLORATE, [HIGH EXPLOSIVE]|AMMONIUM PERCHLORATE, [OXIDIZER]|ARCADENE 426|ARCITE 155|ARCITE 322|NK 270|PKHA	7790-98-9	A white, crystalline solid or powder. Classified as a division 1.1 explosive if powdered into particles smaller than 15 microns in diameter or if powdered into larger particles but thoroughly dried. Does not readily burn, but will burn if contaminated by combustible material. May explode under prolonged exposure to heat or fire. Used to make rocket propellants, explosives, pyrotechnics, as an etching and engraving agent, and in analytical chemistry.	1.0	2.5	5.0	3242.0	323.0	1159.0	555.0	374.0	698.0	73.0	259.0	131.0	79.0	Get medical attention. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. INGESTION: Do not induce vomiting. Dilute by drinking water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents: Water spray, dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1544	AMMONIUM SULFIDE, SOLUTION	AMMONIUM HYDROGEN SULFIDE SOLUTION|AMMONIUM MONOSULFIDE|AMMONIUM SULFHYDRATE SOLUTION|AMMONIUM SULFIDE|AMMONIUM SULFIDE SOLUTION|AMMONIUM SULFIDE, SOLUTION|AMMONIUM SULPHIDE, SOLUTION|DIAMMONIUM SULFIDE|TRUE AMMONIUM SULFIDE	12135-76-1	Ammonium sulfide aqueous solution is a colorless to yellow liquid, with an odor of rotten eggs or ammonia. Material in aqueous from the hydrosulfide which with acid forms H2S. It may be irritating to skin, eyes and mucous membranes and may cause illness from skin absorption. It may burn and/or emit toxic fumes if heated to high temperatures.	2.5	5.0	2.5	3245.0	323.0	1159.0	555.0	374.0	699.0	73.0	259.0	131.0	79.0	Consult physician after ingestion or exposure to high concentrations of dust. INGESTION: call physician at once; as first aid, induce vomiting and give milk and magnesium sulfate (Epsom salt). (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1545	AMMONIUM TARTRATE	AMMONIUM D-TARTRATE|AMMONIUM TARTRATE|AMMONIUM TARTRATE ((NH4)2O6C4H4)|BUTANEDIOIC ACID, 2,3-DIHYDROXY- [R-(R*,R*)]-, DIAMMONIUM SALT|BUTANEDIOIC ACID, 2,3-DIHYDROXY-,[R-(R*,R*)]-, AMMONIUM SALT|DIAMMONIUM D-TARTRATE|DIAMMONIUM L-(+)-TARTRATE|DIAMMONIUM TARTRATE|L-TARTARIC ACID AMMONIUM SALT|TARTARIC ACID, AMMONIUM SALT|1-TARTARIC ACID, AMMONIUM SALT|TARTARIC ACID, DIAMMONIUM SALT	3164-29-2	Ammonium tartrate is a white crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to manufacture fabrics and in medicine.	1.0	2.5	5.0	3248.0	323.0	1159.0	555.0	374.0	700.0	73.0	259.0	131.0	79.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1546	AMMONIUM THIOGLYCOLATE	ACETIC ACID, MERCAPTO-, MONOAMMONIUM SALT|AMMONIUM MERCAPTOACETATE|AMMONIUM THIOGLYCOLATE|AMMONIUM THIOGLYCOLLATE|THIOFACO A-50|THIOGLYCOLIC ACID AMMONIUM SALT|THIOGLYCOLLIC ACID, AMMONIUM SALT|USAF MO-2	5421-46-5	PHYSICAL DESCRIPTION: Colorless to faint pink liquid with a repulsive, skunk-like odor. (NTP, 1992)	2.5	5.0	2.5	3248.0	323.0	1159.0	555.0	374.0	700.0	73.0	259.0	131.0	79.0	EYES or SKIN: flush with water and treat with boric acid. (USCG, 1999)	Special Hazards of Combustion Products: Strong alkali fumes are formed in fire. Behavior in Fire: Molten lithium is quite easily ignited and is then difficult to extinguish. Hot or burning lithium will react with all gases except those of the helium-argon group. It also reacts violently with concrete, wood, asphalt, sand, asbestos; and in fact, nearly everything except metal. Do not apply water to adjacent fires. Hydrogen explosion may result. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
1547	AMPHOTERICIN B	(BLOB)	1397-89-3	PHYSICAL DESCRIPTION: Bright yellow powder. (NTP, 1992)	1.0	2.5	5.0	3251.0	323.0	1159.0	555.0	374.0	701.0	73.0	259.0	131.0	79.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1548	AMYL METHYL KETONE	AMYL METHYL KETONE|BUTYLACETONE|2-HEPTANONE|2-KETOHEPTANE|METHYL (N-AMYL) KETONE|METHYL AMYL KETONE|METHYL N-AMYL KETONE|METHYL N-PENTYL KETONE|METHYL PENTYL KETONE|METHYLAMYL KETONE|1-METHYLHEXANAL|N-AMYL METHYL KETONE|N-PENTYL METHYL KETONE|2-OXOHEPTANE|PENTYL METHYL KETONE	110-43-0	A clear colorless liquid. Flash point 126Â°F. Less dense than water and only slightly soluble in water. Hence floats on water. Vapors heavier than air. Density 6.8 lb / gal. Used as a synthetic flavoring and in perfumes.	2.5	5.0	2.5	3254.0	326.0	1159.0	555.0	377.0	702.0	74.0	259.0	131.0	80.0	Call a doctor. INHALATION: Move to fresh air. EYES: Hold lids open and flush immediately with a slow stream of water. Continue for 10 to 15 minutes. SKIN: Wash with large amounts of water then apply a paste of sodium bicarbonate. INGESTION: Drink copious amounts of water. Administer a neutralizer like milk of magnesia, calcium hydroxide, etc. Do not induce vomiting. Call a physician. (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1543	AMMONIUM PERCHLORATE		Full covering clothing and chemical protective gloves. Where splashing is possible wear full face shield or chemical safety goggles. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	(BLOB)								0		(USCG, 1999)			greater than 250																		
		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)			LITHARGE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Aluminum carbide is oxidized with incandescence on warming with lead oxide, [Mellor, 1946, Vol. 5, 872]. Mixtures of lead oxide with aluminum powder(as with other metals: sodium, zirconium) give a violent explosions, [Mellor, 1946, Vol. 5, 217, 1941].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																												
1544	AMMONIUM SULFIDE, SOLUTION		Dust or metal fume respirator; gloves; goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.								0																								
1545	AMMONIUM TARTRATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Reacts with moisture in air to generate heat and hydrochloric acid fumes [Merck, 11th ed., 1989]. Decomposes exothermically in water.	CYCLOBUTYL CHLOROFORMATE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases, including amines. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1546	AMMONIUM THIOGLYCOLATE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Rubber or plastic gloves; face shield; respirator; fire-retardant clothing (USCG, 1999)	Highly flammable. Is readily ignited by and reacts with most extinguishing agents such as water, carbon dioxide, and carbon tetrachloride [Mellor 2, Supp 2:71. 1961]. Reacts with water to form caustic lithium hydroxide and hydrogen gas (H2). Lithium is spontaneously flammable in air if heated to 180Â°C if the surface of the metal is clean.	(BLOB)	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water															(USCG, 1999)		354					
1547	AMPHOTERICIN B	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 3,3'-DIMETHYL-4,4'-DIPHENYLENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1548	AMYL METHYL KETONE		Approved filter-type respirator, close-fitting safety goggles, laboratory coat. (USCG, 1999)	Deliquescent. Water soluble	LITHIUM CHROMATE is an oxidizing agent. Can oxidize combustibles (USCG, 1999). Combining the chromate with zirconium can be explosive given the right proportions of reactants, [Z. Anorg., 1930, 191, 113].	Strong Oxidizing Agent							0															(USCG, 1999)	Not flammable						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1543	AMMONIUM PERCHLORATE														(USCG, 1999)		0.91				(USCG, 1999)			greater than 662	760															TOF				9.0	0.0	17.0	3.0	3.0
1544	AMMONIUM SULFIDE, SOLUTION														(USCG, 1999)		9.5		68								(USCG, 1999)		223.2												LTH	Poison	PbO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	13.0	3.0	3.0
1545	AMMONIUM TARTRATE																																								Poison|Corrosive|Flammable Liquid	C5H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	14.0	3.0	3.0
1546	AMMONIUM THIOGLYCOLATE														(USCG, 1999)		0.53		68								(USCG, 1999)		6.939												LTM	Dangerous When Wet	Li		6.0	0.0	11.0	3.0	3.0
1547	AMPHOTERICIN B																																									Poison	C16H12N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	28.0	3.0	3.0
1548	AMYL METHYL KETONE																				(USCG, 1999)		165.92		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3											LCR		Li2CrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1549	ANILINE HYDROCHLORIDE	ANILINE CHLORIDE|ANILINE HYDROCHLORIDE|ANILINE SALT|ANILINE, HYDROCHLORIDE|ANILINIUM CHLORIDE|BENZENAMINE, HYDROCHLORIDE|C.I. 76001|HYDROCHLORIDE BENZENAMIDE|NCI-C03736|PHENYLAMINE HYDROCHLORIDE|PHENYLAMMONIUM CHLORIDE|USAF EK-442	142-04-1	A white to greenish colored crystalline solid. Toxic by ingestion and a skin and eye irritant. May emit toxic aniline and chloride fumes under exposure to high temperatures or flame. Used to make dyes and printing ink.	1.0	2.5	5.0	3257.0	326.0	1159.0	555.0	377.0	703.0	74.0	259.0	131.0	80.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1550	ANILINE, 2,4,6-TRIMETHYL-	1-AMINO-2,4,6-TRIMETHYLBENZENE|AMINOMESITYLENE|2-AMINOMESITYLENE|ANILINE, 2,4,6-TRIMETHYL-|BENZANAMINE, 2,4,6-TRIMETHYL-|MESIDIN|MESIDINE|MESITYLAMINE|MESITYLENE, 2-AMINO-|2,4,6-TRIMETHYLANILINE|2,4,6-TRIMETHYLPHENYLAMINE	88-05-1	A liquid. (EPA, 1998)	2.5	5.0	2.5	3260.0	326.0	1159.0	555.0	377.0	704.0	74.0	259.0	131.0	80.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1551	ANISOLE	ANISOL|ANISOLE|METHOXYBENZENE|METHYL PHENYL ETHER|PHENOXYMETHANE|PHENYL METHYL ETHER	100-66-3	A clear straw-colored liquid with an aromatic odor. Insoluble in water and the same density as water. Vapors heavier than air. Moderately toxic by ingestion. A skin irritant. Used to make perfumes, flavorings and as a solvent.	2.5	5.0	2.5	3263.0	326.0	1159.0	555.0	377.0	705.0	74.0	259.0	131.0	80.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1552	ANTHRALIN	ANTHRA-DERM|ANTHRALIN|ANTHRONE, 1,8-DIHYDROXY-|BATRIDOL|BATRIDROL|CHRYSODERMOL|CIGNOLIN|CIGTHRANOL|CYGNOLIN|DERMALINE|DEROBIN|1,8-DIHYDROXY-9(10H)-ANTHRACENONE|1,8-DIHYDROXY-9-ANTHRONE|1,8-DIHYDROXY-ANTHRONE|1,8-DIHYDROXYANTHRONE|DITHRANOL|LASAN|PSORIACID-STIFT|PSORIACIDE	1143-38-0	PHYSICAL DESCRIPTION: Lemon yellow leaflets or plates or an orange powder. Melting point 176-181Â°C. No odor or taste. Insoluble in water. Moderately toxic by ingestion, inhalation and skin absorption. Used as a treatment for psoriasis.	1.0	2.5	5.0	3263.0	326.0	1159.0	555.0	377.0	705.0	74.0	259.0	131.0	80.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1553	ANTIMONY POTASSIUM TARTRATE	ANTIMONATE(1-), AQUA[TARTRATO(4-)]-, POTASSIUM, SESQUIHYDRATE, DIMER|ANTIMONATE(1-), OXO(TARTRATO)-, POTASSIUM SESQUIHYDRATE, DIMER|ANTIMONATE(2)-, BIS(MU-TARTRATO(4-))DI-, DIPOTASSIUM, TRIHYDRATE|ANTIMONATE (2-), BIS[MU-TARTRATO(4-)]DI-, DIPOTASSIUM, TRIHYDRATE|ANTIMONATE (2-), BIS[MU-[2,3-DIHYDROXYBUTANEDIOATO(4-)-O1,O2:O3,O4]]DI-, DIPOTASSIUM, TRIHYDRATE, STEREOISOMER|ANTIMONY POTASSIUM TARTRATE|ANTIMONY POTASSIUM TARTRATE, [SO.LID]|ANTIMONY POTASSIUM TATRATE SOLID|ANTIMONYL POTASSIUM TARTRATE|ANTIMONYL	28300-74-5	Antimony potassium tartrate solid is a colorless crystalline solid or a white powder. It is soluble in water. It is used in textile and leather processing and as an insecticide.	1.0	2.5	5.0	3263.0	326.0	1159.0	555.0	377.0	705.0	74.0	259.0	131.0	80.0	Treat burns caused by hot liquid. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Water fog, carbon dioxide, or dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1549	ANILINE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Soluble in water.	CYCLOHEXANONE forms an explosive peroxide with H2O2, and reacts vigorously with oxidizing materials (nitric acid). (NTP, 1992)	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		111		(NTP, 1992)		1.2		%	(NTP, 1992)		8.1		%	(USCG, 1999)		788		(NTP, 1992)		3	
1550	ANILINE, 2,4,6-TRIMETHYL-	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water. Decomposes slowly in water with the evolution of chlorine gas.	LITHIUM HYPOCHLORITE is a powerful oxidizing agent, particularly in the presence of water or at higher temperature as it decomposes to release oxygen and chlorine gases. Forms highly explosive NCl3 on contact with urea or ammonia. When heated or on contact with acids, it produces highly toxic fumes of chlorine gas [Sax, 9th ed., 1996, p. 1905].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1551	ANISOLE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Deliquescent. Soluble in water.	LITHIUM NITRATE is an oxidizing agent. Mixtures with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979. p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1552	ANTHRALIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere. Store it under refrigeration. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Soluble in water.	Acidic organic/inorganic salts, such as 3,3'-DIMETHYLBENZIDINE DIHYDROCHLORIDE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																							
1553	ANTIMONY POTASSIUM TARTRATE		Goggles or face shield; protective clothing, if exposure to hot liquid is possible. (USCG, 1999)	Insoluble in water.	TALLOW reacts with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		509													(USCG, 1999)		45	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solhhy_source	solhhy_note	solhhy_value	solhhy_range	solhhy_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1549	ANILINE HYDROCHLORIDE	(NTP, 1992)	1 10 mm Hg at 101.3° F	5.2		77		mm Hg	(NTP, 1992)	3.4				(USCG, 1999)		0.945		68		(NTP, 1992)		312.1		700		(NTP, 1992)		98.16		(NIOSH, 2003)		700	ppm	(NTP, 1992)		at 64.3° F		50 to 100	mg/mL		CCH	Flammable Liquid	C6H10O			7.0	0.0	13.0	3.0	3.0
1550	ANILINE, 2,4,6-TRIMETHYL-																																							Oxidizer	C8O3.Li	Cellulose-Based AbsorbentsExp Polymeric Absorbents	8.0	0.0	16.0	3.0	3.0
1551	ANISOLE																																							Oxidizer	HNO3.Li	Cellulose-Based AbsorbentsExp Polymeric Absorbents	9.0	0.0	41.0	3.0	3.0
1552	ANTHRALIN																									(NTP, 1992)		285.24						(NTP, 1992)		at 72.5° F		10 to 50	mg/mL				C14H10N2.2ClH			9.0	0.0	15.0	3.0	3.0
1553	ANTIMONY POTASSIUM TARTRATE	(USCG, 1999)		5.17				mm Hg						(USCG, 1999)	(est.)	0.87		176		(USCG, 1999)	Very high																		TLO					9.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1554	ANTIMONY TRIFLUORIDE, SOLID	ANTIMONOUS FLUORIDE|ANTIMONY FLUORIDE (SbF3)|ANTIMONY TRIFLUORIDE|ANTIMONY TRIFLUORIDE, SOLID|ANTIMONY TRIFLUORIDE, [SOLID]|ANTIMONY(3+) FLUORIDE|TRIFLUOROANTIMONY|TRIFLUOROSTIBINE	7783-56-4	Antimony trifluoride, solid is a white to gray crystalline solid. It is corrosive to tissue. It is used in ceramics and to make other chemicals.	1.0	2.5	5.0	3266.0	326.0	1159.0	555.0	377.0	706.0	74.0	259.0	131.0	80.0	Get medical attention immediately following all exposures to this compound. INHALATION: remove from exposure; support respiration. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating, toxic hydrogen chloride and phosgene may be generated in a fire. Behavior in Fire: Difficult to extinguish. Re-ignition may occur. Water applied to adjacent fires will produce hydrogen chloride upon contact with this material. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1555	ANTIMONY TRIFLUORIDE, SOLUTION	ANTIMONOUS FLUORIDE|ANTIMONY FLUORIDE (SbF3)|ANTIMONY TRIFLUORIDE|ANTIMONY TRIFLUORIDE SOLUTION|ANTIMONY TRIFLUORIDE, SOLUTION|ANTIMONY(3+) FLUORIDE|TRIFLUOROANTIMONY|TRIFLUOROSTIBINE	7783-56-4	Antimony trifluoride solution is the white to gray crystalline solid dissolved in water. It is corrosive to metals and tissue. It is used in ceramics and to make other chemicals.	1.0	2.5	5.0	3266.0	326.0	1159.0	555.0	377.0	706.0	74.0	259.0	131.0	80.0	(BLOB)	When exposed to heat, it emits toxic fumes, including nitrogen oxides. (EPA, 1998)	(Non-Specific -- Fungicides, Poison B Solid) Avoid breathing dusts and fumes from burning material. Keep upwind. Wear self-contained breathing apparatus. Avoid bodily contact with the material. Wear full protective clothing, (Non-Specific -- Fungicides, Poison B Solid) Use agent suitable for surrounding fire. Use alcohol foam, carbon dioxide, or dry chemical. Use water in flooding quantities as fog. (EPA, 1998)
1556	ARSENIC TRIOXIDE	ARSENIC (III) OXIDE|ARSENIC OXIDE|ARSENIC OXIDE (ASO1.5)|ARSENIC SESQUIOXIDE|ARSENIC SESQUIOXIDE (AS2O3)|ARSENIC TRIOXIDE|ARSENIC TRIOXIDE, SOLID|ARSENIC TRIOXIDE, [SOLID]|ARSENIC(III) OXIDE|ARSENICUM ALBUM|ARSENIOUS ACID|ARSENIOUS OXIDE|ARSENIOUS TRIOXIDE|ARSENITE|ARSENOLITE|ARSENOUS ACID|ARSENOUS ACID ANHYDRIDE|ARSENOUS ANHYDRIDE|ARSENOUS OXIDE|ARSENOUS OXIDE ANHYDRIDE|ARSODENT|CLAUDELITE|CLAUDETITE|CRUDE ARSENIC|DIARSENIC TRIOXIDE|WHITE ARSENIC	1327-53-3	White or transparent, glassy amorphous lumps or crystalline powder. Slightly soluble in water, but dissolves very slowly; more soluble in hot water. Noncombustible. Corrosive to metals in the presence of moisture. Toxic by ingestion.	1.0	2.5	5.0	3269.0	326.0	1159.0	555.0	377.0	707.0	74.0	259.0	131.0	80.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1557	AURAMINE O	ADC AURAMINE O|AIZEN AURAMINE|AIZEN AURAMINE CONC. SFA|AIZEN AURAMINE CONC.SFA|AIZEN AURAMINE OH|AIZEN AURAMINE OW 100|ARAZINE YELLOW|AURAMIN|AURAMINE|AURAMINE 0-100|AURAMINE A1|AURAMINE CHLORIDE|AURAMINE CONC. SPECIALLY SOLUBLE IN SPIRIT|AURAMINE EXTRA|AURAMINE EXTRA CONC. A|AURAMINE FA|AURAMINE FWA|AURAMINE HYDROCHLORIDE|AURAMINE II|AURAMINE LAKE YELLOW O|AURAMINE N|AURAMINE O|AURAMINE O (BIOLOGICAL STAIN)|AURAMINE O EXTRA CONC. A EXPORT|AURAMINE ON|AURAMINE OO|AURAMINE	2465-27-2	PHYSICAL DESCRIPTION: Yellow flakes or powder. (NTP, 1992)	1.0	2.5	5.0	3272.0	326.0	1159.0	561.0	377.0	708.0	74.0	259.0	133.0	80.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1558	BARIUM OXIDE	BARIA|BARIUM MONOXIDE|BARIUM OXIDE|BARIUM OXIDE (BA2O2)|BARYTA	1304-28-5	A white to yellow powder. May be toxic by ingestion. Irritates skin, eyes and mucous membranes. Used as a drying agent for gasoline and solvents.	1.0	2.5	5.0	3272.0	326.0	1159.0	561.0	377.0	708.0	74.0	259.0	133.0	80.0	INGESTION: if large amounts are swallowed, induce vomiting; treat symptomatically. EYES or SKIN: flush with water; get medical attention if ill effects develop. (USCG, 1999)	Special Hazards of Combustion Products: Acrid fumes of acids and aldehydes may form in fires. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: ``Alcohol'' foam, dry chemical, carbon dioxide (USCG, 1999)
1559	BARIUM PEROXIDE	BARIUM BINOXIDE|BARIUM DIOXIDE|BARIUM OXIDE (BAO2)|BARIUM PEROXIDE|BARIUM SUPEROXIDE	1304-29-6	A grayish-white granular solid. Insoluble in water. Noncombustible, but accelerates the burning of combustible material. Mixture with finely divided combustible material may be explosive. Mixtures with combustible material may be ignited by friction or contact with moisture.	1.0	2.5	5.0	3272.0	329.0	1162.0	561.0	380.0	708.0	75.0	260.0	133.0	81.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1554	ANTIMONY TRIFLUORIDE, SOLID	(BLOB)	Acid-vapor type air respirator; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect skin and eyes. (USCG, 1999)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. on contact with air it gives off HCl gas. REF [Handling Chemicals Safely, 1980 p. 924]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 12 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 144 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as CYCLOHEXENYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases. Special Hazards of Combustion Products: Irritating, toxic hydrogen chloride and phosgene may be generated in a fire.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1762 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 150														(USCG, 1999)			less than 77
1555	ANTIMONY TRIFLUORIDE, SOLUTION	(Non-Specific -- Fungicides, Poison B Solid) Avoid breathing dusts. Keep upwind. Avoid bodily contact with the material. Material is rapidly inactivated at room temperature by dilute alkali. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	CYCLOHEXIMIDE is an imide. This chemical is incompatible with strong oxidizing agents, acid chlorides and acid anhydrides. It decomposes rapidly in alkali at room temperature. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)			247 to 250
1556	ARSENIC TRIOXIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas. REF [Handling Chemicals Safely, 1980 p. 924]. Cyclohexyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 12 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 144 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as CYCLOHEXYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1763 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NFPA, 2010)		196																			
1557	AURAMINE O	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This material may be sensitive to prolonged exposure to air, light and moisture. Insoluble in water.	3,4-DICHLOROBENZALDEHYDE is incompatible with strong oxidizers and strong bases. It may also be incompatible with iron. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235														(NTP, 1992)			106 to 111
1558	BARIUM OXIDE		Plastic gloves; safety glasses or face shield (USCG, 1999)	Water soluble.	TRIPROPYLENE GLYCOL is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. May attack some forms of plastics (USCG, 1999).			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		285		(USCG, 1999)	(est.)	0.8		%	(USCG, 1999)	(est.)	5		%					(USCG, 1999)		-49	
1559	BARIUM PEROXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	3,4-XYLIDINE ignites on contact with fuming nitric acid (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		209														(NTP, 1992)			124	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1554	ANTIMONY TRIFLUORIDE, SOLID														(USCG, 1999)		1.23		68		(USCG, 1999)			greater than 300	760		(USCG, 1999)		215.6											CHT	Corrosive	C6H9Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	12.0	3.0	3.0
1555	ANTIMONY TRIFLUORIDE, SOLUTION																																		(NTP, 1992)	at 68Â° F		10 to 50	mg/mL		Poison	C15H23NO4		5.0	0.0	12.0	3.0	3.0
1556	ARSENIC TRIOXIDE																																								Corrosive	C6H11Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	18.0	3.0	3.0
1557	AURAMINE O																				(NTP, 1992)			477 to 478	760		(NTP, 1992)		175.02						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Corrosive	C7H4Cl2O	Cellulose-Based Absorbents	7.0	0.0	34.0	3.0	3.0
1558	BARIUM OXIDE														(USCG, 1999)		1.022		68		(USCG, 1999)			523	760		(USCG, 1999)		192.26											TGC		C9H20O4	Cellulose-Based Absorbents	9.0	0.0	17.0	3.0	3.0
1559	BARIUM PEROXIDE														(NTP, 1992)		1.076		64		(NTP, 1992)			442	760		(NTP, 1992)		121.2						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C8H11N		9.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1560	BARIUM SELENITE	BARIUM SELENITE|BARIUM SELENITE (BASEO3)|SELENIOUS ACID (H2SEO3), BARIUM SALT (1:1)	13718-59-7		1.0	2.5	5.0	3275.0	329.0	1162.0	561.0	380.0	709.0	75.0	260.0	133.0	81.0	(BLOB)	Special Hazards of Combustion Products: Phosgene and hydrogen chloride fumes may form in fires. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
1561	BENOMYL	AGROCIT|ARBORTRINE|ARILATE|BBC 6597|BENEX|BENLAT|BENLATE|BENLATE 50|BENLATE 50W|BENLATE 50W|BENOMYL|BENOMYL 50W|BENOMYL-IMEX|BENOSAN|2-BENZIMIDAZOLECARBAMIC ACID, 1-(BUTYLCARBAMOYL)-, METHYL ESTER|BNM|1-(BUTYLCARBAMOYL)-2-BENZIMIDAZOLECARBAMIC ACID, METHYL ESTER|CARBAMIC ACID, METHYL-, 1-(BUTYLCARBAMOYL)-2-BENZIMIDAZOLE ESTER|D 1991|DU PONT 1991|F1991|FIBENZOL|FUNDASOL|FUNDAZOL|FUNDAZOL 50WP|FUNGICIDE 1991|FUNGICIDE D-1991|FUNGOCHROM|MBC|METHYL 1-((BUTYLAMINO)CARBONYL)-1H-BENZIMIDAZOL-2-YL CARBAMATE|METHYL 1-	17804-35-2	PHYSICAL DESCRIPTION: Colorless to white crystals or off-white powder. Faint acrid odor. (NTP, 1992)	1.0	2.5	5.0	3278.0	329.0	1162.0	561.0	380.0	710.0	75.0	260.0	133.0	81.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1562	BENZAMIDE	BENZAMIDE|BENZENECARBOXAMIDE|BENZOIC ACID AMIDE|BENZOYLAMIDE|PHENYLCARBOXAMIDE|PHENYLCARBOXYAMIDE	55-21-0	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	3278.0	329.0	1162.0	561.0	380.0	710.0	75.0	260.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1563	BENZANTHRONE	1,9-BENZ-10-ANTHRONE|BENZANTHRENONE|BENZANTHRONE|BENZANTHRONE DYE|BENZOANTHRONE|7H-BENZ(DE)ANTHRACEN-7-ONE|7H-BENZ(DE)ANTHRACENE-1-ONE|7H-BENZ(DE)ANTHRACENE-7-ONE|7H-BENZO(DE)ANTHRACEN-7-ONE|MESOBENZANTHRONE|MS-BENZANTHRONE|NAPHTHANTHRONE|7-OXOBENZ(DE)ANTHRACENE|7-OXOBENZ[DE]ANTHRACENE	82-05-3	PHYSICAL DESCRIPTION: Yellow needles. (NTP, 1992)	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	This compound is flammable. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1564	BENZENE PHOSPHORUS DICHLORIDE	BENZENE PHOSPHORUS DICHLORIDE|DICHLOROPHENYLPHOSPHINE|PHENYL PHOSPHORUS DICHLORIDE|PHENYLDICHLOROPHOSPHINE|PHENYLPHOSPHINE DICHLORIDE|PHENYLPHOSPHINOUS DICHLORIDE|PHENYLPHOSPHONOUS ACID DICHLORIDE|PHENYLPHOSPHONOUS DICHLORIDE|PHENYLPHOSPHORUS DICHLORIDE|PHOSPHINE, DICHLOROPHENYL-	644-97-3	A colorless, fuming liquid. Density 1.32 g / cm3. Flash point 102Â°C. Corrosive to metals and tissue.	2.5	5.0	2.5	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1565	BENZENE PHOSPHORUS OXYDICHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	BENZENE PHOSPHORUS OXYDICHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	824-72-6	A colorless reactive liquid. Severely irritates skin, eyes, and mucous membranes.	2.5	5.0	2.5	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1560	BARIUM SELENITE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. This compound is sensitive to air, light and moisture. Heat contributes to instability. Insoluble in water.	1,2-DICHLOROETHYLENE reacts violently with sodium, sodium hydroxide, copper and copper alloys. It can react with caustic alkynes or their concentrated solutions. It forms explosive mixtures with N2O4. It is incompatible with strong oxidizers. It is corrosive to metals. It attacks some forms of plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	2	5		(NTP, 1992)		39		(NTP, 1992)		9.7		%	(NTP, 1992)		12.8		%	(USCG, 1999)		860		(NTP, 1992)		-71	
1561	BENOMYL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	CYHALOTHRIN is a trifluoromethyl pyrethrine derivative. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1562	BENZAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It may be sensitive to prolonged exposure to air.	3-AMINO-4-METHYLPHENOL reacts with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		313 to 315
1563	BENZANTHRONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time PVA Edmont 25-545 0.81 mm 120 min (NTP, 1992)	Highly flammable. Oxidizes in air to form unstable peroxides that may explode spontaneously. Insoluble in water.	1,2-DICHLOROETHYLENE reacts with alkalis, difluoromethylene, dihypofluorite, and nitrogen tetraoxide. Contact with solid alkalis or their concentrated solutions will cause formation of chloroacetylene, which ignites in air. Avoid contact with copper and copper alloys. Corrosive to metals unless an inhibitor has been added. Oxidation in the presence of concentrated sulfuric acid or a free radical initiator gives chloroacetyl chloride via epoxide intermediates. Incompatible with organic peroxides (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1,2-dichloroethylene (mixed isomers). CAS number 540-59-0.	1	3	2	5		(NTP, 1992)		43		(NTP, 1992)		9.7		%	(NTP, 1992)		12.8		%	(NTP, 1992)		860		(NTP, 1992)		-58	
1564	BENZENE PHOSPHORUS DICHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	L-TAURINE is an amino acid found in combination with bile acids [Hawley].						0																					(NTP, 1992)	(decomposes)	572	
1565	BENZENE PHOSPHORUS OXYDICHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slighly soluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																					(NTP, 1992)	(Decomposes)		554 to 558

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1560	BARIUM SELENITE	(NTP, 1992)			180 to 265	68		mm Hg	(NTP, 1992)		3.34				(USCG, 1999)		1.27		77		(NTP, 1992)			118 to 140	760		(NTP, 1992)		96.94		(NIOSH, 2003)	(as mixed isomers)	1000	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	DEL	Flammable Liquid	C2H2Cl2	Dirt/Earth	8.0	0.0	13.0	3.0	3.0
1561	BENOMYL																																								Poison	C23H19ClF3NO3	Dirt/Earth	9.0	0.0	19.0	3.0	3.0
1562	BENZAMIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		123.16												Poison	C7H9NO		8.0	0.0	17.0	3.0	3.0
1563	BENZANTHRONE	(NTP, 1992)	; 400 mm Hg at 87.4Â° F	200		57		mm Hg	(NTP, 1992)		3.34				(NTP, 1992)		1.2743		77		(NTP, 1992)		117		745		(NTP, 1992)		96.95		(NIOSH, 2003)	(as mixed isomers)	1000	ppm	(NTP, 1992)	at 64Â° F		less than 1	mg/mL	DEL	Flammable Liquid	C2H2Cl2	Dirt/Earth	6.0	0.0	11.0	3.0	3.0
1564	BENZENE PHOSPHORUS DICHLORIDE																										(NTP, 1992)		125.15						(NTP, 1992)	at 74.3Â° F		50 to 100	mg/mL			NH2CH2CH2SO3H	Mineral-Based & Clay-Based Absorbents	6.0	0.0	14.0	3.0	3.0
1565	BENZENE PHOSPHORUS OXYDICHLORIDE (CORROSIVE LIQUIDS, N.O.S.)																										(NTP, 1992)		204.25						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C11H12N2O2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1566	BENZENE, 1-(CHLOROMETHYL)-4-NITRO-	ALPHA-CHLORO-P-NITROTOLUENE|ALPHA-CHLORO-4-NITROTOLUENE|ALPHA-CHLORO-NITROTOLUENE|ALPHA-CHLORO-P-NITROTOLUENE|BENZENE, 1-(CHLOROMETHYL)-4-NITRO-|1-(CHLOROMETHYL)-4-NITROBENZENE|4-(CHLOROMETHYL)NITROBENZENE|1-CHLOROMETHYL-4-NITROBENZENE|4-NITROBENZYL CHLORIDE|4-NITROPHENYLMETHYL CHLORIDE|P-(CHLOROMETHYL)NITROBENZENE|P-NITROBENZYL CHLORIDE|TOLUENE, ALPHA-CHLORO-P-NITRO-	100-14-1	Solid. (EPA, 1998)	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1567	BENZENESULFONIC ACID	17-120A|BENZENEMONOSULFONIC ACID|BENZENESULFONIC ACID|BENZENESULFONIC ACID (SURFACTANT)|BENZENESULPHONIC ACID|BESYLIC ACID|PHENYLSULFONIC ACID	98-11-3	Deliquescent needles or large plates.	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases may be generated. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1568	BENZENESULFONYL CHLORIDE	BENZENE SULFOCHLORIDE|BENZENESULFONECHLORIDE|BENZENESULFOCHLORIDE|BENZENESULFONIC (ACID) CHLORIDE|BENZENESULFONIC CHLORIDE|BENZENESULFONYL CHLORIDE|BENZENESULPHONYL CHLORIDE|PHENYLSULFONYL CHLORIDE	98-09-9	A colorless to slightly yellow solid that melts at approximately 40Â°F. Very irritating to skin, eyes and mucous membranes. May emit toxic fumes when heated to high temperatures. Used to make dyes and other chemicals.	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1569	BENZIDINE-2,2'-DISULFONIC ACID	BENZIDINE, 2,2'-DISULFO-|BENZIDINE-2,2'-DISULFONIC ACID|2,2'-BENZIDINEDISULFONIC ACID|6,6'-BIMETANILIC ACID|(1,1'-BIPHENYL)-2,2'-DISULFONIC ACID, 4,4'-DIAMINO-|4,4'-BIPHENYLDISULFONIC ACID, 2,2'-DIAMINO-|2,2'-BIPHENYLDISULFONIC ACID, 4,4'-DIAMINO-|4,4'-DIAMINO-(1,1'-BIPHENYL)-2,2'-DISULFONIC ACID|4,4'-DIAMINO-2,2'-BIPHENYLDISULFONIC ACID|2,2'-DIAMINO-4,4'-BIPHENYLDISULFONIC ACID|4,4'-DIAMINOBIPHENYL-2,2'-DISULFONIC ACID|4,4'-DIAMINODIPHENYL-2,2'-DISULFONIC ACID|2,2'-DISULFO-4,4'-DIAMINOBIPHENYL|2,2'-DISULFOBENZIDINE	117-61-3	PHYSICAL DESCRIPTION: Leaflets or prisms or light purple powder. (NTP, 1992)	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1570	BENZIMIDAZOLE	3-AZAINDOLE|AZINDOLE|BENZIMIDAZOLE|BENZIMINAZOLE|1,3-BENZODIAZOLE|BENZOGLYOXALINE|BENZOIMIDAZOLE|BZI|1,3-DIAZAINDENE|1H-BENZIMIDAZOLE|N,N'-METHENYL-O-PHENYLENEDIAMINE|NSC 759|O-BENZIMIDAZOLE	51-17-2	PHYSICAL DESCRIPTION: White tabular crystals. (NTP, 1992)	1.0	2.5	5.0	3281.0	332.0	1165.0	561.0	380.0	711.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1566	BENZENE, 1-(CHLOROMETHYL)-4-NITRO-	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3-AMINO-6-METHYLPHENOL reacts with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)	(sublimes)		320 to 347
1567	BENZENESULFONIC ACID	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air supply in confined area, rubber gloves, chemical goggles, protective coveralls and rubber footwear. (USCG, 1999)	Highly flammable. Insoluble in water.	1,2-DICHLOROPROPANE reacts with strong oxidizers and strong acids. It also reacts with aluminum. When confined, this reaction can lead to an explosion. It is incompatible with bases and aluminum alloys. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		60		(NTP, 1992)		3.4		%	(NTP, 1992)		14.5		%	(USCG, 1999)	1035		(NTP, 1992)		-148	
1568	BENZENESULFONYL CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound may be sensitive to exposure to air and light. Insoluble in water.	Acidic salt of an amine. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)			223 to 234
1569	BENZIDINE-2,2'-DISULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble [Hawley].	3-AMINOBENZENE SULFONIC ACID is an amino acid. Reacts weakly with both acids and bases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)	Decomposes without melting		
1570	BENZIMIDAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Latex Ansell 4107 0.13 mm 480 min (NTP, 1992)	Dust may form an explosive mixture in air. Water soluble. Hydrolysis occurs in strongly basic solutions (NTP, 1992).	3'-AZIDO-3'-DEOXYTHYMIDINE is a azido compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.					0																					(NTP, 1992)			223 to 234

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1566	BENZENE, 1-(CHLOROMETHYL)-4-NITRO-																										(NTP, 1992)		123.16						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C7H9NO		9.0	0.0	12.0	3.0	3.0
1567	BENZENESULFONIC ACID	(NTP, 1992)	; 42 mm Hg at 68Â° F	40		66.9		mm Hg	(NTP, 1992)		3.9				(USCG, 1999)		1.158		68		(NTP, 1992)			203 to 205	760		(NTP, 1992)		112.99						(NTP, 1992)	at 70.7Â° F		less than 0.1	mg/mL	DPP	Flammable Liquid	C3H6Cl2		8.0	0.0	21.0	3.0	3.0
1568	BENZENESULFONYL CHLORIDE																										(NTP, 1992)		246.76						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C14H14N2.ClH(C14H14N2.xClH		9.0	0.0	31.0	3.0	3.0
1569	BENZIDINE-2,2'-DISULFONIC ACID														(NTP, 1992)		1.69										(NTP, 1992)		173.19						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C6H7NO3S	Mineral-Based & Clay-Based Absorbents	5.0	0.0	22.0	3.0	3.0
1570	BENZIMIDAZOLE																										(NTP, 1992)		267.24						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL			C10H13N5O4	Cellulose-Based Absorbents	9.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1571	BENZONITRILE	BENZENE, CYANO-|BENZENENITRILE|BENZOIC ACID NITRILE|BENZONITRIL|BENZONITRILE|CYANOBENZENE|PHENYL CYANIDE|PHENYLCYANIDE	100-47-0	A clear colorless liquid with an almond-like odor. Flash point 161Â°F. Denser (at 8.4 lb / gal) than water and slightly soluble in water. Used as a specialty solvent and to make other chemicals.	2.5	5.0	2.5	3284.0	332.0	1165.0	561.0	380.0	712.0	76.0	261.0	133.0	81.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1572	BENZOTRICHLORIDE	ALPHA,ALPHA,ALPHA-TRICHLOROTOLUENE|BENZENE,(TRICHLOROMETHYL)-|BENZENYL CHLORIDE|BENZENYL TRICHLORIDE|BENZOIC TRICHLORIDE|BENZOTRICHLORIDE|BENZOTRIFLUORIDE|BENZYL TRICHLORIDE|BENZYLIDYNE CHLORIDE|OMEGA,OMEGA,OMEGA-TRICHLOROTOLUENE|OMEGA,OMEGA,OMEGA-TRICHLOROTOLUENE|PHENYL TRICHOROMETHANE|PHENYLCHLOROFORM|PHENYLTRICHLOROMETHANE|TOLUENE TRICHLORIDE|TOLUENE, ALPHA,ALPHA,ALPHA-TRICHLORO|TOLUENE, ALPHA,ALPHA,ALPHA-TRICHLORO-|1-(TRICHLOROMETHYL) BENZENE|(TRICHLOROMETHYL)BENZENE|1-(TRICHLOROMETHYL)BENZ	98-07-7	A clear colorless to yellowish colored liquid with a penetrating odor. Denser than water and vapors are heavier than air. May be toxic by inhalation or ingestion. Burns skin, eyes, and mucous membranes. Insoluble in water. Used to make dyes and other chemicals.	2.5	5.0	2.5	3287.0	332.0	1165.0	561.0	380.0	713.0	76.0	261.0	133.0	81.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1573	BENZOTRIFLUORIDE	ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|BENZENYL FLUORIDE|BENZOTRIFLUORIDE|BENZYLIDYNE FLUORIDE|OMEGA-TRIFLUOROTOLUENE|OPHENYLFLUOROFORM|PHENYFLUOROFORM|PHENYLFLUOROFORM|TOLUENE, ALPHA,ALPHA,ALPHA-TRIFLUORO-|(TRIFLUOROMETHYL),BENZENE|1',1',1'-TRIFLUOROTOLUENE|USAFMA-16	98-08-8	A clear colorless liquid with an aromatic odor. Flash point of 54Â°F. Vapors are heavier than air. Insoluble in water and slightly denser than water. May be toxic by inhalation.	2.5	5.0	2.5	3290.0	332.0	1165.0	561.0	380.0	714.0	76.0	261.0	133.0	81.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1574	BENZYL PHENYLACETATE	ACETIC ACID, PHENYL-, BENZYL ESTER|BENZENEACETIC ACID, PHENYLMETHYL ESTER|BENZYL ALPHA-TOLUATE|BENZYL BENZENEACETATE|BENZYL PHENYLACETATE|PHENYLACETIC ACID, BENZYL ESTER	102-16-9	PHYSICAL DESCRIPTION: Clear colorless liquid with a honey-like odor. (NTP, 1992)	2.5	5.0	2.5	3293.0	332.0	1165.0	561.0	380.0	715.0	76.0	261.0	133.0	81.0	INHALATION: remove victim to fresh air; get medical attention if irritation persists. INGESTION: give large amount of water; induce vomiting; call a physician. EYES: flush with copious quantities of water for at least 15 min.; call physician. SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Can form explosive mixture with combustible material or finely powdered metals. Increases the intensity of fires. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1575	BENZYL SALICYLATE	BENZOIC ACID, 2-HYDROXY-, PHENYLMETHYL ESTER|BENZYL 2-HYDROXYBENZOATE|BENZYL O-HYDROXYBENZOATE|BENZYL SALICYLATE|2-HYDROXYBENZOIC ACID, PHENYLMETHYL ESTER|SALICYLIC ACID, BENZYL ESTER	118-58-1	PHYSICAL DESCRIPTION: Colorless liquid. Melting point near room temperature (18-20Â°C). (NTP, 1992)	2.5	5.0	2.5	3296.0	332.0	1165.0	561.0	380.0	716.0	76.0	261.0	133.0	81.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1571	BENZONITRILE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	An aqueous solution.	MAGNESIUM BISULFITE SOLUTION generates gaseous toxic sulfur dioxide in contact with oxidizing acids and nonoxidizing acids. Reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Can react explosively with strong oxidizing agents.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1572	BENZOTRICHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	MAGNESIUM BROMATE is an oxidizing agent. May cause ignition in contact with organic materials. A combination of finely divided aluminum with finely divided magnesium bromate can explode by heat, percussion, or friction [Mellor 2:310. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1573	BENZOTRIFLUORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	MAGNESIUM CHLORATE is a powerful oxidizer. Explosive reaction with copper(I) sulfide. Incandescent reaction with antimony(III) sulfide, arsenic(III) sulfide, tin(II) sulfide, tin(IV) sulfide. Incompatible with Al, As, C, Cu, MnO2, organic matter, organic acids, P and S. [Lewis, 3rd Ed . 786] . Mixtures with ammonium salts, with powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979. p. 806]. A combination of finely divided aluminum and magnesium chlorate can explode by heat, percussion, or friction [Mellor 2:310. 1946-47].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1574	BENZYL PHENYLACETATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	U.S. Bu. Mines approved respirator; chemical safety goggles; face shield (USCG, 1999)	Deliquescent. Water soluble	MAGNESIUM PERCHLORATE is a strong oxidizing agent. Decomposes at 185-190Â°C [Hawley]. Noncombustible but accelerates the burning of combustible materials. If large quantities are involved in the fire or the combustible material is finely divided an explosion may result. Avoid contact with mineral acids because of the danger of explosion. In the preparation of anhydrous dimethyl sulfoxide by vacuum distillation from anhydrous magnesium perchlorate, an explosion occurred [MCA Case History 1187, 1966]. Drying ethylene oxide with magnesium perchlorate resulted in an explosion [NSC Newsletter. Chem. Soc. 1959]. Magnesium perchlorate used in drying hydrocarbons exploded when heated to 220Â°C [Ind. & Eng. News 17:70. 1939]. As soon as trimethyl phosphite contacted a small amount of magnesium perchlorate in a flask, there was a flash and an explosion that shattered the flask [Allison 1968].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1575	BENZYL SALICYLATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water and slowly decomposed by water, liberating oxygen.	Mixtures of combustible material and the peroxide can be ignited with friction or moisture. Water gradually decomposes it liberating oxygen, with dilute acids it forms hydrogen peroxide, when strongly heated it losses all peroxide oxygen [Merck 11th ed. 1989].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1571	BENZONITRILE																																								Corrosive	Mg(HSO3)2 (aqueous)		7.0	0.0	15.0	3.0	3.0
1572	BENZOTRICHLORIDE																																								Oxidizer	Mg(BrO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	19.0	3.0	3.0
1573	BENZOTRIFLUORIDE																																								Oxidizer	Mg(ClO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	21.0	3.0	3.0
1574	BENZYL PHENYLACETATE															(USCG, 1999)		2.21		68		(USCG, 1999)	Decomposes above 482.0Â° F					(USCG, 1999)		223.2										MPC	Oxidizer	Mg(ClO4)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	13.0	3.0	3.0
1575	BENZYL SALICYLATE																																								Oxidizer	MgO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	31.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1576	BENZYL VIOLET 4B	(BLOB)	1694-09-3	PHYSICAL DESCRIPTION: Fine black powder. (NTP, 1992)	1.0	2.5	5.0	3299.0	332.0	1165.0	561.0	380.0	717.0	76.0	261.0	133.0	81.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CARTRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1577	BENZYLDIMETHYL(MIXED ALKYL)AMMONIUM CHLORIDE	ALKYLBENZYLDIMETHYLAMMONIUM CHLORIDES, BENZYL-C8-18-ALKYLDIMETHYL|ARQUAD B|ARQUAD B 100|ARQUAD B 50|BENZALKONIUM CHLORIDE|BENZYL-C8-18-ALKYLDIMETHYLAMMONIUM CHLORIDES|BENZYLDIMETHYL(MIXED ALKYL)AMMONIUM CHLORIDE|CATION F2 50|NISSAN CATION F2 50|ROCCAL|TRET-O-LITE XC 511|ZEPHIRAN CHLORIDE	63449-41-2	PHYSICAL DESCRIPTION: Colorless or yellowish powder or gummy amber solid. Aromatic odor. Very bitter taste. (NTP, 1992)	1.0	2.5	5.0	3299.0	332.0	1165.0	561.0	380.0	717.0	76.0	261.0	133.0	81.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled by dry chemical, carbon dioxide, and/or Halon extinguishers. (NTP, 1992)
1578	BIFENTHRIN	BIFENTHRIN	82657-04-3	Off-white to pale tan waxy solid with a very faint slightly sweet odor. Used as a broad spectrum insecticide.	1.0	2.5	5.0	3302.0	332.0	1165.0	561.0	380.0	718.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1579	BIPHENYL	BIBENZENE|BIPHENYL|1,1'-BIPHENYL|CAROLID AL|DIPHENYL|1,1'-DIPHENYL|LEMONENE|PHENADOR-X|PHENYL BENZENE|PHENYLBENZENE|PHPH|TETROSIN LY|XENENE	92-52-4	A clear colorless liquid with a pleasant odor. Flash point 180Â°F. Insoluble in water. Vapors are heavier than air. Used to manufacture other chemicals and as a fungicide.	2.5	5.0	2.5	3305.0	332.0	1165.0	561.0	380.0	719.0	76.0	261.0	133.0	81.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1580	BIS(2-(DIMETHYLAMINO)ETHYL) ETHER	A 133|A 99|A 99 (AMINE)|A99|A99 AMINE|BIS(2-DIMETHYLAMINOETHYL) ETHER (DMAEE)|BIS(2-(DIMETHYLAMINO)ETHYL)ETHER|1,5-BIS(DIMETHYLAMINO)-3-OXAPENTANE|BIS(DIMETHYLAMINOETHYL) ETHER|BIS[2-(DIMETHYLAMINO)ETHYL] ETHER|BL 19|DABCO BL 11|DABCO BL 19|DABCO BL 19|ETHYLAMINE, 2,2'-OXYBIS|N,N-DIMETHYL-|JEFFCAT ZF 20|JEFFCAT ZM 20|KALPUR PC|KAOLIZER 12|KAOLIZER 12P|MINICO TMDA|N,N,N',N'-TETRAMETHYL-3-OXAPENTANE-1,5-DIAMINE|N,N,N'â€™,N'â€™-TETRAMETHYL-2,2'â€™-OXYBIS(ETHYLAMINE)|NIAX A 1|NIAX A 99|NIAX A99|NIAXÂ® A99|NIAXÂ® CATALYST A1|NP 99|NSC 109887|2,2'-OXYBIS(N,N-DIMETHYL	3033-62-3	A clear or yellow liquid. Bp: 188Â°C. Toxic by inhalation, by skin absorption, ingestion, and eye contact.	2.5	5.0	2.5	3308.0	332.0	1165.0	561.0	380.0	720.0	76.0	261.0	133.0	81.0	(BLOB)	When heated to decomposition, malononitrile emits highly toxic fumes (cyanide). May polymerize violently on prolonged heating. Avoid heat. Hazardous polymerization may occur, at prolonged heating at 266F or contact with strong bases at lower temperatures. (EPA, 1998)	Move container from fire area if you can do it without risk. Wear positive pressure breathing apparatus and special protective clothing. Use dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1581	BIS(GLYCINATO) COPPER(II)	BIS(GLYCINATO) COPPER(II)|COPPER GLYCINATE|CUPRIC AMINO ACETATE|GLYCINE COPPER COMPLEX|GLYCOCOLL-COPPER	13479-54-4	Occurs as monohydrate and as dihydrate. The monohydrate is long deep-blue needles. The dihydrate is light blue powdery crystals.	1.0	2.5	5.0	3308.0	332.0	1168.0	561.0	380.0	720.0	76.0	262.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1576	BENZYL VIOLET 4B	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	3-CHLORO-4-DIETHYLAMINOBENZENEDIAZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1577	BENZYLDIMETHYL(MIXED ALKYL)AMMONIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Nitriles, such as D,L-2-METHYLGLUTARONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		259																			
1578	BIFENTHRIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	(BLOB)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1579	BIPHENYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	(BLOB)	Water soluble.	MALONALDEHYDE, SODIUM SALT is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. This chemical is sensitive to light and heat. Dilute aqueous solutions (1%) are stable when stored at -4Â° F in the dark for 7 days.						0																						(NTP, 1992)	(decomposes)	232	
1580	BIS(2-(DIMETHYLAMINO)ETHYL) ETHER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water.	MALONONITRILE is a white, low-melting powder (m. p. 30.5Â° C), toxic, combustible. Violent polymerization on contact with strong bases (sodium hydroxide, potassium hydroxide) or when heated above 130Â° C. When stored at 70-80Â° C for 2 months, spontaneous explosion (decomposition) occurred [Bretherick, 5th ed., 1995, p. 394].	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		266																		(EPA, 1998)		90	
1581	BIS(GLYCINATO) COPPER(II)	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble. This chemical may be sensitive to heat and air (NTP, 1992).	A nitrated amine derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)			534 to 536

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1576	BENZYL VIOLET 4B																																								Flammable Solid	C10H13Cl4N3Zn		5.0	0.0	27.0	3.0	3.0
1577	BENZYLDIMETHYL(MIXED ALKYL)AMMONIUM CHLORIDE														(NTP, 1992)		0.95		68		(NTP, 1992)			257 to 266	10		(NTP, 1992)		108.14						(NTP, 1992)	at 70.7Â° F		10 to 50	mg/mL		Poison	C6H8N2		8.0	0.0	17.0	3.0	3.0
1578	BIFENTHRIN																										(NTP, 1992)		151.21						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C9H13NO	Mineral-Based & Clay-Based Absorbents	8.0	0.0	26.0	3.0	3.0
1579	BIPHENYL																										(NTP, 1992)		94.05		(NIOSH, 2003)	: A potential human carcinogen.			(NTP, 1992)	at 68.9Â° F		greater than or equal to 100	mg/mL			C3H3O2.Na	Cellulose-Based Absorbents	7.0	0.0	17.0	3.0	3.0
1580	BIS(2-(DIMETHYLAMINO)ETHYL) ETHER														(EPA, 1998)		1.191		68		(EPA, 1998)			424 to 426	760		(EPA, 1998)		66.07						(NTP, 1992)	at 72.5Â° F		greater than or equal to 100	mg/mL	PPD	Poison	C3H2N2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	15.0	3.0	3.0
1581	BIS(GLYCINATO) COPPER(II)																										(NTP, 1992)		314.26													C14H10N4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1582	BIS(TERT-BUTYLDIOXYISOPROPYL)BENZENE	ALPHA,ALPHA'-BIS(TERT-BUTYLPEROXY)DIISOPROPYLBENZENE|BIS(TERT-BUTYLDIOXY)DIISOPROPYLBENZENE|BIS(TERT-BUTYLDIOXYISOPROPYL)BENZENE|BIS(TERT-BUTYLPEROXYISOPROPYL)BENZENE|BIS[1-(TERT-BUTYLDIOXY)-1-METHYLETHYL]BENZENE|BIS(ALPHA-(TERT-BUTYLPEROXY)ISOPROPYL)BENZENE|DI-TERT-BUTYLPEROXY DIISOPROPYLBENZENE|E(VC)D 40|INTEROX DIPP 40|C/G|LUPERCO 802-40KE|LUPEROX 802|PERAKADOX 14-40B|PERBUTYL PT|PERHEXA F 40|PERKADOX 14|PERKADOX 14S|PERKADOX 14S-FL|PERKADOX 14SF|PEROXIDE, (PHENYLENEDIISOPROPYLIDENE)BIS[TERT-BUTYL]PEROXIDE (PHENYL	25155-25-3	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	3308.0	332.0	1168.0	561.0	380.0	720.0	76.0	262.0	133.0	81.0			
1583	BISMUTH OXYCHLORIDE	BASIC BISMUTH CHORIDE|BISMUTH CHLORIDE OXIDE|BISMUTH OXYCHLORIDE|BISMUTH SUBCHLORIDE|BISMUTHYL CHLORIDE|PEARL WHITE	7787-59-9	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	3311.0	332.0	1168.0	561.0	380.0	721.0	76.0	262.0	133.0	81.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
1584	BITOSCANATE	BISCOMATE|BITOSCANAT|BITOSCANATE|1,4-DIISOTHIOCYANATOBENZENE|ISOTHIOCYANIC ACID P-PHENYLENE ESTER|ISOTHIOCYANIC ACID, 1,4-PHENYLENEDI-|SOTHIOCYANIC ACID, P-PHENYLENE ESTER|ONIT|P-PHENYLENE BISISOTHIOCYANATE|P-PHENYLENE DIISOTHIOCYANATE|PHENYLENE THIOCYANATE|PHENYLENE-1,4-DIISOTHIOCYANATE|WM 842	4044-65-9	Odorless colorless crystals. Melting point 132Â°C.	1.0	2.5	5.0	3314.0	332.0	1171.0	561.0	380.0	722.0	76.0	263.0	133.0	81.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1585	BORNEOL	BICYCLO[2.2.1]HEPTAN-2-OL, 1,7,7-TRIMETHYL-, ENDO-|BORNEOL|(.+-.)-BORNEOL|2-BORNEOL,CAMPHOL|DL-BORNEOL|ENDO-(.+-.)-BORNAN-2-OL|ENDO-2-HYDROXY-1,7,7-TRIMETHYLNORBORNANE|ENDO-BORNEOL|2-ENDO-BORNYL ALCOHOL	507-70-0	A white colored lump-solid with a sharp camphor-like odor. Burns readily. Slightly denser than water and insoluble in water. Used to make perfumes.	1.0	2.5	5.0	3314.0	332.0	1171.0	561.0	380.0	722.0	76.0	263.0	133.0	81.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1586	BORON OXIDE	BORACIC ANHYDRIDE|BORIA|BORIA (B2O3)|BORIC ACID (HBO2), ANHYDRIDE|BORIC ACID ANHYDRIDE|BORIC ANHYDRIDE|BORIC OXIDE|BORIC OXIDE (B2O3)|BORON OXIDE|BORON SESQUIOXIDE|BORON TRIOXIDE|BORON(III) OXIDE|DIBORON TRIOXIDE|FUSED BORIC ACID	1303-86-2	Colorless, semi-transparent glassy lumps or hard white odorless crystals. Mp 450Â°C; bp: 1860Â°C. Density: 2.46 g cm-3. Moderately soluble in water. Used as an insecticide; as the starting material for the synthesis of other boron compounds; as a fluxing agent in enamels and glasses; and in mixture with 2-6% boron nitride, as a bonding agent in the hot isostatic pressing of boron nitride ceramics.	1.0	2.5	5.0	3314.0	332.0	1171.0	561.0	380.0	722.0	76.0	263.0	133.0	81.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1587	BORON TRIBROMIDE	BORON BROMIDE|BORON BROMIDE (BBR3)|BORON TRIBROMIDE|TRIBROMOBORANE|TRIBROMOBORON	10294-33-4	A colorless, fuming liquid with a pungent odor. Boiling point 194Â°F. Freezing point -51Â°F. Very toxic by inhalation. Corrosive to metals and tissue.	2.5	5.0	2.5	3314.0	332.0	1171.0	561.0	380.0	722.0	76.0	263.0	133.0	81.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1582	BIS(TERT-BUTYLDIOXYISOPROPYL)BENZENE			No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]								0																								
1583	BISMUTH OXYCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			178 to 180
1584	BITOSCANATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	3-IODO-2-PROPYNYL BUTYLCARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1585	BORNEOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	3-METHYL-6-METHOXY-2-AMINOBENZOTHIAZOLIUM CHLORIDE is sensitive to exposure to light. This chemical may be incompatible with oxidizing agents. (NTP, 1992)						0																						(NTP, 1992)	(decomposes)	527	
1586	BORON OXIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Phenols, such as 3-METHYLAMINO-4-METHYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.						0																												
1587	BORON TRIBROMIDE			Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1582	BIS(TERT-BUTYLDIOXYISOPROPYL)BENZENE																																									C27H29NO10	Mineral-Based & Clay-Based Absorbents	9.0	0.0	16.0	3.0	3.0
1583	BISMUTH OXYCHLORIDE																				(NTP, 1992)		644		760		(NTP, 1992)		185.23						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Poison	C12H11NO	Mineral-Based & Clay-Based Absorbents	8.0	0.0	21.0	3.0	3.0
1584	BITOSCANATE																																								Class 9	C8H12IN2O2	Dirt/Earth	8.0	0.0	12.0	3.0	3.0
1585	BORNEOL																				(NTP, 1992)		230.71				(NTP, 1992)		230.71						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C9H11N2OS.Cl	Mineral-Based & Clay-Based Absorbents	7.0	0.0	15.0	3.0	3.0
1586	BORON OXIDE																				(NTP, 1992)		137.19				(NTP, 1992)		137.19													C8H11NO	Mineral-Based & Clay-Based Absorbents	9.0	0.0	21.0	3.0	3.0
1587	BORON TRIBROMIDE																																									C3H7NS2.I2Mn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1588	BORON TRICHLORIDE	BORANE, TRICHLORO-|BORON CHLORIDE|BORON CHLORIDE (BCL3)|BORON CHLORIDE(BCL3)|BORON TRICHLORIDE|TRICHLOROBORANE|TRICHLOROBORON	10294-34-5	A colorless gas with a pungent odor. Fumes irritate the eyes and mucous membranes. Corrosive to metals and tissue and is toxic. Under prolonged exposure to fire or intense heat, the containers may rupture violently and rocket. Used as a catalyst in chemical manufacture, in soldering fluxes, and for many other uses.	5.0	1.0	1.0	3317.0	332.0	1171.0	561.0	380.0	723.0	76.0	263.0	133.0	81.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1589	BORON TRIFLUORIDE	ANCA 1040|BORANE, TRIFLUORO-|BORON FLUORIDE|BORON FLUORIDE (BF3)|BORON FLUORIDE(BF3)|BORON TRIFLUORIDE|BORON TRIFLUORIDE, COMPRESSED|TRIFLUOROBORANE|TRIFLUOROBORON	7637-07-2	Boron trifluoride is a colorless gas with a pungent odor. It is toxic by inhalation. It is soluble in water and slowly hydrolyzed by cold water to give off hydrofluoric acid, a corrosive material. Its vapors are heavier than air. Prolonged exposure of the containers to fire or heat may result in their violent rupturing and rocketing.	5.0	1.0	1.0	3317.0	332.0	1171.0	561.0	380.0	723.0	76.0	263.0	133.0	81.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
1590	BORON TRIFLUORIDE ACETIC ACID COMPLEX	ACETIC ACID COMPOUND WITH BORON TRIFLUORIDE (1:1)|ACETIC ACID, COMPOUND WITH BF3 (1:1)|ACETIC ACID, COMPOUND WITH BORON FLUORIDE (BF3)|BORATE(1-), (ACETATO-O)TRIFLUORO-, HYDROGEN, (T-4)-|BORON FLUORIDE (BF3), COMPOUND WITH ACETIC ACID|BORON FLUORIDE ACETIC ACID COMPLEX|BORON TRIFLUORIDE ACETATE|BORON TRIFLUORIDE ACETIC ACID COMPLEX|BORON TRIFLUORIDE COMPOUND WITH ACETIC ACID|BORON TRIFLUORIDE-ACETIC ACID COMPLEX|TRIFLUOROBORANE ACETATE	7578-36-1	Boron trifluoride acetic acid complex is a colorless liquid with a penetrating odor. It is soluble in water. It is corrosive to metals and tissue.	2.5	5.0	2.5	3320.0	335.0	1174.0	561.0	383.0	724.0	77.0	264.0	133.0	82.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1591	BORON TRIFLUORIDE DIETHYL ETHERATE	(BLOB)	109-63-7	Boron trifluoride diethyl etherate is a fuming liquid. It may be corrosive to skin, eyes and mucous membranes. This material may be toxic by inhalation. Upon exposure to water it may emit flammable and corrosive vapors. It is used as a catalyst in chemical reactions.	2.5	5.0	2.5	3320.0	335.0	1174.0	561.0	383.0	724.0	77.0	264.0	133.0	82.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1592	BORON TRIFLUORIDE, DIHYDRATE	BORON FLUORIDE (BF3) DIHYDRATE|BORON FLUORIDE DIHYDRATE|BORON TRIFLUORIDE DIHYDRATE|BORON TRIFLUORIDE, DIHYDRATE	13319-75-0	Boron trifluoride dihydrate is a fuming liquid. It may be corrosive to skin, eyes and mucous membranes. This material may be toxic by inhalation. It is used as a catalyst in chemical reactions.	2.5	5.0	2.5	3323.0	335.0	1174.0	561.0	383.0	725.0	77.0	264.0	133.0	82.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1588	BORON TRICHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Strong acid; when heated, in the presence of water, decomposes forming phosgene and HCl [Handling Chemicals Safely 1980 p. 915]. The acid was added to copper wool and rinsed down with dimethyl sulfoxide. This caused what was thought to be an extremely exothermic dehydrohalogenation reaction that melted the neck of the flask, [Chem. Eng. News, 1981, 59(28), 4].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1589	BORON TRIFLUORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: PVA (NTP, 1992)	Highly flammable. Insoluble in water.	May be sensitive to light and heat. This compound may react with water, steam, acid or acid fumes. It may hydrolyze under acidic or alkaline conditions. (NTP, 1992). The reaction of benzene and trichloroacetonitrile evolves toxic chloroform and HCl gases. (Hagedorn, F., H.-P. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.).	Highly Flammable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		165.5																		(NTP, 1992)		-44	
1590	BORON TRIFLUORIDE ACETIC ACID COMPLEX	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	M-ANISIDINE is incompatible with strong oxidizers. It is also incompatible with acids, acid chlorides, acid anhydrides and chloroformates. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235																		(NTP, 1992)		30 to 34	
1591	BORON TRIFLUORIDE DIETHYL ETHERATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Nitroalkanes, such as MANITOL HEXANITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water.	Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
1592	BORON TRIFLUORIDE, DIHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	M-BROMOTOLUENE is incompatible with strong oxidizing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		140																		(NTP, 1992)		-40	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1588	BORON TRICHLORIDE																																								Corrosive	C2HCl3O2 (aqueous)		8.0	0.0	15.0	3.0	3.0
1589	BORON TRIFLUORIDE														(NTP, 1992)		1.4403		77		(NTP, 1992)			181 to 183	760		(NTP, 1992)		144.39						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Poison	C2Cl3N		8.0	0.0	28.0	3.0	3.0
1590	BORON TRIFLUORIDE ACETIC ACID COMPLEX	(NTP, 1992)	: 21.8 mm Hg at 115Â° F; 32 mm Hg at 144Â° F	15.4		75		mm Hg							(NTP, 1992)		1.096		68		(NTP, 1992)		484		760		(NTP, 1992)		123.15						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H9NO		5.0	0.0	13.0	3.0	3.0
1591	BORON TRIFLUORIDE DIETHYL ETHERATE																																								Explosive 1.1D	C6H8N6O18	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	27.0	3.0	3.0
1592	BORON TRIFLUORIDE, DIHYDRATE	(NTP, 1992)		1		58.6		mm Hg							(NTP, 1992)		1.41		68		(NTP, 1992)		362.7		760		(NTP, 1992)		171.05						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C7H7Br		8.0	0.0	28.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1593	BROMOACETIC ACID	ALPHA-BROMOACETIC ACID|ALPHA-BROMOETHANOIC ACID|BROMOACETIC ACID|BROMOACETIC ACID, SOLID|BROMOACETIC ACID, [SOLID]|2-BROMOACETIC ACID|BROMOETHANOIC ACID|CARBOXYMETHYL BROMIDE|MONOBROMOACETIC ACID|TO NTU	79-08-3	Colorless crystals. Melting point 51Â°C. Density 1.93 g / cm3. Corrosive to metals and tissue. Poisonous by ingestion. Used to cause drop of citrus fruit in harvesting.	1.0	2.5	5.0	3326.0	335.0	1174.0	561.0	383.0	726.0	77.0	264.0	133.0	82.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1594	BROMOACETIC ACID, SOLUTION	ALPHA-BROMOACETIC ACID|BROMOACETATE ION|BROMOACETIC ACID|BROMOACETIC ACID SOLUTION|BROMOACETIC ACID, SOLUTION|2-BROMOACETIC ACID|BROMOETHANOIC ACID|CARBOXYMETHYL BROMIDE|MONOBROMOACETIC ACID|TO NTU	79-08-3	Aqueous solution.	2.5	5.0	2.5	3326.0	335.0	1174.0	561.0	383.0	726.0	77.0	264.0	133.0	82.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1595	BROMOACETONITRILE	ACETONITRILE, BROMO-|BROMOACETONITRILE|2-BROMOACETONITRILE|BROMOMETHYL CYANIDE|CYANOMETHYL BROMIDE	590-17-0	PHYSICAL DESCRIPTION: Pale yellow to light amber liquid. (NTP, 1992)	2.5	5.0	2.5	3329.0	335.0	1174.0	561.0	383.0	727.0	77.0	264.0	133.0	82.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1596	BROMOACETYL BROMIDE	ALPHA-BROMOACETYL BROMIDE|BROMOACETYL BROMIDE|2-BROMOACETYL BROMIDE|BROMOETHANOYL BROMIDE|MONOBROMOACETYL BROMIDE	598-21-0	A water-white liquid with a pungent odor. Denser than water. Irritates skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3332.0	335.0	1174.0	561.0	383.0	728.0	77.0	264.0	133.0	82.0	(BLOB)	Special Hazards of Combustion Products: May contain toxic chloride fumes. Behavior in Fire: May produce toxic and irritating chloride fumes. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1597	BROMOBENZYL CYANIDES	ACETONITRILE, BROMOPHENYL-|ALPHA-BROMO-ALPHA-TOLUNITRILE|ALPHA-BROMOBENZENEACETONITRILE|ALPHA-BROMOBENZYL CYANIDE|ALPHA-BROMOBENZYLNITRILE|ALPHA-BROMOPHENYLACETONITRILE|2-BROMO-2-PHENYLACETONITRILE|BROMOBENZYL CYANIDE|BROMOBENZYL CYANIDES|CA|CAMITE	19472-74-3	A mixture of isomers: 2-bromobenzyl cyanide is a liquid (melting point 34Â°F); 3-bromobenzyl cyanide is a pale yellow crystalline solid melting at 77Â°F to give a colorless liquid; 4-bromobenzyl cyanide is a solid melting at 118Â°F. All are denser than water and insoluble in water. Hence sink in water. Lachrymator: the vapors are irritating to the eyes and mucous membranes. Exposure to high concentrations may be fatal. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	3335.0	335.0	1174.0	561.0	383.0	729.0	77.0	264.0	133.0	82.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1593	BROMOACETIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	3-METHYLCHOLANTHRENE can react with oxidizing materials. Ozone and chlorinating agents oxidize this chemical. (NTP, 1992)								0																				(NTP, 1992)			354 to 356
1594	BROMOACETIC ACID, SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,2-DIMETHYL-3-NITROBENZENE is incompatible with strong oxidizers and strong bases (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		225																			(NTP, 1992)			45 to 48
1595	BROMOACETONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Discolors on exposure to air. Water soluble	M-CHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 233.6																			(NTP, 1992)			91
1596	BROMOACETYL BROMIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Flammable. Slightly soluble in water.	M-CHLOROTOLUENE is generally unreactive. May be incompatible with strong oxidizing and reducing agents. May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		126													(USCG, 1999)	(calculated)	1.36	%				(NTP, 1992)		-54	
1597	BROMOBENZYL CYANIDES	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Contact with water leads to the slow evolution of hydrogen sulfide, a toxic and flammable gas.	TITANIUM DISULFIDE reacts with acids to generate hydrogen sulfide, a toxic gas. Reacts slowly with water and is decomposed by steam, generating hydrogen sulfide.	Water-Reactive	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1593	BROMOACETIC ACID	(NTP, 1992)		6.85E-07		68		mm Hg							(NTP, 1992)		1.28		68		(NTP, 1992)		536		80		(NTP, 1992)		268.36						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C21H16		9.0	0.0	29.0	3.0	3.0
1594	BROMOACETIC ACID, SOLUTION								(NTP, 1992)		5.22				(NTP, 1992)		1.1402		68		(NTP, 1992)		473		760		(NTP, 1992)		151.17						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	29.0	3.0	3.0
1595	BROMOACETONITRILE	(NTP, 1992)	; 5 mm Hg at 162Â° F	1		111.6		mm Hg							(NTP, 1992)		1.245		113		(NTP, 1992)		417		760		(NTP, 1992)		128.56						(NTP, 1992)	at 59Â° F		10 to 50	mg/mL		Poison	C6H5ClO		8.0	0.0	13.0	3.0	3.0
1596	BROMOACETYL BROMIDE	(NTP, 1992)		10		109.8		mm Hg							(USCG, 1999)		1.0722		68		(NTP, 1992)		324		760		(NTP, 1992)		126.58											CTM	Flammable Liquid	C7H7Cl		7.0	0.0	21.0	3.0	3.0
1597	BROMOBENZYL CYANIDES																																								Spontaneously Combustible	SZTi		7.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1598	BROMOCHLOROMETHANE	BROMOCHLOROMETHANE|CB|CBM|CHLOROBROMOMETHANE|FLUOROCARBON 1011|HALON 1011|HALONÃ® 1011|METHANE, BROMOCHLORO-|METHYL CHLOROBROMIDE|METHYLENE CHLOROBROMIDE|MIL-B-4394-B|MONO-CHLORO-MONO-BROMO-METHANE|MONOCHLOROMONOBROMOMETHANE	74-97-5	A clear colorless liquid with a sweet chloroform-like odor. Denser than water (density 1.991 g / cm3) and insoluble in water. Hence sinks in water. Boiling point 68Â°C. Vapors may cause illness if inhaled. Nonflammable. When exposed to high temperatures may emit toxic fumes. Used as a fire extinguishing agent.	2.5	5.0	2.5	3338.0	335.0	1174.0	561.0	383.0	730.0	77.0	264.0	133.0	82.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors including hydrogen chloride are produced. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, carbon dioxide or dry or dry chemical. (USCG, 1999)
1599	BROMOFLUOROBENZENE	BROMOFLUOROBENZENE	1072-85-1	A clear colorless liquid with a characteristic odor. Exists as three isomers, all with densities greater than water and insoluble in water. Hence sink in water. Vapors are much heavier than air. An irritant. Avoid contact with skin and eyes, and avoid breathing vapors.	2.5	5.0	2.5	3341.0	335.0	1177.0	561.0	383.0	731.0	77.0	265.0	133.0	82.0	(BLOB)	Behavior in Fire: May explode (USCG, 1999)	Fire Extinguishing Agents: Water from protected location (USCG, 1999)
1600	BROMOXYNIL	BROMOXYNIL|3,5-DIBROMO-4-HYDROXYBENZONITRILE	1689-84-5	Colorless solid. Melting point 382-384Â°F (194-195Â°C). Sublimes at 275Â°F (135Â°C) under pressure of 0.15 mm Hg. Used as a herbicide.	1.0	2.5	5.0	3341.0	335.0	1177.0	561.0	383.0	731.0	77.0	265.0	133.0	82.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1601	BROMOXYNIL OCTANOATE, [SOLID]	BROMINAL W|BROMOXYNIL N-OCTANOYL ESTER|BROMOXYNIL OCTANOATE|BROMOXYNIL OCTANOATE, [SOLID]|BROMOXYNIL OCTANOIC ACID ESTER|BUCTRIL|4-CYANO-2,6-DIBROMOPHENYL OCTANOATE|2,6-DIBROMO-4-CYANOPHENYL OCTANOATE|3,5-DIBROMO-4-HYDROXYBENZONITRILE OCTANOATE ESTER|3,5-DIBROMO-4-N-OCTANOYLOXYBENZONITRILE|3,5-DIBROMO-4-OCTANOYLOXYBENZONITRILE|NPH 1320|OCTANOIC ACID, 2,6-DIBROMO-4-CYANOPHENYL ESTER|OCTANOIC ACID, ESTER WITH 3,5-DIBROMO-4-HYDROXYBENZONITRILE	1689-99-2	A solid. Used as a selective contact herbicide.	1.0	2.5	5.0	3341.0	335.0	1180.0	561.0	383.0	731.0	77.0	266.0	133.0	82.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1602	BRUCINE	BRUCINE|BRUCINE ALKALOID|(-)BRUCINE DIHYDRATE|(-)-BRUCINE|BRUCINE, [SOLID]|2,3-DIMETHOXYSTRYCHNIDIN-10-ONE|DIMETHOXYSTRYCHNINE|10,11-DIMETHOXYSTRYCHNINE|2,3-DIMETHOXYSTRYCHNINE|DOLCO MOUSE CEREAL|L-BRUCINE|4,6-METHANO-6H,14H-INDOLO[3,2,1-IJ]OXEPINO[2,3,4-DE]PYRROLO[2,3-H]QUINOLINE, STRYCHNIDIN-10-ONE DERIV.|PIED PIPER MOUSE SEED	357-57-3	A white crystalline solid. Combustible but may require some effort to ignite. Toxic by inhalation (vapor, dust, etc.) and ingestion.	1.0	2.5	5.0	3341.0	335.0	1180.0	561.0	383.0	731.0	77.0	266.0	133.0	82.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1603	BUTYL ANTHRANILATE	2-AMINOBENZOIC ACID BUTYL ESTER|2-AMINOBENZOIC ACID, BUTYL ESTER|ANTHRANILIC ACID, BUTYL ESTER|BUTYL ANTHRANILATE|BUTYL O-AMINOBENZOATE|BUTYL ORTHO-AMINOBENZOATE	7756-96-9	PHYSICAL DESCRIPTION: Dark brown liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3341.0	335.0	1180.0	561.0	383.0	731.0	77.0	266.0	133.0	82.0	(BLOB)	Flash point data are not available for this chemical; however it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1598	BROMOCHLOROMETHANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles, rubber gloves and self-contained breathing apparatus. (USCG, 1999)	This compound is sensitive to moisture. Insoluble in water.	M-DICHLOROBENZENE is incompatible with oxidizing agents and aluminum and its alloys. Above the flash point, explosive vapor-air mixtures may be formed. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		146		(NTP, 1992)		2.02		%	(NTP, 1992)		9.2		%	(USCG, 1999)		1198		(NTP, 1992)		-12.6	
1599	BROMOFLUOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	(BLOB)	Slowly mixes with water.	All three isomers have similar properties and may react vigorously with oxidizing materials. Their reaction with nitric acid (nitration) will lead to a mixture of trinitrobenzenes possessing high-explosive properties [Urbanski, 1967, vol. 3, p. 290]. If heat and reaction conditions of the nitration are not controlled, detonation comparable to TNT may occur [Anon., J. R. Inst. Chem., 1960, 84, p. 451]. Mixture of 1,3-dinitrobenzene with tetranitromethane was found highly explosive [Urbanski, 1964, vol. 1, 592]. 1,2-dinitrobenzene is a severe explosion hazard when shocked or exposed to heat or flame. When heated to decomposition all dinitrobenzens emit toxic fumes of nitrogen oxides [Sax, 9th ed., 1996, p. 1374].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		302														(NTP, 1992)		194	
1600	BROMOXYNIL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	A nitrile. These materials are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.						0																				
1601	BROMOXYNIL OCTANOATE, [SOLID]	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Water soluble.	3-METHYLPIPERIDINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Generates flammable gaseous hydrogen in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
1602	BRUCINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Flammable. Insoluble in water.	D-CAMPHOR is incompatible with strong oxidizing agents, strong reducing agents and chlorinated solvents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		148		(NTP, 1992)		0.6		%	(NTP, 1992)		3.5		%	(NTP, 1992)		871		(NTP, 1992)		353.8	
1603	BUTYL ANTHRANILATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere and store it in a freezer. Protect it from light. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	MELPHALAN is a nitrogen mustard. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)	(decomposes)	351	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1598	BROMOCHLOROMETHANE	(NTP, 1992)	; 5 mm Hg at 102Â° F; 40 mm Hg at 180Â° F	1		53.8		mm Hg	(NTP, 1992)		5.08				(USCG, 1999)		1.2884		68		(NTP, 1992)		343		760		(NTP, 1992)		147.01						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	DBM	Poison	C6H4Cl2		9.0	0.0	17.0	3.0	3.0
1599	BROMOFLUOROBENZENE														(USCG, 1999)		1.58		64.4		(NTP, 1992)		556		756		(NTP, 1992)		168.11		(NIOSH, 2003)		50	mg/m3	(NIOSH, 2003)		0.02		%	DNB	Poison	C6H4N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	22.0	3.0	3.0
1600	BROMOXYNIL																				(NTP, 1992)			216 to 217	0.04		(NTP, 1992)		113.14													C4H7N3O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	23.0	3.0	3.0
1601	BROMOXYNIL OCTANOATE, [SOLID]																																								Corrosive|Flammable Liquid	C6H13N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	12.0	3.0	3.0
1602	BRUCINE	(NTP, 1992)	; 5 mm Hg at 155.5Â° F	1		106.7		mm Hg	(NTP, 1992)		5.24				(NTP, 1992)		0.992		77		(NTP, 1992)		399		760		(NTP, 1992)		152.24						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Flammable Solid	C10H16O		8.0	0.0	11.0	3.0	3.0
1603	BUTYL ANTHRANILATE																											(NTP, 1992)		305.23						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C13H18O2N2O2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1604	BUTYL BENZYL PHTHALATE	BBP|1,2-BENZENEDICARBOXYLIC ACID, BUTYL PHENYLMETHYL ESTER|BENZYL BUTYL PHTHALATE|BENZYL N-BUTYL PHTHALATE|BUTYL BENZYL PHTHALATE|BUTYL PHENYLMETHYL 1,2-BENZENEDICARBOXYLATE|DIACIZER D 160|KETJENFLEX 160|N-BUTYL BENZYL PHTHALATE|NCI-C54375|PALATINOL BB|PHTHALIC ACID, BENZYL BUTYL ESTER|PHTHALIC ACID, BENZYL BUTYL ETHER|S 160|SANTICIZER 160|SANTICIZER C 160|SANTICIZER S 160|SICOL 160|UNIMOLL BB	85-68-7	A clear colorless liquid with a mild odor. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.	2.5	5.0	2.5	3344.0	335.0	1180.0	561.0	383.0	732.0	77.0	266.0	133.0	82.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1605	BUTYL BUTYRATE	BUTANOIC ACID, BUTYL ESTER|BUTYL BUTANOATE|BUTYL BUTYLATE|BUTYL BUTYRATE|1-BUTYL BUTYRATE|BUTYRIC ACID, BUTYL ESTER|N-BUTYL BUTANOATE|N-BUTYL BUTYRATE|N-BUTYL N-BUTYRATE	109-21-7	A colorless liquid. Insoluble in water. A marine pollutant. Poses a threat to the aquatic environment. Immediate steps should be taken to prevent spread to the environment. May penetrate soils and contaminate groundwater and nearby waterways. Mildly irritates the eyes and skin.	2.5	5.0	2.5	3344.0	335.0	1180.0	561.0	383.0	732.0	77.0	266.0	133.0	82.0	(BLOB)	When heated to decomposition, this material emits very toxic fumes of nitrogen oxides, phosphorus oxides and sulfur oxides. Stable at neutral pH. Hydrolyzed by acid or alkali. (EPA, 1998)	(Non-Specific -- Organic Phosphate, Liquid) Use water spray to absorb vapors. Avoid breathing vapors. Keep upwind. Wear self-contained breathing apparatus. Avoid bodily contact with the material. Wear full protective clothing. (Non-Specific -- Organic Phosphate, Liquid) Use agent suitable for surrounding fire. Use water in flooding quantities as fog. Use foam, carbon dioxide, or dry chemical. (EPA, 1998)
1606	BUTYL LACTATE	BUTYL A-HYDROXYPROPIONATE|BUTYL ALPHA-HYDROXYPROPIONATE|BUTYL ESTER OF 2-HYDROXYPROPANOIC ACID|BUTYL ESTER OF LACTIC ACID|BUTYL LACTATE|2-HYDROXYPROPANOIC ACID BUTYL ESTER|LACTIC ACID, BUTYL ESTER|N-BUTYL LACTATE	138-22-7	A clear colorless liquid with a mild odor. Flash point 168Â°F. Less dense than water and insoluble in water. Vapors heavier than air. Used as a solvent, and to make other chemicals.	2.5	5.0	2.5	3347.0	335.0	1180.0	561.0	383.0	733.0	77.0	266.0	133.0	82.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1607	BUTYL NITRITE	BUTYL NITRITE|BUTYL NITRITES|N-BUTYL NITRITE	544-16-1	A yellow oily liquid with a pleasant odor. A mixture of isomers (n-butyl, sec-butyl and tert-butyl). Slightly soluble in water. Slightly less dense than water. Vapors are much heavier than air. Toxic by ingestion, mildly toxic by inhalation. Used to make fuel for jet airplanes.	2.5	5.0	2.5	3347.0	338.0	1180.0	561.0	383.0	733.0	78.0	266.0	133.0	82.0	(BLOB)	Material may explode on heating, with friction, or contact with alkali metals, sulfides, acetylene, ammonia, and oxalic acid. Upon decomposition highly toxic chloride and mercury fumes are emitted. Avoid formates, sulfites, hypophosphites, phosphates, sulfides, albumin, gelatin, alkalies, alkaloid salts, ammonia, lime water, antimony, arsenic, bromides, borax, carbonates, reduced iron, copper, iron, lead, silver salts, infusions of cinchona, columbo, oak bark or senna, and tannic acid. Mercuric chloride may explode with friction or application of heat. Mixtures of mercuric chloride and sodium or potassium are shock sensitive and will explode on impact. Avoid contact with acids or acid fumes. (EPA, 1998)	Move container from fire area. Wear self-contained breathing apparatus and full body protective clothing. Some of these materials may burn but none of them ignite readily. Extinguish with water spray, fog, foam, dry chemical or carbon dioxide. (EPA, 1998)
1608	BUTYL, DECYL, CETYL, EICOSYL METHACRYLATE	BUTYL, DECYL, CETYL, EICOSYL 2-METHYL-2-PROPENOATE|BUTYL, DECYL, CETYL, EICOSYL METHACRYLATE|BUTYL, DECYL, CETYL-EICOSYL METHACRYLATE|METHACRYLIC ACID, BUTYL, DECYL, CETYL AND EICOSYL ESTER MIX	97-88-1	A colorless liquid with a mild odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	3347.0	338.0	1180.0	561.0	383.0	733.0	78.0	266.0	133.0	82.0	INHALATION: remove to fresh air; get medical attention. INGESTION: alimentary absorption is very rapid; action during first 10-15 min. determines prognosis. Give egg whites, milk, or activated charcoal and induce vomiting; consult physician. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Vapors from fire may contain toxic mercury and oxides of nitrogen. Behavior in Fire: May increase intensity of fire if in contact with burning material (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1604	BUTYL BENZYL PHTHALATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts exothermically with water to form memtetrahydrophthalic acid.	MEMTETRAHYDROPHTHALIC ANHYDRIDE is combustible. Reacts with oxidizers. Reacts exothermically with water. These reactions are usually slow, but can become violent when local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1605	BUTYL BUTYRATE	(Non-Specific -- Organic Phosphate, Liquid) Use water spray to knock down vapors. Build dikes to contain material as necessary. Avoid breathing vapors. Keep upwind. Avoid bodily contact with the material. Downwind evacuation should be considered. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, MEPHOSFOLAN emits very toxic fumes of nitrogen oxides, phosphorus oxides and sulfur oxides. Stable at neutral pH. Hydrolyzed by acid or alkali. [EPA, 1998]. Organophosphates, such as MEPHOSFOLAN, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1606	BUTYL LACTATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCURIC ARSENATE is incompatible with the following: Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1607	BUTYL NITRITE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly soluble in water.	MERCURIC CHLORIDE is decomposed by sunlight. Incompatible with formates, sulfites, hypophosphites, phosphates, sulfides, albumin, gelatin, alkalis, alkaloid salts, ammonia, lime water, antimony, arsenic, bromides, borax, carbonates, reduced iron, iron, copper, lead and silver salts, infusions of cinchona, oak bark or senna, tannic acids and vegetable astringents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1608	BUTYL, DECYL, CETYL, EICOSYL METHACRYLATE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Deliquescent. Soluble in a small amount of water. With much water or on boiling with water, an insoluble basic salt is formed.	MERCURIC NITRATE is noncombustible, but, as an oxidizing agent, will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Light sensitive. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979. p. 108-109]. Acetylene forms a sensitive acetylide when passed into an aqueous solution of mercuric nitrate [Mellor 4:933. 1946-47]. Should not be mixed with alcohols as explosive mercury fulminates may be formed [Bahme 1961. p. 9]. Is violently reduced by hypophosphoric acid [Mellor 4:993. 1946-47]. Reacts with phosphine to give a yellow precipitate that explodes when heated or subjected to shock [Mellor 4:993. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		529	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1604	BUTYL BENZYL PHTHALATE																																									Corrosive	C8H8O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	13.0	3.0	3.0
1605	BUTYL BUTYRATE																				(EPA, 1998)		248		0.001		(EPA, 1998)		269.34												Poison	C8H16NO3PS2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	19.0	3.0	3.0
1606	BUTYL LACTATE																														(NIOSH, 2003)	(as Hg)	10	mg/m3								Poison	HgHAsO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	14.0	3.0	3.0
1607	BUTYL NITRITE	(EPA, 1998)		1		277.16		mm Hg							(EPA, 1998)		5.44		77		(EPA, 1998)		576		760		(EPA, 1998)		271.52		(NIOSH, 2003)	(as Hg)	10	mg/m3	(NTP, 1992)	at 72Â° F		5 to 10	mg/mL	MRC	Poison	HgCl2		7.0	0.0	11.0	3.0	3.0
1608	BUTYL, DECYL, CETYL, EICOSYL METHACRYLATE														(USCG, 1999)		4.3		68								(USCG, 1999)	(monohydrate)	342.6		(NIOSH, 2003)	(as Hg)	10	mg/m3						MNT	Poison	Hg(NO3)2.H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1609	BUTYLATED HYDROXYANISOLE	ANTIOXYNE B|ANTRANCINE 12|BHA|BHA (ANTIOXIDANT)|BOA|BOA (ANTIOXIDANT)|BUTYLATED HYDROXYANISOLE|BUTYLHYDROXYANISOLE|(1,1-DIMETHYLETHYL)-4-METHOXYPHENOL|EEC NO. E320|EMBANOX|NIPANTIOX 1-F|PHENOL, TERT-BUTYL-4-METHOXY-|PREMERGE PLUS|PROTEX|SUSTAN 1-F|SUSTANE|SUSTANE 1-F|SUSTANE 1F|TENOX BHA|TERT-BUTYL-4-HYDROXYANISOLE|(2(3)-TERT-BUTYL-4-HYDROXYANISOLE|TERT-BUTYL-4-METHOXYPHENOL|2-TERT-BUTYL-4-METHOXYPHENOL|TERT-BUTYL-P-HYDROXYANISOLE|TERT-BUTYLHYDROXYANISOLE|VERTAC	25013-16-5	PHYSICAL DESCRIPTION: White, beige or slightly yellow waxy solid with an aromatic odor and a slightly bitter burning taste. (NTP, 1992)	1.0	2.5	5.0	3350.0	338.0	1180.0	561.0	383.0	734.0	78.0	266.0	133.0	82.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1610	BUTYRALDEHYDE	BUTAL|BUTALDEHYDE|BUTALYDE|BUTANAL|BUTANALDEHYDE|BUTANOL|BUTYLALDEHYDE|BUTYLALDEHYDE|BUTYRAL|BUTYRALDEHYDE|BUTYRALDEHYDE (NORMAL AND ISO)|BUTYRIC ALDEHYDE|BUTYRYLALDEHYDE|N-BUTANAL|N-BUTYLALDEHYDE|N-BUTYRALDEHYDE|N-BUTYRIC ALDEHYDE|NCI-C56291	123-72-8	A clear liquid with a pungent odor. Flash point 20Â°F. Boiling point 75.7Â°F (Hawley's). Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3353.0	338.0	1180.0	561.0	383.0	735.0	78.0	266.0	133.0	82.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1611	BUTYRIC ANHYDRIDE	BUTANOIC ANHYDRIDE|BUTANOYL ANHYDRIDE|BUTYRIC ACID ANHYDRIDE|BUTYRIC ANHYDRIDE|BUTYRYL OXIDE|N-BUTYRIC ACID ANHYDRIDE|N-BUTYRIC ANHYDRIDE	106-31-0	Water-white liquid with an odor of rancid butter. Corrosive to metals and tissue. Low toxicity.	2.5	5.0	2.5	3353.0	341.0	1180.0	561.0	383.0	735.0	79.0	266.0	133.0	82.0	INHALATION: remove to fresh air; give artificial respiration if breathing has stopped. INGESTION: give egg whites, milk, or activated charcoal; induce vomiting; consult physician. EYES: flush with water. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Smoke from fire contains poisonous mercury vapor and irritating sulfur dioxide gas. Behavior in Fire: Changes color when hot. Decomposes at burning temperature. The black form may soften, and molten sulfur may flow out and burn. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Other agents may be ineffective. Fire Extinguishing Agents: Water, foam, sand (USCG, 1999)
1612	BUTYRONITRILE	BUTANENITRILE|BUTYRIC ACID NITRILE|BUTYRONITRILE|CYANOPROPANE|1-CYANOPROPANE|GAMMA-BUTYRONITRILE|N-BUTANENITRILE|N-BUTYRONITRILE|N-PROPYL CYANIDE|PROPYL CYANIDE	109-74-0	A clear colorless liquid. Flash point 76Â°F. Less dense than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used in the manufacture of other chemicals.	2.5	5.0	2.5	3356.0	341.0	1180.0	561.0	383.0	736.0	79.0	266.0	133.0	82.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1613	BUTYRYL CHLORIDE	BUTANOYL CHLORIDE|BUTYRIC ACID CHLORIDE|BUTYRIC CHLORIDE|BUTYROL CHLORIDE|BUTYROYL CHLORIDE|BUTYRYL CHLORIDE|N-BUTANOYL CHLORIDE|N-BUTYRYL CHLORIDE	141-75-3	A clear colorless liquid with a sharp odor. Slightly denser than water. Flash point near 20Â°F. Severely irritates skin, eyes, and mucous membranes. Used to make other chemicals.	2.5	5.0	2.5	3356.0	341.0	1180.0	561.0	383.0	736.0	79.0	266.0	133.0	82.0	INHALATION: remove to fresh air; give artificial respiration if breathing has stopped. INGESTION: give egg whites, milk, or activated charcoal; induce vomiting; consult physician. EYES: flush with water. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Fumes from fire may contain toxic vapors of substance. Behavior in Fire: Vaporizes and escapes as a sublimate (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1609	BUTYLATED HYDROXYANISOLE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organonitrate compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		27.5	
1610	BUTYRALDEHYDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Very water soluble.	MERCURIC POTASSIUM IODIDE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997). It behave in aqueous solution as a weak acid.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1611	BUTYRIC ANHYDRIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Readily oxidized as to be pyrophoric in air [Bretherick 1979. p. 120].	Inorganic reducing agents, such as MERCURIC SULFIDE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1612	BUTYRONITRILE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCUROUS BROMIDE is incompatible with the following: Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1613	BUTYRYL CHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	MERCUROUS CHLORIDE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chrls_coded	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
1609	BUTYLATED HYDROXYANISOLE														(NTP, 1992)		1.542	59.9			(NTP, 1992)		432.7	760			(NTP, 1992)		225.6				(NTP, 1992) insoluble					MSF	Poison	C19H26O2 3NO2	Cellulose-Based Absorbents;Exp olymeric Polymeric Absorbents	9.0	0.0	22.0	3.0	3.0
1610	BUTYRALDEHYDE																											(NOSH, 2003)		10	mg/m3	(as Hg)							Poison	K2Hg64		9.0	0.0	28.0	3.0	3.0
1611	BUTYRIC ANHYDRIDE														(USCG, 1999)		8	68											232.7									Poison	HgS		6.0	0.0	13.0	3.0	3.0
1612	BUTYRONITRILE																																						Poison	Br2Hg2		7.0	0.0	14.0	3.0	3.0
1613	BUTYRYL CHLORIDE														(USCG, 1999)		7.15	68											236.1									MRR	Poison	Hg(ClO2		8.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1614	C.I. ACID ORANGE 3	ACID FAST YELLOW AG|ACID FAST YELLOW E 5R|ACID FAST YELLOW E5R|ACID LEATHER LIGHT BROWN G|ACID ORANGE 3|ACID ORANGE NO. 3|ACID YELLOW E|AIREDALE YELLOW E|AMIDO YELLOW E|AMIDO YELLOW EA|AMIDO YELLOW EA-CF|ANTHRALAN YELLOW RRT|BENZENESULFONIC ACID, 2-ANILINO-5-(2,4-DINITROANILINO)-, MONOSODIUM SALT|C.I. 10385|C.I. ACID ORANGE 3|DERMA YELLOW P|5-((2,4-DINITROPHENYL)AMINO)-2-(PHENYLAMINO)BENZENESULFONIC ACID, MONOSODIUM SALT|ERIO FAST YELLOW AE|ERIO FAST YELLOW AEN|ERIONYL YELLOW E-AEN|FAST LIGHT YELLOW E|FENALAN YELLOW E|KITION FAST YELLOW A|LIGHT FAST YELLOW ES|LISSAMINE FAST	6373-74-6	PHYSICAL DESCRIPTION: Brown to dark brown microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	3359.0	341.0	1180.0	561.0	383.0	737.0	79.0	266.0	133.0	82.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1615	C.I. ACID RED 114	ACID LEATHER RED BG|ACID RED 114|AMACID MILLING RED PRS|BENZYL FAST RED BG|BENZYL RED BR|C.I. 23635|C.I. ACID RED 114|C.I. ACID RED 114, DISODIUM SALT|8-((3,3'-DIMETHYL-4'-((4-((4-METHYLPHENYL)SULFONYL)OXY)PHENYL)AZO)-(1,1'-BIPHENYL)-4-YL)AZO)-7-HYDROXY-1,3-NAPHTHALENEDISULFONIC ACID, SODIUM SALT|ERIONYL RED RS|ERIONYL RED RS 125|EVERACID MILLING RED RS|FENAFOR RED PB|FOLAN RED B|KAYANOL MILLING RED RS|KAYANOL MILLING RED RS 125|LEATHER FAST RED B|LEVANOL RED GG|MIDLON RED PRS|MILLING FAST RED B|MILLING RED B|MILLING RED BB|MILLING RED SWB|POLAR RED RS|SANDOLAN RED N-RS|SANDOLAN RED N-	6459-94-5	PHYSICAL DESCRIPTION: Dark red powder. (NTP, 1992)	1.0	2.5	5.0	3359.0	341.0	1180.0	561.0	383.0	737.0	79.0	266.0	133.0	82.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled using drychemicals, carbon dioxid or Halon. (NTP, 1992)
1616	C.I. ACID RED 14	(BLOB)	3567-69-9	PHYSICAL DESCRIPTION: Reddish-brown crystals or dark maroon powder. (NTP, 1992)	1.0	2.5	5.0	3359.0	341.0	1180.0	561.0	386.0	737.0	79.0	266.0	133.0	83.0	(BLOB)	Decaborane mixed with carbon tetrachloride is dangerously shock sensitive. It reacts slowly with air but when mixed with air or oxygen, it becomes highly flammable and may explode. It undergoes an explosive reaction with most oxidizing agents including halogenated hydrocarbons. It may give off toxic fumes of unburned material. When heated to decomposition, it emits toxic fumes of boron oxides. Incompatible with ethers; halocarbons; oxygen at 212F; dimethyl sulfoxide, most oxidizing agents, including halogenated hydrocarbons. It is corrosive to natural rubber, some synthetic rubbers, some greases, and some lubricants. Normally stable, but becomes unstable at elevated temperature and pressure. Hazardous polymerization may not occur. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and full protective clothing. Small fires: cover with sand, earth or water spray and keep it wet. Large fires: water spray or fog. Do not scatter spilled material with more water than needed for fire control. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (EPA, 1998)
1617	C.I. BASIC BROWN 1	BASIC BROWN 1|1,3-BENZENEDIAMINE, 4,4'-(1,3-PHENYLENEBIS(AZO))BIS-, DIHYDROCHLORIDE|BISMARCK BROWN|BISMARCK BROWN B|BISMARCK BROWN G|BISMARCK BROWN Y|BISMARK BROWN Y|C.I. 21000|C.I. BASIC BROWN 1|C.I. BASIC BROWN 1, DIHYDROCHLORIDE|4,4'-(M-PHENYLENEBIS(AZO))BIS(M-PHENYLENEDIAMINE) DIHYDROCHLORIDE|PHENYLENE BROWN|4,4'-(1,3-PHENYLENEBIS(AZO))BIS-1,3-BENZENEDIAMINE DIHYDROCHLORIDE|VERONA BASIC BROWN 2R	10114-58-6	PHYSICAL DESCRIPTION: Odorless dark purple to blackish-brown powder. (NTP, 1992)	1.0	2.5	5.0	3362.0	341.0	1180.0	561.0	386.0	738.0	79.0	266.0	133.0	83.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1618	C.I. BASIC GREEN 4	C.I. BASIC GREEN 4|MALACHITE GREEN	569-64-2	Green crystals with metallic luster. Water solutions are blue-green. Used in dyeing silk, wool, biological staining, etc.	1.0	2.5	5.0	3365.0	341.0	1183.0	561.0	386.0	739.0	79.0	267.0	133.0	83.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1614	C.I. ACID ORANGE 3	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Halogenated aliphatic compounds, such as DDT AND METABOLITES, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This material is incompatible with alkaline media.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1615	C.I. ACID RED 114	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(NTP, 1992)		214															(NTP, 1992)		27.7	
1616	C.I. ACID RED 14	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewers, basements or confined areas. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Highly flammable. It may spontaneously ignite upon exposure to air. Slightly soluble in cold water [Merck].	DECABORANE forms impact-sensitive mixtures with halocarbons (carbon tetrachloride) or with ethers (dioxane). It ignites in oxygen at 100Â° C. When heated to decomposition it emits toxic fumes of boron oxides [Hawthorne, M. F., Inorg. Synth., 1967, 10, p. 93]. It may form an explosive mixture with dimethyl sulfoxide [Shriver, 1969, p. 209]. It reacts with amides, acetone, butyraldehyde, and acetonitrile at room temperature [Merck].	Pyrophoric	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(EPA, 1998)		176											(USCG, 1999)		300		(EPA, 1998)		211	
1617	C.I. BASIC BROWN 1	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, keep it away from oxidizing materials and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	3-NITROPROPIONIC ACID is incompatible with bases, oxidizing agents and reducing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		145 to 149	
1618	C.I. BASIC GREEN 4	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable.	Nitriles, such as 3-PENTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3275 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		101																				

id	name	yp_source	yp_note	yp_value	yp_range	yp_value_tempDegF	yp_range_tempDegF	yp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_preSMWH G	bp_range_preSMWH G	molwgt_source	molwgt_note	molwgt_value	molwgt_range	adh_source	adh_note	adh_value	adh_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	solbly_note	chris_codes	dot_labels	formulas	#_of_Nations_sorbents_ub	#_of_Nations_Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1614	C.I. ACID ORANGE 3																																								Poison	C14H9Cl5		8.0	0.0	40.0	3.0	3.0
1615	C.I. ACID RED 114																								760		(NTP, 1992)								(NTP, 1992)	less than or equal to 100				Poison	C7H4F3NO2	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	7.0	0.0	22.0	3.0	3.0
1616	C.I. ACID RED 14	(EPA, 1998)		19	212	(EPA, 1998)		mm Hg																	760		(EPA, 1998)		122.22		(NIOSH, 2003)		15	mg/m3	(NIOSH, 2003)	Slight				Flammable	R10H14		8.0	0.0	47.0	3.0	3.0
1617	C.I. BASIC BROWN 1																										(NTP, 1992)		119.08						(NTP, 1992)	greater than or equal to 100				Poison	C3H5NO4	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	8.0	0.0	30.0	3.0	3.0
1618	C.I. BASIC GREEN 4	(NTP, 1992)		1	106			mm Hg																	760	291 to 297			81.12						(NTP, 1992)	less than 1				Poisonous Liquid	C5H7N	Dirt/Earth	8.0	0.0	35.0	3.0	3.0
1619	C.I. ACID RED 52	(EPA, 1998)		5 mm Hg at 122 °F; 40 mm Hg at 158 °F																																													
1620	C.I. ACID BLUE 9	(NTP, 1992)		1	106			mm Hg																	760	291 to 297			81.12						(NTP, 1992)	less than 1				Poisonous Liquid	C5H7N	Dirt/Earth	8.0	0.0	35.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1619	C.I. BASIC ORANGE 2	(BLOB)	532-82-1	PHYSICAL DESCRIPTION: Red-brown powder, large black shiny crystals with a green luster or purple powder. (NTP, 1992)	1.0	2.5	5.0	3368.0	344.0	1183.0	561.0	389.0	740.0	80.0	267.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1620	C.I. BASIC RED 1	(BLOB)	989-38-8	PHYSICAL DESCRIPTION: Bright bluish-pink crystals or reddish purple powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	INHALATION: remove to fresh air. EYES: flush with water for at least 15 min. SKIN: wash with water and mild soap. INGESTION: give emetic such as warm salt water, followed by a mild cathartic; direct physician to conserve liver and kidney function. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1621	C.I. BASIC VIOLET 14	AIZEN MAGENTA|4-((AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYL)-2-METHYL-|ASTRA FUCHSINE B|BASIC FUCHSIN|BASIC FUCHSINE|BASIC MAGENTA|BASIC MAGENTA E 200|BASIC VIOLET 14|BENZENAMINE, MONOHYDROCHLORIDE|C-WR VIOLET 8|C.I. 42510|C.I. BASIC VIOLET 14|C.I. BASIC VIOLET 14, MONOHYDROCHLORIDE|C.I. BASIC VIOLET 14, MONOHYDROCHLORIDE (8CI)|C.I.42510|C.I.BASIC VIOLET 14|CALCOZINE FUCHSINE HO|CALCOZINE MAGENTA RTN|CALCOZINE MAGENTA XX|CERISE B|DIABASIC MAGENTA|DIAMOND FUCHSINE|DIBASIC MAGENTA|FUCHSIN|FUCHSIN BASIC|FUCHSINE|FUCHSINE A|FUCHSINE CS|FUCHSINE	632-99-5	PHYSICAL DESCRIPTION: Dark green powder. A dye derived from triphenylmethane.	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1622	C.I. DIRECT BLACK 38	(BLOB)	1937-37-7	PHYSICAL DESCRIPTION: Gray-black microcrystals or black powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	CONTACT WITH EYES AND SKIN: wash with water for 15 min. (USCG, 1999)		Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1623	C.I. DIRECT BLACK 80	6-((7-AMINO-1-HYDROXY-3-SULFO-2-NAPHTHALENYL)AZO)-3-((4-((4-AMINO-6(OR 7)-SULFO-1-NAPHTHALENYL)AZO)PHENYL)AZO)-4-HYDROXY-2-NAPHTHALENESULFONIC ACID,TRISODIUM SALT|C.I. 31600|C.I. DIRECT BLACK 80|DIAZOPHENYL BLACK BW|2-NAPHTHALENESULFONIC ACID, 6-((7-AMINO-1-HYDROXY-3-SULFO-2-NAPHTHALENYL)AZO)-3-((4-((4-AMINO-6(OR 7)-SULFO-1-NAPHTHALENYL)AZO)PHENYL)AZO)-4-HYDROXY-,TRISODIUM SALT|PHENAZO BLACK OB	8003-69-8	PHYSICAL DESCRIPTION: Bluish-black to black powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1619	C.I. BASIC ORANGE 2	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). (NTP, 1992)	Insoluble in water.	DECABROMODIPHENYL OXIDE is incompatible with strong oxidizers (NTP, 1992).							0																	(NTP, 1992)			569.1 to 576.5
1620	C.I. BASIC RED 1	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air mask or self-contained breathing apparatus if in enclosed tank; rubber gloves or protective cream; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as DECAHYDRONAPHTHALENE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		134		(USCG, 1999)		0.7		%	(USCG, 1999)		5.4		%	(USCG, 1999)		482		(USCG, 1999)		-44	
1621	C.I. BASIC VIOLET 14	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and moisture (NTP, 1992). Insoluble in water.	A ketone and an ether derivative.							0		(NTP, 1992)			greater than 200																
1622	C.I. DIRECT BLACK 38		Protective clothing and chemical goggles. (USCG, 1999)	Insoluble in water.	DECALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.							0		(USCG, 1999)		185																(USCG, 1999)		64	
1623	C.I. DIRECT BLACK 80			No rapid reaction with air. No rapid reaction with water.									0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1619	C.I. BASIC ORANGE 2	(NTP, 1992)			less than 1	68		mm Hg							(NTP, 1992)		3										(NTP, 1992)		959.22						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12Br10O		7.0	0.0	30.0	3.0	3.0
1620	C.I. BASIC RED 1														(USCG, 1999)		0.89		68		(USCG, 1999)		383		760		(USCG, 1999)		138.2											DHN	Flammable Liquid	C10H18		5.0	0.0	13.0	3.0	3.0
1621	C.I. BASIC VIOLET 14														(NTP, 1992)		1.135		74.7		(NTP, 1992)			343 to 347	15		(NTP, 1992)		174.21						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C11H10O2	Dirt/Earth	8.0	0.0	35.0	3.0	3.0
1622	C.I. DIRECT BLACK 38														(USCG, 1999)		0.83		59		(USCG, 1999)			404 to 410	760		(USCG, 1999)		145.3											DAL		C10H20O	Cellulose-Based Absorbents	7.0	0.0	17.0	3.0	3.0
1623	C.I. DIRECT BLACK 80																																										C21H23NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	21.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1624	C.I. DIRECT BLUE 218	AMANIL SUPRA BLUE 9GL|ANAMIL SUPRA BLUE 9GL|C.I. 24401|C.I. DIRECT BLUE 218|CARTA BLUE VP|COPPER, [TETRAHYDROGEN-3,3'-[(3,3'-DIHYDROXY-4,4'-BIPHENYLYLENE)BIS(AZO)]BIS[5-AMINO-4-HYDROXY-2,7-NAPHTHALENEDISULFONATO]](4-)]DI-, TETRASODIUM SALT|CUPRATE(4-), [MU-[[3,3'-[(3,3'-DIHYDROXY[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[5-AMINO-4-HYDROXY-2,7-NAPHTHALENEDISULFONATO]](8-)]]DI-, TETRASODIUM|DIRECT BLUE 218|FAST BLUE 7GL|NIFASTUSOL BLUE 9GL P|NTRALITE BLUE 8GLL|(MU-((3,3'-((3,3'-DIHYDROXY(1,1'-BIPHENYL)-4,4'-DIYL)BIS(AZO))BIS(5-AMINO-4-HYDROXY-2,7-NAPHTHALENEDISULFONATO))(8-))DI|CUPRATE(4-),	28407-37-6	PHYSICAL DESCRIPTION: Deep purple to dark blue amorphous powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	This material may burn but does not ignite readily. Cylinder may explode in heat of fire. When heated to decomposition, it emits very toxic fumes of fluorides and nitrogen oxides. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1625	C.I. DISPERSE YELLOW 3	(BLOB)	2832-40-8	PHYSICAL DESCRIPTION: Brownish-yellow powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1626	C.I. PIGMENT GREEN 36	(BLOB)	14302-13-7	PHYSICAL DESCRIPTION: Odorless green-yellowish to green powder. pH 7.0-9.0. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)		
1627	C.I. PIGMENT ORANGE 43	(BLOB)	4424-06-0	PHYSICAL DESCRIPTION: Fine orange powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1628	C.I. PIGMENT RED 23	ALKALI RESISTANT RED DARK|C.I. 12355|C.I. PIGMENT RED 157|C.I. PIGMENT RED 23|CALCOTONE 3B|CALCOTONE RED 3B|CARNATION RED TONER B|CONGO RED R 138|CONSO RED R-138|FENALAC RED FKB EXTRA|3-HYDROXY-4-((2-METHOXY-5-NITROPHENYL)AZO)-N-(3-NITROPHENYL)-2-NAPHTHALENE CARBOXAMIDE|IRGALITE RED RBS|MALTA RED X 2284|2-NAPHTHALENECARBOXAMIDE|2-NAPHTHANILIDE, 3-HYDROXY-4-[(2-METHOXY-5-NITROPHENYL)AZO]-3'-NITRO-|NAPHTHOL RED B|NAPHTHOL RED B 20-7575|NAPHTHOL RED D TONER 35-6001|NAPHTHOL RED DEEP 10459|PIGMENT RED 157|PIGMENT RED 23|PIGMENT RED BH|3040 RED|RUBESCENCE RED MT	6471-49-4	PHYSICAL DESCRIPTION: Red to bluish red powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1629	C.I. PIGMENT RED 81	(BLOB)	12224-98-5	PHYSICAL DESCRIPTION: Dark pink powder. (NTP, 1992)	1.0	2.5	5.0	3371.0	344.0	1183.0	561.0	389.0	741.0	80.0	267.0	133.0	84.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1624	C.I. DIRECT BLUE 218	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	3-TRIFLUOROMETHYLANILINE is a trifluoromethyl- and amine-substituted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		185													(EPA, 1998)		37		
1625	C.I. DISPERSE YELLOW 3	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light.	A nitrated amine and ketone. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0													(NTP, 1992)				151 to 153
1626	C.I. PIGMENT GREEN 36	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generate mixed oxides of nitrogen (NOx)						0																						
1627	C.I. PIGMENT ORANGE 43	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	This compound is sensitive to iron. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]						0																	(NTP, 1992)				greater than 572
1628	C.I. PIGMENT RED 23	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Sensitive to decomposition in air and light (NTP, 1992). Insoluble in water.	4,4'-DIAMINODICYCLOHEXYL METHANE neutralizes acids in weakly exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200													(NTP, 1992)		140-143.6Â° F (cis-cis) 147.2-149Â° F (trans-trans)		
1629	C.I. PIGMENT RED 81	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	4,4'-DIAMINODIPHENYL ETHER oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously [MCA Case History 616(1960)].	Peroxidizable Compound	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		426											(NTP, 1992)		914		(NTP, 1992)		367 to 369

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1624	C.I. DIRECT BLUE 218								(EPA, 1998)		5.56				(EPA, 1998)		1.303		59.9		(EPA, 1998)		369.5		764		(EPA, 1998)		161.13						(NTP, 1992)	Slightly soluble					Poison	C7H6F3N		4.0	0.0	13.0	3.0	3.0
1625	C.I. DISPERSE YELLOW 3														(NTP, 1992)			less than 1									(NTP, 1992)		207.26						(NTP, 1992)	at 65.3Â° F		10 to 50	mg/mL		Poison	C10H13N3O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	16.0	3.0	3.0
1626	C.I. PIGMENT GREEN 36																											(NTP, 1992)		535.44						(NTP, 1992)	Insoluble						C19H24N10O		9.0	0.0	17.0	3.0	3.0
1627	C.I. PIGMENT ORANGE 43																											(NTP, 1992)		414.37						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C14H14N2O6S2.2Na	Dirt/Earth	9.0	0.0	18.0	3.0	3.0
1628	C.I. PIGMENT RED 23														(NTP, 1992)		0.9608		77		(NTP, 1992)			626 to 628	3		(NTP, 1992)		210.37						(NTP, 1992)	Insoluble (<1 mg/ml)					Corrosive	C13H26N2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	28.0	3.0	3.0
1629	C.I. PIGMENT RED 81	(NTP, 1992)	; 15 mm Hg at 482Â° F	10		464		mm Hg													(NTP, 1992)	Sublimes					(NTP, 1992)		200.24						(NTP, 1992)	at 59Â° F		less than 0.1	mg/mL		Class 9	C12H12N2O		8.0	0.0	23.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1630	C.I. PIGMENT VIOLET 1	(BLOB)	1326-03-0	PHYSICAL DESCRIPTION: Purple powder. (NTP, 1992)	1.0	2.5	5.0	3374.0	344.0	1183.0	561.0	389.0	742.0	80.0	267.0	133.0	84.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1631	C.I. PIGMENT YELLOW 100	ALUMINUM INDIGO CARMINE|ALUMINUM, 4,5-DIHYDRO-5-OXO-1-(4-SULFOPHENYL)-4-[(4-SULFOPHENYL)AZO]-1H-PYRAZOLE-3-CARBOXYLIC ACID COMPLEX|C.I. 19140 ALUMINUM LAKE|C.I. 19140:1|C.I. FOOD YELLOW 4 ALUMINUM LAKE|C.I. FOOD YELLOW 4:1|C.I. PIGMENT YELLOW 100|CERTOLAKE TARTRAZINE|CERTOLAKE TARTRAZOL YELLOW|4,5-DIHYDRO-5-OXO-1-(4-SULFOPHENYL)-4-((4-SULFOPHENYL)AZO)-1H-PYRAZOLE-3-CARBOXYLIC ACID ALUMINUM COMPLEX|FD AND C YELLOW NO. 5 ALUMINUM LAKE|FD&C YELLOW NO. 5 ALUMINUM LAKE|FOOD YELLOW NO. 4 ALUMINUM LAKE|1H-PYRAZOLE-3-CARBOXYLIC ACID, 4,5-DIHYDRO-5-OXO-1-(4-SULFOPHENYL)-4-[(4-SULFOPHENYL)AZO]-	12225-21-7	PHYSICAL DESCRIPTION: Yellow to greenish-yellow powder. (NTP, 1992)	1.0	2.5	5.0	3377.0	344.0	1186.0	561.0	389.0	743.0	80.0	268.0	133.0	84.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1632	C.I. SOLVENT BLACK 5	BASONYL BLACK X 22|BONTRON N 05|BRILLIANT BLACK LB|C.I. 50415|C.I. SOLVENT BLACK #5|C.I. SOLVENT BLACK 5|LAKE BLACK EXTRA|NEPTUNE BLACK X 14|NEPTUNE X 14|NIGROSIN, ALCOHOL SOLUBLE|NIGROSINE SB|NIGROSINE SPIRIT SOLUBLE|NIGROSINE SSB|NIGROSINE SSBZ 14|NIGROSINE SSBZ 30|NIGROSINE SSJ|NIGROSINE SSJ|NIGROSINE WN|ORIENT SPIRIT BLACK AB|ORIENT SPIRIT BLACK SB|ORIENT SPIRIT BLACK SSBB|SOLVENT BLACK #5|SOLVENT BLACK 5|SPIRIT BLACK 5B|SPIRIT BLACK 850|SPIRIT BLACK 920|SPIRIT BLACK AB|SPIRIT BLACK SB|SPIRIT NIGROSINE SSB	11099-03-9	PHYSICAL DESCRIPTION: Black powder. (NTP, 1992)	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1633	C.I. SOLVENT BLACK 7	AIZEN SOT BLACK 1|AIZEN SOT BLACK 5|AQUAMATE BLACK 20149|BONTRON N 07|C.I. 50415:1|C.I. 50415B|C.I. SOLVENT BLACK 7|INDULINE BASE P|INDULINE BLUE BASE FR|NIGROSIN N|NIGROSINE BASE|NIGROSINE BASE B|NIGROSINE BASE C|NIGROSINE BASE EK|NIGROSINE BASE EX|NIGROSINE BASE EXBP|NIGROSINE BASE LK|NIGROSINE BASE LT|NIGROSINE BASE LTK|NIGROSINE BASE N|NIGROSINE BASE N PURE|NIGROSINE BASE NJD|NIGROSINE BASE R|NIGROSINE BLACK EX|OIL BLACK 2020|OIL BLACK BS|OILSOL BLACK N|ORIENT NIGROSINE BASE EE|ORIENT NIGROSINE BASE EX|ORIENT NIGROSINE BASE EXBP|ORIENT NIGROSINE BASE SA|ORIENT NIGROSINE	8005-02-5	PHYSICAL DESCRIPTION: Black powder. (NTP, 1992)	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1634	C.I. SOLVENT ORANGE 7	C.I. SOLVENT ORANGE 7	3118-97-6	Red crystals. Insoluble in water.	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1635	C.I. VAT BLUE 1	(BLOB)	482-89-3	PHYSICAL DESCRIPTION: Dark blue powder with coppery luster. Occurs in isomeric forms (cis and trans). In solid state it is in the trans form. (NTP, 1992)	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1630	C.I. PIGMENT VIOLET 1	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Oxidizes slowly in air in a reaction catalyzed by light. Somewhat hygroscopic. Insoluble in water.	4,4'-DIAMINODIPHENYLMETHANE polymerizes if heated above 257Â° F. Incompatible with strong oxidizing agents. It is also incompatible with acids. Catalyzes isocyanate-alcohol and epoxide reactions. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		430																(NTP, 1992)			197 to 198
1631	C.I. PIGMENT YELLOW 100	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 4,4'-DIBROMOOCTAFLUOROBIPHENYL, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1632	C.I. SOLVENT BLACK 5	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Polyurethanes are formed by the condensation reaction of diisocyanates with, for example, ethyl glycol.		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1633	C.I. SOLVENT BLACK 7	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Slowly oxidized. Insoluble in water.	4,4'-DIMETHOXYDIPHENYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																							
1634	C.I. SOLVENT ORANGE 7	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]	Strong Oxidizing Agent						0																				
1635	C.I. VAT BLUE 1	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store at or below ambient; protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	DELTA-BHC may be incompatible with strong oxidizing and reducing agents. Incompatible with some amines, nitrides, azo/diazo compounds, with alkali metals, and with epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1630	C.I. PIGMENT VIOLET 1	(NTP, 1992)	(calculated)	1.00E-07		77		mm Hg	(NTP, 1992)		6.8				(NTP, 1992)		1.15		77		(NTP, 1992)			748 to 750	768		(NTP, 1992)		198.27		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C13H14N2		5.0	0.0	18.0	3.0	3.0
1631	C.I. PIGMENT YELLOW 100																										(NTP, 1992)		455.927												Class 9	C12Br2F8		4.0	0.0	13.0	3.0	3.0
1632	C.I. SOLVENT BLACK 5																																								Poison	C14H8N2O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	20.0	3.0	3.0
1633	C.I. SOLVENT BLACK 7																										(NTP, 1992)		229.3						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C14H15NO2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	21.0	3.0	3.0
1634	C.I. SOLVENT ORANGE 7																										(NTP, 1992)		476.35													C14H10N2O10S2.2Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	13.0	3.0	3.0
1635	C.I. VAT BLUE 1	(NTP, 1992)		0.14		104		mm Hg																			(NTP, 1992)		290.82												Poison	C6H6Cl6		7.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1636	C.I. VAT BROWN 3	(BLOB)	131-92-0	PHYSICAL DESCRIPTION: Odorless brown to dark brown powder. (NTP, 1992)	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	(BLOB)	This chemical is combustible. This compound may form explosive dust clouds. Static electricity can cause its dust to explode. (NTP, 1992)	Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
1637	CADMIUM BROMIDE	CADMIUM BROMIDE|CADMIUM BROMIDE TETRAHYDRATE	7789-42-6	Odorless white solid. Mixes with water. (USCG, 1999)	1.0	2.5	5.0	3380.0	344.0	1186.0	561.0	389.0	744.0	80.0	268.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1638	CADMIUM STEARATE	ALAIXOL 11|CADMIUM DISTEARATE|CADMIUM OCTADECANOATE|CADMIUM STEARATE|CADMIUM(II) STEARATE|OCTADECANOIC ACID, CADMIUM SALT|SCD|STABILISATOR SCD|STABILIZER SCD|STEARIC ACID, CADMIUM SALT	2223-93-0	Solid. Used as a lubricant and stabilizer for polyvinyl chloride. (EPA, 1998)	1.0	2.5	5.0	3383.0	344.0	1186.0	561.0	389.0	745.0	80.0	268.0	133.0	84.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1639	CALCIUM CYANAMIDE, WITH MORE THAN 0.1% CALCIUM CARBIDE	AERO CYANAMID GRANULAR|AERO CYANAMID SPECIAL GRADE|AERO-CYANAMID|ALZODEF|CALCIUM CARBIMIDE|CALCIUM CYANAMID|CALCIUM CYANAMIDE|CALCIUM CYANAMIDE (CACN2)|CALCIUM CYANAMIDE, WITH MORE THAN 0.1% CALCIUM CARBIDE|CALCIUM CYANAMIDE, [NOT HYDRATED, WITH > 0.1% CALCIUM CARBIDE]|CCC|CY-L 500|CYANAMID|CYANAMIDE|CYANAMIDE GRANULAR|CYANAMIDE SPECIAL GRADE|CYANAMIDE, CALCIUM SALT (1:1)|DORMEX|LIME NITROGEN|LIME-NITROGEN|LIME|NITROGEN|NCI-C02937|NITROGEN LIME|NITROLIM|NITROLIME|PERLKA|USAF CY-2	156-62-7	A colorless to gray, odorless solid. May cause illness from ingestion. May irritate the skin. If exposed to water or high temperatures, calcium cyanamide may generate toxic and flammable fumes. Used to make pesticides and in fertilizers.	1.0	2.5	5.0	3386.0	344.0	1189.0	561.0	389.0	746.0	80.0	269.0	133.0	84.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1640	CALCIUM HYDRIDE	CALCIUM DIHYDRIDE|CALCIUM HYDRIDE	7789-78-8	Grayish-colored lump or crystalline solid. Irritating to skin and eyes. Used to make other chemicals.	1.0	2.5	5.0	3386.0	344.0	1189.0	561.0	389.0	746.0	80.0	269.0	133.0	84.0	None needed (USCG, 1999)		
1641	CALCIUM PEROXIDE	CALCIUM DIOXIDE|CALCIUM OXIDE (CAO2)|CALCIUM PEROXIDE|CALPER|CALPER G	1305-79-9	A grayish white granular material. Used in baking, in medicine, in bleaching oils.	1.0	2.5	5.0	3386.0	344.0	1189.0	561.0	389.0	746.0	80.0	269.0	133.0	84.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
1642	CALCIUM RESINATE	CALCIUM ABIETATE|CALCIUM RESINATE|CALCIUM RESINATE, FUSED|CALCIUM RESINATE, [FUSED]|CALCIUM ROSIN|LIMED ROSIN|LIMED WOOD ROSIN|METAL RESINATE 40B|METALLIC RESINATE|RESIN ACIDS, CALCIUM SALTS|ROSIN CALCIUM SALT|URAPRINT 62-126	9007-13-0	Calcium resinate is a grayish white to yellow amorphous powder which can be fused into grayish lumps. If it comes in contact with air, spontaneous heating may result. This heat may be sufficient to ignite the material itself or surrounding combustible material. It is insoluble in water.	1.0	2.5	5.0	3386.0	344.0	1189.0	561.0	389.0	746.0	80.0	269.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1636	C.I. VAT BROWN 3	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient conditions, and keep it away from oxidizing materials. (NTP, 1992)	Approved dust mask and clean, body-covering clothing sufficient to prevent excessive or repeated exposure to dust, fumes, or solutions. Safety glasses with side shields. (USCG, 1999)	The finely powdered resin is a significant dust explosion hazard. Insoluble in water.	4,4'-ISOPROPYLIDENEDIPHENOL is incompatible with strong oxidizers. It is also incompatible with strong bases, acid chlorides and acid anhydrides. (NTP, 1992)		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		175																	(NTP, 1992)			307 to 313
1637	CADMIUM BROMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Water soluble.	In aqueous solution behaves as an acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.					0																					(NTP, 1992)	(decomposes)		531 to 532
1638	CADMIUM STEARATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it at ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Sensitive to base hydrolysis and may spontaneously oxidize in solution. (NTP, 1992). Insoluble in water.	4,4'-THIOBIS(6-TERT-BUTYL-M-CRESOL) may be sensitive to light.					0		(NTP, 1992)		420																	(NTP, 1992)			302
1639	CALCIUM CYANAMIDE, WITH MORE THAN 0.1% CALCIUM CARBIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-BROMOBIPHENYL may be sensitive to light. This compound can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		290																	(NTP, 1992)		196.2	
1640	CALCIUM HYDRIDE		None needed (USCG, 1999)	Water soluble.	A weak reducing agent.								0																	(USCG, 1999)	Not flammable			(USCG, 1999)			less than 32
1641	CALCIUM PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Water soluble.	1,2-EPOXY-3-BUTENE may be sensitive to heat. This compound can react with oxidizing materials. (NTP, 1992). Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	5		(NTP, 1992)		-50																	(NTP, 1992)			-211
1642	CALCIUM RESINATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 4-CHLOROBIPHENYL, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		171.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1636	C.I. VAT BROWN 3	(NTP, 1992)	; 1 mm Hg at 379.4Â° F	0.2		338		mm Hg							(USCG, 1999)		1.195		77		(NTP, 1992)		428		4		(NTP, 1992)		228.29						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL	BPA	Flammable Liquid|Corrosive	C15H16O2		6.0	0.0	13.0	3.0	3.0
1637	CADMIUM BROMIDE																										(NTP, 1992)		271.21						(NTP, 1992)	at 67.1Â° F		greater than or equal to 100	mg/mL			C13H14N2.2ClH		6.0	0.0	14.0	3.0	3.0
1638	CADMIUM STEARATE	(NTP, 1992)		6.30E-07		158		mm Hg							(NTP, 1992)		1.1		77								(NTP, 1992)		358.58						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C22H30O2S		8.0	0.0	20.0	3.0	3.0
1639	CALCIUM CYANAMIDE, WITH MORE THAN 0.1% CALCIUM CARBIDE														(NTP, 1992)		0.9327				(NTP, 1992)		590		760		(NTP, 1992)		233.12						(NTP, 1992)	Insoluble				Class 9	C12H9Br			6.0	0.0	15.0	3.0	3.0
1640	CALCIUM HYDRIDE														(USCG, 1999)	(est.)	1.2		68		(USCG, 1999)			greater than 212	760														DTS		C6H12O6 (aqueous)	Cellulose-Based Absorbents	5.0	0.0	12.0	3.0	3.0
1641	CALCIUM PEROXIDE								(NTP, 1992)		2.41				(NTP, 1992)		0.87				(NTP, 1992)			149 to 151	760		(NTP, 1992)		70.1						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL		Flammable Liquid	C4H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	22.0	3.0	3.0
1642	CALCIUM RESINATE	(NTP, 1992)	; 10 mm Hg at 294.8Â° F; 760 mm Hg at 559.2Â° F	1		205.5		mm Hg													(NTP, 1992)		556		760		(NTP, 1992)		188.66						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C12H9Cl		8.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1643	CAMPHENE	CAMPHENE|(+-)-CAMPHENE|3,3-DIMETHYL-2-METHYLENE NORCAMPHANE|3,3-DIMETHYL-2-METHYLENENORBORNANE|3,3-DIMETHYL-2-METHYLENENORCAMPHANE|2,2-DIMETHYL-3-METHYLENE NORBORANE|2,2-DIMETHYL-3-METHYLENEBICYCLO[2.2.1]HEPTANE|2,2-DIMETHYL-3-METHYLENENORBORNANE|DL-CAMPHENE	79-92-5	A colorless to white crystalline solid with an insipid camphor-like odor. Dust and crystals are irritants to the eyes, nose and throat. Emits flammable vapors when heated. Emits acrid smoke and irritating fumes at high temperature. Used for the manufacture of synthetic camphor.	1.0	2.5	5.0	3386.0	344.0	1189.0	561.0	389.0	746.0	80.0	269.0	133.0	84.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1644	CAMPHOR OIL	CAMPHOR OIL|FORMOSA CAMPHOR OIL|JAPANESE CAMPHOR OIL|LIGHT CAMPHOR OIL|LIGHT OIL OF CAMPHOR|LIQUID CAMPHOR|LIQUID GUM CAMPHOR|LIQUID IMPURE CAMPHOR|OIL OF CAMPHOR|WHITE CAMPHOR OIL	8008-51-3	A colorless liquid with a characteristic odor. Flash point 125Â°F. Insoluble in water and generally less dense than water. Vapors heavier than air.	2.5	5.0	2.5	3386.0	347.0	1189.0	561.0	389.0	746.0	81.0	269.0	133.0	84.0	(BLOB)	When heated to decomposition, it emits toxic fumes of mercury. Avoid light. (EPA, 1998)	Avoid breathing dusts, and fumes from burning material. Keep upwind. Avoid bodily contact with the material. Wear boots, protective gloves, and goggles. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. Wear self-contained breathing apparatus when fighting fires involving this material. If contact with the material is anticipated, wear full protective clothing. Not flammable. Extinguish fire using agent suitable for type of surrounding fire. Material itself does not burn or burns with difficulty. Use water in flooding quantities as fog. Use foam, carbon dioxide or dry chemical to extinguish fires. (EPA, 1998)
1645	CARBAZOLE	9-AZAFLUORENE|CARBAZOLE|DIBENZO(B,D)PYRROLE|DIBENZOPYRROLE|DIBENZO[B,D]PYRROLE|DIPHENYLENEIMINE|DIPHENYLENIMIDE|DIPHENYLENIMINE|9H-CARBAZOLE|SKF 20091|USAF EK-600	86-74-8	PHYSICAL DESCRIPTION: White crystals, plates, leaflets or light tan powder. Sublimes readily. Exhibits strong fluorescence and long phosphorescence on exposure to ultraviolet light. (NTP, 1992)	1.0	2.5	5.0	3386.0	347.0	1189.0	561.0	389.0	746.0	81.0	269.0	133.0	84.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
1646	CARBON TETRABROMIDE	CARBON BROMIDE|CARBON BROMIDE (CBR4)|CARBON TETRABROMIDE|METHANE TETRABROMIDE|TETRABROMOMETHANE	558-13-4	A colorless crystalline solid. Much more dense than water and insoluble in water. Toxic by ingestion. Vapors are narcotic in high concentration. Used to make other chemicals.	1.0	2.5	5.0	3386.0	347.0	1189.0	561.0	389.0	746.0	81.0	269.0	133.0	84.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1647	CARBOSULFAN	CARBOSULFAN	55285-14-8	Viscous brown liquid.	2.5	5.0	2.5	3389.0	347.0	1189.0	561.0	389.0	747.0	81.0	269.0	133.0	84.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1643	CAMPHENE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. Peroxides are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1644	CAMPHOR OIL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble. Decomposed by water to form a yellow insoluble product.	MERCURY ACETATE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, and copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)				352 to 356
1645	CARBAZOLE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3)PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1646	CARBON TETRABROMIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An organometallic. Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0			(NTP, 1992)		greater than 200																
1647	CARBOSULFAN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Mixtures of "MERCURY OXIDE" with barium oxide react vigorously with hydrogen sulfide in air. Explosions may result [Mellor 10:140. 1946-47]. Dissolves in nitric acid. Reacts with hydrochloric acid to give insoluble mercurous chloride (calomel). Contact of the metal oxide caused the explosive decomposition of hydrogen peroxide [Bretherick 5th ed., 1995]. Mixtures with phosphorus or sulfur explode by impact and friction respectively, [Mellor, 1940, Vol. 4, 77].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1643	CAMPHENE																																								Organic Peroxide| Explosive	C14H6Cl4O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	21.0	3.0	3.0
1644	CAMPHOR OIL														(EPA, 1998)		3.27				(EPA, 1998)	Decomposes					(EPA, 1998)		318.7		(NIOSH, 2003)	(as Hg)	2	mg/m3						MAT	Poison	Hg(CH3COO)2		9.0	0.0	19.0	3.0	3.0
1645	CARBAZOLE																																								Organic Peroxide	C12H22O6	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	9.0	0.0	23.0	3.0	3.0
1646	CARBON TETRABROMIDE	(NTP, 1992)		10.2		77		mm Hg							(NTP, 1992)		1.082		62.1								(NTP, 1992)		751.79		(NIOSH, 2003)	(as Sn)	25	mg/m3	(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C36H72O4S2Sn		8.0	0.0	11.0	3.0	3.0
1647	CARBOSULFAN																															(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	Hg2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1648	CESIUM HYDROXIDE	CAESIUM HYDROXIDE|CESIUM HYDRATE|CESIUM HYDROXIDE|CESIUM HYDROXIDE DIMER	21351-79-1	Colorless to yellow crystalline solid. Harmful to skin and eyes. Used in electric storage batteries.	1.0	2.5	5.0	3389.0	347.0	1189.0	561.0	389.0	747.0	81.0	269.0	133.0	84.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1649	CESIUM HYDROXIDE, SOLUTION	CAESIUM HYDROXIDE, SOLUTION|CESIUM HYDROXIDE|CESIUM HYDROXIDE SOLUTION|CESIUM HYDROXIDE, SOLUTION	21351-79-1	An aqueous solution. Strongly corrosive. Harmful to skin and eyes. Used in electric storage batteries.	2.5	5.0	2.5	3392.0	347.0	1189.0	561.0	389.0	748.0	81.0	269.0	133.0	84.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1650	CESIUM NITRATE	CAESIUM NITRATE|CESIUM NITRATE	7789-18-6	Cesium nitrate is a colorless, glittering crystalline solid. It is soluble in water. It is a strong oxidizing material and may burst into flames on contact with organic materials.	1.0	2.5	5.0	3392.0	347.0	1189.0	561.0	389.0	748.0	81.0	269.0	133.0	84.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1651	CHLORAMBUCIL	(BLOB)	305-03-3	PHYSICAL DESCRIPTION: White to pale beige crystalline or granular powder with a slight odor. Melting point 65-69Â°C.	1.0	2.5	5.0	3395.0	347.0	1192.0	561.0	389.0	749.0	81.0	270.0	133.0	84.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1652	CHLORIMURON ETHYL	CHLORIMURON ETHYL|ETHYL-2-((((4-CHLORO-6-METHOXY-2-PRIMIDINYL)AMINO)CARBONYL)AMINO)SULFONYL)BENZOATE|ETHYL-2-((((4-CHLORO-6-METHOXYPRIMIDIN-2-YL)-CARBONYL)-AMINO)SULFONYL)BENZOATE	90982-32-4	Colorless crystals. Used as an herbicide.	1.0	2.5	5.0	3395.0	347.0	1192.0	561.0	389.0	749.0	81.0	270.0	133.0	84.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1653	CHLORMEQUAT CHLORIDE	AC 38555|AMMONIUM, (2-CHLOROETHYL)TRIMETHYL-, CHLORIDE|ANTYWYLEGACZ|BARLEYQUAT B|BERCEMA CCC|(BETA-CHLOROETHYL)TRIMETHYLAMMONIUM CHLORIDE|BETA-CHLOROETHYLTRIMETHYLAMMONIUM CHLORIDE|CCC|CCC PLANT GROWTH REGULANTICE CE CE|CHLORCHOLINE CHLORIDE|CHLORMEQUAT|CHLORMEQUAT CHLORIDE|2-CHLORO-N,N,N-TRIMETHYLETHANAMINIUM CHLORIDE|CHLOROCHOLINE CHLORIDE|(2-CHLOROETHYL)TRIMETHYLAMMONIUM CHLORIDE|CHOLINE DICHLORIDE|60-CS-16|60CS16|CYCLOCEL|CYCOCEL|CYCOCEL EXTRA|CYCOCEL-EXTRA|CYCOGAN|CYCOGA	999-81-5	White crystals with a fishlike odor. Used as a plant growth regulator. Said to be effective for cereal grains, tomatoes, and peppers. (EPA, 1998)	1.0	2.5	5.0	3395.0	347.0	1192.0	561.0	389.0	749.0	81.0	270.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1648	CESIUM HYDROXIDE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as DI-(TERT-BUTYLPEROXYPHTHALIC, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1649	CESIUM HYDROXIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Sensitive to moisture. May decompose on exposure to moist air. Insoluble in water.	Epoxides, such as 1,2-EPOXYDODECANE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts. This chemical is incompatible with strong oxidizers, strong acids and strong bases. It is also incompatible with peroxides. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		112																				
1650	CESIUM NITRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Water soluble.	DIACETONE ACRYLAMIDE forms polymers in solution, in bulk, or in emulsion. May react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases. May undergo autoxidation upon exposure to the air to form explosive peroxides.	Polymerizable						0																	(NTP, 1992)		135 to 136
1651	CHLORAMBUCIL	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	DIACETYL is a flammable liquid, b.p. 88Â° C, moderately toxic. When heated to decomposition it emits acrid smoke and fumes [Sax, 9th ed., 1996, p. 544].	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		80											(NTP, 1992)		689		(NTP, 1992)		27.7	
1652	CHLORIMURON ETHYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-METHOXYBENZYLIDINE-4'-N-BUTYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		greater than 235													(NTP, 1992)	(Turbid)	70	
1653	CHLORMEQUAT CHLORIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations.	4-METHOXYBENZYLIDINE-4'-N-BUTYLAZOXYBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1648	CESIUM HYDROXIDE																																								Organic Peroxide	C16H22O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	13.0	3.0	3.0
1649	CESIUM HYDROXIDE, SOLUTION	(NTP, 1992)		6.25		77		mm Hg							(NTP, 1992)		0.844				(NTP, 1992)			255 to 257	15		(NTP, 1992)		184.32						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Flammable Liquid	C12H24O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	13.0	3.0	3.0
1650	CESIUM NITRATE																				(NTP, 1992)		248		8		(NTP, 1992)		169.22						(NTP, 1992)	Very soluble						C9H15NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	9.0	0.0	19.0	3.0	3.0
1651	CHLORAMBUCIL								(NTP, 1992)		3				(NTP, 1992)		0.99		59		(NTP, 1992)		190		760		(NTP, 1992)		86.09						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C4H6O2		5.0	0.0	12.0	3.0	3.0
1652	CHLORIMURON ETHYL														(NTP, 1992)		1.027										(NTP, 1992)		267.37						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C18H21NO		6.0	0.0	15.0	3.0	3.0
1653	CHLORMEQUAT CHLORIDE																											(NTP, 1992)		284.36													C17H20N2O2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1654	CHLOROACETONITRILE	ALPHA-CHLOROACETONITRILE|CHLORACETONITRILE|CHLOROACETONITRILE|2-CHLOROACETONITRILE|CHLOROCYANOMETHANE|CHLOROETHANE NITRILE|CHLOROMETHYL CYANIDE|CHLOROMETHYL, CYANIDE|MONOCHLOROACETONITRILE|MONOCHLOROMETHYL CYANIDE|USAF KF-5	107-14-2	A colorless liquid with a pungent odor. Flash point 118Â°F. Insoluble in water and denser than water. Hence, sinks in water. Very toxic by ingestion, inhalation and skin absorption. A lachrymator. Used to make other chemicals and as a fumigant.	2.5	5.0	2.5	3398.0	347.0	1192.0	561.0	389.0	750.0	81.0	270.0	133.0	84.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1655	CHLOROACETYL CHLORIDE	CHLORACETYL CHLORIDE|CHLOROACETIC ACID CHLORIDE|CHLOROACETIC CHLORIDE|CHLOROACETYL CHLORIDE|MONOCHLOROACETYL CHLORIDE	79-04-9	A colorless to light yellow liquid with a very pungent odor. Very toxic by inhalation. Corrosive to metals and tissue.	2.5	5.0	2.5	3401.0	347.0	1192.0	561.0	389.0	751.0	81.0	270.0	133.0	84.0	(BLOB)	(Non-Specific -- Methacrylic Acid) This material may burn but may not ignite readily. Flammable/ poisonous gases may accumulate in tanks and hopper cars. Some of these materials may ignite combustibles (wood, paper, oil, etc.). (EPA, 1998)	(Non-Specific -- Methacrylic Acid) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Methacrylic Acid) This material may react violently with water. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. (EPA, 1998)
1656	CHLOROBENZYL CHLORIDES	ALPHA,4-DICHLOROTOLUENE|ALPHA,P-DICHLOROTOLUENE|1-CHLORO-4-(CHLOROMETHYL)BENZENE|CHLOROBENZYL CHLORIDE|4-CHLOROBENZYL CHLORIDE|CHLOROBENZYL CHLORIDES|(4-CHLOROPHENYL)METHYL CHLORIDE|P,ALPHA-DICHLOROTOLUENE|P-CHLOROBENZYL CHLORIDE|P-CHLOROPHENYLMETHYL CHLORIDE|TOLUENE, P,ALPHA-DICHLORO-	611-19-8	A mixture of two or all three of the isomeric chlorobenzyl chlorides: 2-chlorobenzyl chloride, 3-chlorobenzyl chloride, 4-chlorobenzyl chloride. A colorless liquid that is denser than water and insoluble in water. A lachrymator. Irritating to skin and eyes. Toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3404.0	347.0	1195.0	561.0	389.0	752.0	81.0	271.0	133.0	84.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1657	CHLOROETHYL CHLOROFORMATE	BETA-CHLOROETHYL CHLOROFORMATE|CARBONOCHLORIDIC ACID, 2-CHLOROETHYL ESTER|(2-CHLOROETHOXY)CARBONYL CHLORIDE|2-CHLOROETHYL CARBONOCHLORIDATE|2-CHLOROETHYL CHLOROCARBONATE|CHLOROETHYL CHLOROFORMATE|2-CHLOROETHYL CHLOROFORMATE|CHLOROFORMIC ACID, 2-CHLOROETHYL ESTER|FORMIC ACID, CHLORO-, 2-CHLOROETHYL ESTER|TL 207	627-11-2	Liquid. (EPA, 1998)	2.5	5.0	2.5	3404.0	347.0	1195.0	561.0	389.0	752.0	81.0	271.0	133.0	84.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Flashback along vapor trail may occur. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1658	CHLOROPICRIN	ACQUINITE|CHLOR-O-PIC|CHLOROFORM, NITRO-|CHLOROPICRIN|CHLOROPICRIN, LIQUID|CHLOROPICRIN, [LIQUID]|CHLORPICRIN|DOJYO|PICRIN|DOLOCHLOR|G25|LARVACIDE|LARVACIDE 100|METHANE, TRICHLORONITRO-|MICROLYSIN|NCI-C00533|NITROCHLOROFORM|NITROTRICHLORO METHANE|NITROTRICHLOROMETHANE|PIC-CLOR|PICFUME|PICRIDE|PS|S1|TRI-CLOR|TRICHLORONITROMETHANE	76-06-2	A slightly oily colorless to yellow liquid with a strong irritating odor. Noncombustible. Denser than water. Vapors are poisonous by inhalation and irritate eyes, nose, and throat.	2.5	5.0	2.5	3404.0	347.0	1198.0	561.0	389.0	752.0	81.0	272.0	133.0	84.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1659	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE|CHLOROPICRIN-METHYL CHLORIDE MIXTURE|METHYL CHLORIDE AND CHLOROPICRIN MIXTURES	76-06-2	Chloropicrin and methyl chloride mixture is a colorless gas with an intense, penetrating odor. It is shipped as a liquefied gas under its own vapor pressure. Methyl chloride is a flammable gas and chloropicrin is noncombustible. The mixture can separate with the chloropicrin settling into low areas. The mixture is very toxic by inhalation. Prolonged exposure of the containers to fire or heat may result in their violent rupturing and rocketing.	5.0	1.0	1.0	3404.0	347.0	1198.0	561.0	389.0	752.0	81.0	272.0	133.0	84.0	EYES: promptly flush with clean water for at least 15 minutes and see a physician. SKIN: wash exposed area with soap and water. (USCG, 1999)	Combustible. (USCG, 1999)	Extinguish with dry chemical or alcohol foam. Water may be ineffective on fire. Cool exposed containers with water. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1654	CHLOROACETONITRILE	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Water soluble.	Corrosive, moderately toxic liquid or low-melting solid, m.p. 16Â° C. Flammable when exposed to heat, flame or strong oxidizers. A storage hazard; violent exothermic polymerization leading to explosion occur spontaneously, particularly at low inhibitor or stabilizer concentration [Anon., CISHC Chem. Safety Summ., 1979, 50, p. 34; Bond, J., Loss Prev. Bull., 1991, 101, p. 1].	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4		(NIOSH, 2003)		171													(NIOSH, 2003)		61	
1655	CHLOROACETYL CHLORIDE	(Non-Specific -- Methacrylic Acid) Do not touch spilled material; stop leak if you can do so without risk. For small spills, absorb with sand or other noncombustible absorbent material and place into containers for later disposal. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Reacts exothermically with water to form methacrylic acid.	METHACRYLIC ANHYDRIDE reacts exothermically with water. The reactions are sometimes slow, but can become violent when local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1656	CHLOROBENZYL CHLORIDES	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Reacts with water to produce gaseous hydrogen chloride (corrosive and toxic).	METHACRYLOYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, bases (including amines). Can polymerize violently; but the polymerization reaction can be inhibited by the addition of phenolthiazine. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Polymerizable; Water-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1657	CHLOROETHYL CHLOROFORMATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable and soluble in water.	METHALLYL ALCOHOL may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		92																				
1658	CHLOROPICRIN	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	METHANOL, TALLOW ALKYL IMINOBISETHANOL is a mixture of an alcohol with an organic compound containing both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for methanol, CAS number 67 56-1.	1	3	0	3		(NFPA, 2010)		52																				
1659	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)		Insoluble in water.	TRIDECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0		(USCG, 1999)		250																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1654	CHLOROACETONITRILE	(NIOSH, 2003)		0.7				mm Hg							(NIOSH, 2003)	(Liquid)	1.02				(NIOSH, 2003)		325		760		(NIOSH, 2003)		86.1						(NIOSH, 2003)	at 77Â° F	9		%		Corrosive	C4H6O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	23.0	3.0	3.0
1655	CHLOROACETYL CHLORIDE																				(EPA, 1998)		192		5		(EPA, 1998)		154.17												Corrosive	C8H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	20.0	3.0	3.0
1656	CHLOROBENZYL CHLORIDES														(EPA, 1998)		1.0871		68		(EPA, 1998)		205		760		(EPA, 1998)		105												Flammable Liquid|Poison|Corrosive	C4H5ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	34.0	3.0	3.0
1657	CHLOROETHYL CHLOROFORMATE														(USCG, 1999)		0.8515		68		(USCG, 1999)		239		760		(USCG, 1999)		72.1												MLL	Flammable Liquid	C4H8O	Cellulose-Based Absorbents|Dirt/Earth	7.0	0.0	13.0	3.0	3.0
1658	CHLOROPICRIN																																								Flammable Liquid|Corrosive		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	12.0	3.0	3.0
1659	CHLOROPICRIN AND METHYL CHLORIDE MIXTURE	(USCG, 1999)		3.62		260		mm Hg							(USCG, 1999)		0.846		68		(USCG, 1999)		525		760		(USCG, 1999)		200.37												TDN		C13H28O	Cellulose-Based Absorbents	7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1660	CHLOROPICRIN AND NON-FLAMMABLE, NON-LIQUEFIED COMPRESSED GAS MIXTURE	ACQUINITE|CHLOROPICRIN|CHLOROPICRIN AND NON-FLAMMABLE, NON-LIQUEFIED COMPRESSED GAS MIXTURE|CHLOROPICRIN-NONFLAMMABLE, [NONLIQUIFIED COMPRESSED GAS MIXTURE]|CHLORPICRING25|LARVACIDE|MICROLYSIN|NITROCHLOROFORM|NITROTRICHLOROMETHANE|PICFUME|PS|TRICHLORONITROMETHANE	76-06-2	Chloropicrin and nonflammable, non liquefied compressed gas is a colorless gas with an intense penetrating odor. It is toxic by inhalation (vapor) and ingestion. Its vapors are heavier than air. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Prolonged exposure of the container to fire or intense heat may result in its violent rupturing and rocketing.	5.0	1.0	1.0	3407.0	347.0	1198.0	561.0	389.0	753.0	81.0	272.0	133.0	84.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1661	CHLOROPICRIN MIXTURE	ACQUINITE|CHLOROPICRIN MIXTURE|CHLOROPICRIN, [ABSORBED]|CHLORPICRING25|LARVACIDE|MICROLYSIN|NITROCHLOROFORM|NITROTRICHLOROMETHANE|PICFUME|PS|TRICHLORONITROMETHANE	76-06-2	Chloropicrin mixture is a variable colored liquid usually colorless to yellow. Chloropicrin is noncombustible and the flammability of the mixture will depend on the other component of the mixture. Chloropicrin vapors are heavier than air and it is toxic by inhalation.	2.5	5.0	2.5	3407.0	347.0	1198.0	561.0	389.0	753.0	81.0	272.0	133.0	84.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1662	CHLOROPICRIN MIXTURE, [WITH NO COMPRESSED GAS OR POISON A LIQUID]	CHLOROPICRIN|CHLOROPICRIN MIXTURE, [WITH NO COMPRESSED GAS OR POISON A LIQUID]	76-06-2	Chloropicrin mixture is a variable colored liquid usually colorless to yellow. Chloropicrin is noncombustible and the flammability of the mixture will depend on the other component of the mixture. Chloropicrin vapors are heavier than air and it is toxic by inhalation.	2.5	5.0	2.5	3407.0	350.0	1201.0	564.0	389.0	753.0	82.0	273.0	134.0	84.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1663	CHLOROPICRIN MIXTURE, FLAMMABLE	ACQUINITE|CHLOROPICRIN|CHLOROPICRIN MIXTURE, FLAMMABLE|CHLOROPICRIN MIXTURE, [FLAMMABLE] (PRESSURE <= 14.7 PSIA; FLASH POINT< 100 DEG F)|CHLORPICRING25|LARVACIDE|MICROLYSIN|NITROCHLOROFORM|NITROTRICHLOROMETHANE|PICFUME|PS|TRICHLORONITROMETHANE	76-06-2	A mixture of chloropicrin with another substance or substances. Mixture is iquid at room temperature. Soluble in alcohol, benzene, ether. Slightly soluble in water. Has an irritating odor. A powerful irritant affecting all body surfaces. Vapors are poisonous if inhaled. Used as an fumigant.	2.5	5.0	2.5	3410.0	350.0	1201.0	570.0	392.0	754.0	82.0	273.0	136.0	85.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1664	CHLOROPIVALOYL CHLORIDE	BETA-CHLORO-ALPHA,ALPHA-DIMETHYLPROPIONYL CHLORIDE|BETA-CHLOROPIVALIC ACID CHLORIDE|BETA-CHLOROPIVALOYL CHLORIDE|3-CHLORO-2,2-DIMETHYLPROPIONYL CHLORIDE|CHLOROPIVALOYL CHLORIDE|3-CHLOROPIVALOYL CHLORIDE|2,2-DIMETHYL-3-CHLOROPROPIONYL CHLORIDE|PROPIONYL CHLORIDE, 3-CHLORO-2,2-DIMETHYL-	4300-97-4	A colorless liquid. Very toxic by ingestion, inhalation and skin absorption. Corrosive. Contact may severely irritate skin, eyes, and mucous membranes. Used to make other chemicals.	2.5	5.0	2.5	3410.0	350.0	1201.0	570.0	392.0	754.0	82.0	273.0	136.0	85.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1660	CHLOROPICRIN AND NON-FLAMMABLE, NON-LIQUEFIED COMPRESSED GAS MIXTURE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	About the same density as water and slowly dissolves in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1661	CHLOROPICRIN MIXTURE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1662	CHLOROPICRIN MIXTURE, [WITH NO COMPRESSED GAS OR POISON A LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	METHAPYRILENE HYDROCHLORIDE is light sensitive. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions. (NTP, 1992). Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									(NTP, 1992)		324	
1663	CHLOROPICRIN MIXTURE, FLAMMABLE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Moisture sensitive. Insoluble in water.	The neat compound, 1,2-EPOXYHEXADECANE, is sensitive to prolonged exposure to heat. It is also moisture sensitive. This material reacts with inorganic acids, thiosulfate, carboxylic acids, hydrogen cyanide, water, amines, aldehydes, alcohols, and caustics. It will also react with amino, hydroxyl and carboxyl groups. (NTP, 1992)	Highly Flammable; Polymerizable						0																							(NTP, 1992)		77 to 81	
1664	CHLOROPIVALOYL CHLORIDE			Hydrolyzed by strong acids and bases.	MEETHAZOLE is an oxadiazole. [[Details on specifics of reactivity not yet available.]]								0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1660	CHLOROPICRIN AND NON-FLAMMABLE, NON-LIQUEFIED COMPRESSED GAS MIXTURE																																								Corrosive	C30H63O4P		7.0	0.0	12.0	3.0	3.0
1661	CHLOROPICRIN MIXTURE																			(NTP, 1992)			343 to 347	3		(NTP, 1992)		261.39												Poison	C14H19N3S	Mineral-Based & Clay-Based Absorbents	7.0	0.0	12.0	3.0	3.0
1662	CHLOROPICRIN MIXTURE, [WITH NO COMPRESSED GAS OR POISON A LIQUID]																									(NTP, 1992)		297.88						(NTP, 1992)	at 68.9Â°F		greater than or equal to 100	mg/mL		Poison	C14H19N3S.ClH	Mineral-Based & Clay-Based Absorbents;Dirt/Earth	7.0	0.0	12.0	3.0	3.0
1663	CHLOROPICRIN MIXTURE, FLAMMABLE														(NTP, 1992)		0.849		68		(NTP, 1992)			518 to 527	760		(NTP, 1992)		240.48						(NTP, 1992)	Reaction					C16H32O	Mineral-Based & Clay-Based Absorbents;Dirt/Earth	7.0	0.0	12.0	3.0	3.0
1664	CHLOROPIVALOYL CHLORIDE																																									C9H6Cl2N2O3		6.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1665	CHLOROTHIAZIDE	ALURENE|CHLORIAZID|6-CHLORO-2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE 1,1-DIOXIDE|6-CHLORO-7-SULFAMOYL-2H-1,2,4-BENZOTHIADIAZINE 1,1-DIOXIDE|6-CHLORO-7-SULFAMYL-1,2,4-BENZOTHIADIAZINE 1,1-DIOXIDE|CHLOROSAL|CHLOROTHIAZID|CHLOROTHIAZIDE|CHLORTHIAZIDE|CHLORURIT|CHLOTRIDE|CHLROSAL|CLOTRIDE|CT|DIURESAL|DIURIL|DIURILIX|DIURITE|DIUTRID|EXURIL|FLUMEN|MINZIL|NEO-DEMA|RO-CHLOROZIDE|SALISAN|SALUNIL|SALURETIL|SALURIC|SK-CHLOROTHIAZIDE|THIAZIDE|URINEX|WARDUZIDE|YADALAN|YADULAN	58-94-6	PHYSICAL DESCRIPTION: Crystals; white powder. (NTP, 1992)	1.0	2.5	5.0	3410.0	350.0	1201.0	570.0	392.0	754.0	82.0	273.0	136.0	85.0	(BLOB)	Not flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED. Oxides of sulfur and of phosphorus are generated in fires. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1666	CHLORPROMAZINE HYDROCHLORIDE	(BLOB)	69-09-0	PHYSICAL DESCRIPTION: White or creamy-white odorless crystalline powder with very bitter taste. pH (5% aqueous solution) 4.0-5.5. pH (10% aqueous solution) 4-5. (NTP, 1992)	1.0	2.5	5.0	3410.0	350.0	1201.0	570.0	392.0	754.0	82.0	273.0	136.0	85.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1667	CHLORSULFURON	2-CHLORO-N-(((4-METHOXY-6-METHYL-1,3,5-TRIAZIN-2-YL)AMINO]CARBONYL)BENZENESULFONAMIDE|CHLORSULFURON	64902-72-3	Colorless crystals. Non corrosive. Insoluble in water. Used as an herbicide.	1.0	2.5	5.0	3410.0	350.0	1204.0	570.0	392.0	754.0	82.0	274.0	136.0	85.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1668	CHROMIC ACETATE	ACETIC ACID, CHROMIUM SALT|CAC 10|CHROMIC (III) ACETATE|CHROMIC ACETATE|CHROMIUM ACETATE|CHROMIUM TRIACETATE|CHROMIUM(3+) ACETATE|CHROMIUM(III) ACETATE	1066-30-4	A grayish green to bluish green powder. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in tanning and in textile dyeing.	1.0	2.5	5.0	3410.0	350.0	1204.0	570.0	392.0	754.0	82.0	274.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1669	CHROMIC FLUORIDE, SOLID	CHROMIC FLUORIDE|CHROMIC FLUORIDE, SOLID|CHROMIC FLUORIDE, [SOLID]|CHROMIC TRIFLUORIDE|CHROMIUM TRIFLUORIDE|CHROMIUM(3+) FLUORIDE|CHROMIUM(III) FLUORIDE	7788-97-8	Chromic fluoride, solid is a green crystalline solid. It is soluble in water. It is corrosive to tissue.	1.0	2.5	5.0	3413.0	350.0	1204.0	570.0	392.0	755.0	82.0	274.0	136.0	85.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1670	CHROMIC FLUORIDE, SOLUTION	CHROMIC FLUORIDE|CHROMIC FLUORIDE SOLUTION|CHROMIC FLUORIDE, SOLUTION|CHROMIC TRIFLUORIDE|CHROMIUM TRIFLUORIDE|CHROMIUM(3+) FLUORIDE|CHROMIUM(III) FLUORIDE	7788-97-8	Chromic fluoride solution is a green crystalline solid dissolved in water. It is corrosive to metals and tissue.	1.0	2.5	5.0	3413.0	350.0	1204.0	570.0	392.0	755.0	82.0	274.0	136.0	85.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1665	CHLOROTHIAZIDE	Stop discharge if possible. Keep people away. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	(BLOB)	The neat compound is susceptible to oxidation and should be protected from prolonged exposure to air (NTP, 1992). Insoluble in water.	Organothiophosphates, such as DIAZINON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. POISONOUS GASES ARE PRODUCED WHEN HEATED. Oxides of sulfur and of phosphorus are generated in fires (USCG, 1999). DIAZINON is incompatible with the following: Strong acids & alkalis, copper-containing compounds [Note: Hydrolyzes slowly in water & dilute acid.] (NIOSH, 1997).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)	(commercial solutions)		82 to 105																			
1666	CHLORPROMAZINE HYDROCHLORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	DIAZODINITROPHENOL is a diazo compound. Azo, diazo, azido compounds can detonate. The nitro groups would facilitate rapid decomposition. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																									
1667	CHLORSULFURON	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	3	0	3		(NFPA, 2010)		75																			
1668	CHROMIC ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-NITROANTHRANILIC ACID is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992)						0																					(NTP, 1992)	(decomposes)		514 to 518
1669	CHROMIC FLUORIDE, SOLID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dust/air mixtures may ignite and explode. Insoluble in water.	DIBENZ(A,H)ACRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1670	CHROMIC FLUORIDE, SOLUTION			Dust/air mixtures may ignite and explode. Insoluble in water.	DIBENZ(A,J)ACRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1665	CHLOROTHIAZIDE	(NIOSH, 2003)		0.0001				mm Hg							(USCG, 1999)		1.117		68		(NTP, 1992)	Decomposes >248Â° F					(NTP, 1992)		304.36						(NTP, 1992)	at 75Â° F		less than 1	mg/mL	DZN	Poison	C12H21N2O3PS	Mineral-Based & Clay-Based Absorbents	8.0	0.0	15.0	3.0	3.0
1666	CHLORPROMAZINE HYDROCHLORIDE																																									Explosive 1.1A	C6H2N4O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	23.0	3.0	3.0
1667	CHLORSULFURON																																								Flammable Liquid|Corrosive	C5H11NO	Mineral-Based & Clay-Based Absorbents	4.0	0.0	14.0	3.0	3.0
1668	CHROMIC ACETATE																										(NTP, 1992)		182.15						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL			C7H6N2O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1669	CHROMIC FLUORIDE, SOLID																																								Poison	C21H13N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	12.0	3.0	3.0
1670	CHROMIC FLUORIDE, SOLUTION																																									C21H13N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1671	CHROMIC SULFATE	BAYCHROM A|BAYCHROM F|C.I. 77305|CHROMIC SULFATE|CHROMIC SULFATE (CR2(SO4)3)|CHROMIC SULPHATE|CHROMITAN B|CHROMITAN MS|CHROMITAN NA|CHROMIUM III SULFATE|CHROMIUM SULFATE|CHROMIUM SULFATE (2:3)|CHROMIUM SULFATE (CR2(SO4)3)|CHROMIUM(3+) SULFATE|CROMITAN B|DICHROMIUM SULFATE|DICHROMIUM TRIS(SULFATE)|DICHROMIUM TRISULFATE	10101-53-8	Dark green to violet crystalline material. Used in paints and inks, ceramics, and in textile dyeing. It is noncombustible. The primary hazard of this material is the potential for environmental damage if released. Immediate steps should be taken to limit its spread to the environment.	1.0	2.5	5.0	3416.0	350.0	1204.0	570.0	392.0	756.0	82.0	274.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1672	CHROMOUS CHLORIDE	CHROMIUM CHLORIDE|CHROMIUM DICHLORIDE|CHROMIUM(II) CHLORIDE|CHROMOUS CHLORIDE	10049-05-5	A white crystalline solid. The primary hazard is the threat to the environment. Immediate steps must be taken to prevent its spread to the environment. It is used to make other chemicals and as an oxygen absorbent.	1.0	2.5	5.0	3419.0	350.0	1207.0	570.0	392.0	757.0	82.0	275.0	136.0	85.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1673	CLONITRALID	BAY 6076|BAY 73|BAYER 25648|BAYER 6076|BAYER 73|BAYLUCIT|BAYLUSCID|BAYLUSCIDE|5-CHLORO-N-(2-CHLORO-4-NITROPHENYL)-2-HYDROXYBENZAMIDE CMPD. WITH 2-AMINOETHANOL (1:1)|CLONITRALID|CLONITRALIDE|2',5-DICHLORO-4'-NITROSALICYLANILIDE COMPOUND WITH 2-AMINOETHANOL (1:1)|2',5-DICHLORO-4'-NITROSALICYLANILIDE, 2-AMINOETHANOL SALT|5,2'-DICHLORO-4'-NITROSALICYLANILIDE, ETHANOLAMINE SALT|5,2-DICHLORO-4-NITROSALICYLIC ANILIDE 2 AMINOETHANOL SALT|2',5-DICHLORO-4-NITROSALICYLOYLANILIDE ETHANOLAMINE SALT|ETHANOL, 2-AMINO-, COMPOUND WITH 2',5-DICHLORO-4'-NITROSALICYLOYLANILIDE ETHANOLAMINE SALT|ETHANOL,2-AMINO-,COMPOUND WITH 2',5-DICHLORO-4'-NITROSALICYLANILIDE	1420-04-8	PHYSICAL DESCRIPTION: Yellow solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3419.0	350.0	1207.0	570.0	392.0	757.0	82.0	275.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1674	CLOPIDOL	CLOPIDOL|CLOPIDOL (ACGIH:OSHA)|COCCIDIOSTAT C|COYDEN|COYDEN 25|COYDENÂ®|3,5-DICHLORO-2,6-DIMETHYL-4-HYDROXYPYRIDINE|3,5-DICHLORO-2,6-DIMETHYL-4-PYRIDINOL|3,5-DICHLORO-2,6-DIMETHYLPYRIDINOL|3,5-DICHLORO-4-HYDROXY-2,6-DIMETHYLPYRIDINE|2,6-DIMETHYL-3,5-DICHLORO-4-HYROXYPYRIDINE|2,6-DIMETHYL-3,5-DICHLORO-4-PYRIDINOL|FARMCOCCID|LERBEK|METHYLCHLOROPINDOL|METHYLCHLORPINDOL|METICLORPINDOL|NSC 253479|PHARMCOCCID|WR 61112	2971-90-6	White to light-brown, crystalline solid. Mp: 320Â°C. Practically insoluble in water. Administered to poultry to prevent the growth of pathogenic parasites.	1.0	2.5	5.0	3422.0	350.0	1207.0	570.0	392.0	758.0	82.0	275.0	136.0	85.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1675	COBALT FLUORIDE	COBALT (II) FLUORIDE|COBALT DIFLUORIDE|COBALT FLUORIDE	10026-17-2	Violet to red solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	3422.0	350.0	1207.0	570.0	392.0	758.0	82.0	275.0	136.0	85.0	(BLOB)	Combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1671	CHROMIC SULFATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-NITRO-O-PHENYLENEDIAMINE is incompatible with strong oxidizing agents, strong acids, strong reducing agents, acid chlorides and acid anhydrides. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		390 to 394
1672	CHROMOUS CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIBENZ[A,J]PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1673	CLONITRALID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Carboxylic acids, such as 4'-OCTADECYLOXY-3'-NITRODIPHENYL-4-CARBOXYLIC ACID, donate hydrogen ions if a base is present to accept them. They react in this way with all bases, both organic (for example, the amines) and inorganic. Their reactions with bases, called "neutralizations", are accompanied by the evolution of substantial amounts of heat. Neutralization between an acid and a base produces water plus a salt.						0																												
1674	CLOPIDOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dust/air mixtures may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIBENZO(A,L)PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
1675	COBALT FLUORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Phenols, such as 4-TERT-BUTYL PHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		235																				(NTP, 1992)		214	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1671	CHROMIC SULFATE																									(NTP, 1992)		153.14						(NTP, 1992)	at 68.9Â°F		less than 1	mg/mL		Poison	C6H7N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	20.0	3.0	3.0
1672	CHROMOUS CHLORIDE																																							Class 9	C24H14		4.0	0.0	11.0	3.0	3.0
1673	CLONITRALID																									(NTP, 1992)		511.72													C31H45NO5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	13.0	3.0	3.0
1674	CLOPIDOL																																							Poison	C24H18		6.0	0.0	11.0	3.0	3.0
1675	COBALT FLUORIDE	(NTP, 1992)		1		158		mm Hg	(NTP, 1992)		5.1				(NTP, 1992)		0.908		176		(NTP, 1992)		463.1		760		(NTP, 1992)		150.22						(NTP, 1992)	Insoluble					Poison	C10H14O		5.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1676	COBALTOUS BROMIDE	COBALT (II) BROMIDE|COBALT BROMIDE|COBALT BROMIDE (OUS)|COBALT DIBROMIDE|COBALT(II) BROMIDE|COBALTOUS BROMIDE	7789-43-7	Cobaltous bromide is a red violet crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a catalyst in the production of other chemicals.	1.0	2.5	5.0	3422.0	350.0	1207.0	570.0	392.0	758.0	82.0	275.0	136.0	85.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
1677	COPPER BROMIDE (OUS)	COPPER BROMIDE (OUS)|COPPER MONOBROMIDE	7787-70-4	White powder or crystal. Turns green to dark blue on exposure to sunlight. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	3425.0	350.0	1210.0	570.0	392.0	759.0	82.0	276.0	136.0	85.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1678	COPPER(II) BROMIDE	COPPER(II) BROMIDE|CUPRIC BROMIDE, ANHYDROUS	7789-45-9	Odorless black solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3425.0	350.0	1210.0	570.0	392.0	759.0	82.0	276.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1679	CORN SYRUP	CORN SYRUP	8029-43-4	Viscous odorless colorless liquid. Denser than water. An aqueous solution of glucose, maltose and other substances derived by hydrolysis of cornstarch. Used as a sweetener in foods.	2.5	5.0	2.5	3428.0	350.0	1210.0	570.0	392.0	760.0	82.0	276.0	136.0	85.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1680	CRESYL DIPHENYL PHOSPHATE (CDP MIXED ISOMERS)	CDP|CRESOL DIPHENYL PHOSPHATE|CRESYL DIPHENYL PHOSPHATE|CRESYL DIPHENYL PHOSPHATE (CDP MIXED ISOMERS)|CRESYL DPP|CRESYL PHENYL PHOSPHATE|DIPHENYL CRESOL PHOSPHATE|DIPHENYL CRESYL PHOSPHATE|DIPHENYL TOLYL ESTER PHOSPHORIC ACID|DIPHENYL TOLYL PHOSPHATE|DISFLAMOLL DPK|KRONITEX CDP|METHYL PHENYL DIPHENYL PHOSPHATE|METHYLPHENYL DIPHENYL PHOSPHATE|MONOCRESYL DIPHENYL PHOSPHATE|MONOCRESYL DIPHENYLPHOSPHATE|PHENYL TOLYL PHOSPHATE ((PHO)2(C7H7)PO)|PHENYL TOLYL PHOSPHATE ((PHO)2(C7H7O)PO)|PHOSFLE	26444-49-5	PHYSICAL DESCRIPTION: Clear colorless liquid with a slight odor. (NTP, 1992)	2.5	5.0	2.5	3428.0	350.0	1210.0	570.0	392.0	760.0	82.0	276.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1676	COBALTOUS BROMIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIBENZYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C. owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156]. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1677	COPPER BROMIDE (OUS)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	DIBROMODIFLUOROMETHANE is incompatible with the following: Chemically-active metals such as sodium, potassium, calcium, powdered aluminum, zinc & magnesium (NIOSH, 1997).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		-231	
1678	COPPER(II) BROMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		387	
1679	CORN SYRUP	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	METHYL BROMOACETATE is a halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
1680	CRESYL DIPHENYL PHOSPHATE (CDP MIXED ISOMERS)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	METHYL CARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		129	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1676	COBALTOUS BROMIDE																																								Organic Peroxide	C16H14O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	16.0	3.0	3.0
1677	COPPER BROMIDE (OUS)	(NIOSH, 2003)		620				mm Hg							(NIOSH, 2003)		2.29		59		(NIOSH, 2003)		76		760		(NIOSH, 2003)		209.8		(NIOSH, 2003)		2000	ppm	(NIOSH, 2003)	Insoluble					Class 9	CBr2F2		7.0	0.0	28.0	3.0	3.0
1678	COPPER(II) BROMIDE																									(NTP, 1992)		166.61						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C8H7ClN2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	17.0	3.0	3.0
1679	CORN SYRUP																																							Poison	C3H5BrO2		8.0	0.0	13.0	3.0	3.0
1680	CRESYL DIPHENYL PHOSPHATE (CDP MIXED ISOMERS)														(NTP, 1992)		1.1361		133		(NTP, 1992)		351		760		(NTP, 1992)		75.07						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C2H5NO2		7.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1681	CROTONIC ACID	ALPHA-BUTENOIC ACID|CROTONIC ACID|CROTONIC ACID, LIQUID|CROTONIC ACID, SOLID|3-METHYLACRYLIC ACID	3724-65-0	A white crystalline solid. Shipped as either a solid or liquid. Soluble in water and less dense than water. Corrosive to metals and tissue.	1.0	2.5	5.0	3431.0	350.0	1210.0	570.0	392.0	761.0	82.0	276.0	136.0	85.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1682	CYANAMIDE	ALZOGUR|AMIDOCYANOGEN|CARBAMONITRILE|CARBIMIDE|CARBODIAMIDE|CARBODIIMIDE|CYANAMIDE|CYANOAMINE|CYANOGEN NITRIDE|CYANOGENAMIDE|DORMEX|HYDROGEN CYANAMIDE|N-CYANOAMINE|NSC 24133|TSAKS	420-04-2	Colorless deliquescent crystals. Mp: 45Â°C; bp: 260Â°C. Density: 1.282 g cm-3. Quite soluble in water (77 g / 100 g solution at 15Â°C). Soluble in butanol, methyl ethyl ketone, ethyl acetate, alcohols, phenols, amines, ethers. Note: The term â€œcyanamideâ€ is also used to refer to the important compound calcium cyanamide, which is a different chemical.	1.0	2.5	5.0	3431.0	350.0	1210.0	570.0	392.0	761.0	82.0	276.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1683	CYANOGEN BROMIDE	BROMINE CYANIDE|BROMINE CYANIDE (BRCN)|BROMINE MONOCYANIDE|BROMOCYAN|BROMOCYANIDE|BROMOCYANIDE (BRCN)|BROMOCYANOGEN|CAMPILIT|CYANO BROMIDE|CYANOBROMIDE|CYANOGEN BROMIDE|CYANOGEN BROMIDE (BRCN)|CYANOGEN MONOBROMIDE|TL 822	506-68-3	Cyanogen bromide is a colorless to white crystalline solid with a penetrating odor. It is slightly soluble in water. It is gradually decomposed by water and very rapidly by acids to give off hydrogen bromide, a flammable and poisonous gas. Contamination with many materials can cause rapid decomposition of the material. It is toxic by inhalation of its vapors or by the hydrogen cyanide from decomposition or by ingestion. Toxic oxides of nitrogen are produced in fire involving this material. It is used in gold extraction, to make other chemicals, and as a fumigant.	1.0	2.5	5.0	3431.0	350.0	1210.0	570.0	392.0	761.0	82.0	276.0	136.0	85.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1684	CYANURIC FLUORIDE	CYANURIC FLUORIDE|CYANURIC TRIFLUORIDE|S-TRIAZINE, 2,4,6-TRIFLUORO-|1,3,5-TRIAZINE, 2,4,6-TRIFLUORO-|TRIFLUORO-1,3,5-TRIAZINE|2,4,6-TRIFLUORO-1,3,5-TRIAZINE|1,3,5-TRIFLUORO-2,4,6-TRIAZINE|TRIFLUORO-S-TRIAZINE|2,4,6-TRIFLUORO-S-TRIAZINE|2,4,6-TRIFLUOROTRIAZINE	675-14-9	Liquid. (EPA, 1998)	2.5	5.0	2.5	3431.0	350.0	1210.0	576.0	392.0	761.0	82.0	276.0	138.0	85.0	Call a physician. EYES: Hold eyelids open, flush with water for at least 15 minutes. SKIN: Remove contaminated clothing, flush affected areas with water. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. DO NOT IND|CE VOMITING. (USCG, 1999)	Special Hazards of Combustion Products: Produces toxic fumes of phosgene and HCl. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1685	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 72% IN SOLUTION	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 72% IN SOLUTION|CYCLOHEXANONE PEROXIDE, [<= 72% IN SOLUTION]|CYCLONOX BT 50|CYCLONOX LE|CYCLONOX LE 50|CYCLONOX LNC|INTEROX CHP-HA-M 2|LUPEROX CH-S|PERHEXA H|PEROXYCYCLOHEXANONE	12262-58-7	White solid dissolved in some unkown organic solvent. Responders should try to identify the solvent being used. Solvent is added to lessen explosion hazard.	1.0	2.5	5.0	3431.0	350.0	1210.0	576.0	392.0	761.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1686	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 90%, WITH NOT LESS THAN 10% WATER	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 90%, WITH NOT LESS THAN 10% WATER|CYCLOHEXANONE PEROXIDE, [<= 90%, WITH >= 10% WATER]|CYCLONOX BT 50|CYCLONOX LE|CYCLONOX LE 50|CYCLONOX LNC|INTEROX CHP-HA-M 2|LUPEROX CH-S|PERHEXA H|PEROXYCYCLOHEXANONE	12262-58-7	White to colorless solid mixed with water. Water is added to lessen explosion hazard.	1.0	2.5	5.0	3434.0	350.0	1210.0	576.0	392.0	762.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1681	CROTONIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Can generate heat on dilution with water.	A highly acidic liquid.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1682	CYANAMIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		302 to 304
1683	CYANOGEN BROMIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalyzed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].							0																								
1684	CYANURIC FLUORIDE	(BLOB)	Approved respirator, chemical-resistant gloves, safety goggles or safety faceshield (8 inch minimum), other protective clothing. (USCG, 1999)	Decomposed by water to dichloroacetic acid, a corrosive material with evolution of heat (USCG, 1999).	METHYL DICHLOROACETATE produces toxic fumes of phosgene and HCl when heated (USCG, 1999).	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		176																(USCG, 1999)		-62	
1685	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 72% IN SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. Insoluble in water.	5-METHYL-2-NITROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates, and strong oxidizers (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		234	
1686	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 90%, WITH NOT LESS THAN 10% WATER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		273 to 277

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1681	CROTONIC ACID																																								Corrosive	Ti(SO4)2 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	17.0	3.0	3.0
1682	CYANAMIDE																										(NTP, 1992)		246.22												Corrosive	C9H11FN2O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	19.0	3.0	3.0
1683	CYANOGEN BROMIDE																										(NTP, 1992)		406.65													C12H18Cl3N3O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	18.0	3.0	3.0
1684	CYANURIC FLUORIDE														(USCG, 1999)		1.3774		68		(USCG, 1999)		289		760		(USCG, 1999)		142.97										MDC	Poison	C3H4Cl2O2		5.0	0.0	11.0	3.0	3.0
1685	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 72% IN SOLUTION																										(NTP, 1992)		152.15						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	12.0	3.0	3.0
1686	CYCLOHEXANONE PEROXIDE, NOT MORE THAN 90%, WITH NOT LESS THAN 10% WATER																										(NTP, 1992)		181.15						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C8H7NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1687	CYCLOHEXIMIDE	ACTI-AID|ACTI-DIONE|ACTI-DIONE BR|ACTI-DIONE PM|ACTI-DIONE TGF|ACTL-DIONE-PM(-RZ,-BR,&-S)|ACTIDION|ACTIDIONE|ACTIDIONE PM|ACTIDIONE TGF|ACTIDONE|ACTISPRAY|BETA-(2-(3,5- DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)GLUTARIMIDE|BETA-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)GLUTARIMIDE|CICLOHEXIMIDE|CYCLOHEXIMIDE|3-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)GLUTARIMIDE|GLUTARIMIDE, 3-(2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL)-|GLUTARIMIDE, 3-[2-(3,5-DIMETHYL-2-OXOCYCLOHEXYL)-2-HYDROXYETHYL]-|HIZAROCIN|KAKEN|NARAMYCIN|NARAMYCIN	66-81-9	Colorless crystals. Used as a fungicide and as a anticancer drug. (EPA, 1998)	1.0	2.5	5.0	3434.0	350.0	1210.0	576.0	392.0	762.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1688	CYCLOPENTANOL	CYCLOPENTANOL|CYCLOPENTYL ALCOHOL|HYDROXYCYCLOPENTANE	96-41-3	A colorless viscous liquid with a pleasant odor. Slightly less dense than water. Vapors heavier than air. Used to make perfumes and pharmaceuticals.	2.5	5.0	2.5	3434.0	350.0	1210.0	576.0	392.0	762.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1689	CYCLOPENTENE	CYCLOPENTENE	142-29-0	A colorless liquid. Less dense than water and insoluble in water. Flash point below 0Â°F. Vapors heavier than air. Inhalation of high concentrations may be narcotic. Used to make rubber and plastics.	2.5	5.0	2.5	3434.0	350.0	1210.0	576.0	392.0	762.0	82.0	276.0	138.0	85.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. Containers may explode in fire or when heated because of polymerization. (USCG, 1999)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1690	CYFLUTHRIN	CYFLUTHRIN|3-(2,2-DICHLOROETHENYL)-2,2-DIMETHYLCYCLOPROPANECARBOXYLIC ACID, CYANO(4-FLUORO-3-PHENOXYPHENYL)METHYL ESTER	68359-37-5	A viscous amber partly crystalline oil. Used as an insecticide.	1.0	2.5	5.0	3434.0	350.0	1210.0	576.0	392.0	762.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1691	CYHALOTHRIN	3-(2-CHLORO-3,3,3-TRIFLUORO-1-PROPENYL)-2,2-DIMETHYLCYCLOPROPANECARBOXYLIC ACID CYANO(3-PHENOXYPHENYL) METHYL ESTER|CYHALOTHRIN	68085-85-8	Colorless solid. Insoluble in water. Used as a wide spectrum insecticide.	1.0	2.5	5.0	3437.0	350.0	1210.0	576.0	392.0	763.0	82.0	276.0	138.0	85.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1692	CYTIDINE	4-AMINO-1-BETA-D-RIBOFURANOSYL-2(1H)-PYRIMIDINONE|BETA-D-RIBOFURANOSIDE, CYTOSINE-1|1-BETA-D-RIBOFURANOSYLCYTOSINE|1-BETA-RIBOFURANOSYLOSINE|CYTIDINE|CYTOSINE RIBOSIDE|CYTOSINE, 1-BETA-D-RIBOSYL-2(1H)-PYRIMIDINONE, 4-AMINO-1-BETA-D-RIBOFURANOSYL-	65-46-3	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3440.0	350.0	1210.0	576.0	392.0	764.0	82.0	276.0	138.0	85.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1687	CYCLOHEXIMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	5-METHYL-2-THIOURACIL is heat sensitive and may be light sensitive. [[Details on specifics of reactivity not yet available.]]					0																					(NTP, 1992)		541 to 547
1688	CYCLOPENTANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to air and light. Slightly soluble in water.	METHYL MERCURY HYDROXIDE is incompatible with oxidizing materials, acid and acid fumes. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		279	
1689	CYCLOPENTENE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Very slightly soluble in water.	METHYL METHACRYLATE MONOMER, may polymerize if contaminated or subjected to heat. If polymerization takes place in a container, the container is subject to violent rupture. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164]. Peroxides may also initiate exothermic polymierization of the bulk material [Bretherick 1979. p. 160]. Benzoyl peroxide was weighed into a beaker that had previously been rinsed with methyl methacrylate. The peroxide catalyzed polymerization of the methyl methacrylate and the build-up of heat ignited the remaining peroxide [MCA Case History 996. 1964].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5	(NTP, 1992)		50		(NTP, 1992)		2.1		%	(NTP, 1992)		12.5		%	(USCG, 1999)		790		(NTP, 1992)		-54	
1690	CYFLUTHRIN	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]					0																							
1691	CYHALOTHRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	NITROTOLUIDINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		315																(NTP, 1992)		172 to 174
1692	CYTIDINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	DICHLOROACETIC ACID is probably hygroscopic. This chemical reacts with water or steam. It is incompatible with strong oxidizing agents, strong bases and strong reducing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		greater than 235																(NTP, 1992)		49.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1687	CYCLOHEXIMIDE																										(NTP, 1992)		142.18						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C5H6N2OS	Dirt/Earth	9.0	0.0	16.0	3.0	3.0
1688	CYCLOPENTANOL																										(NTP, 1992)		232.64		(NIOSH, 2003)	(as Hg)	2	mg/m3	(NTP, 1992)	at 70Â° F		1 to 10	mg/mL		Poison	CH3HgOH		8.0	0.0	14.0	3.0	3.0
1689	CYCLOPENTENE	(NTP, 1992)		40		77.9		mm Hg	(NTP, 1992)		3.45				(USCG, 1999)		0.945		68		(NTP, 1992)		213.8		760		(NTP, 1992)		100.12		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	at 63.5Â° F		1 to 10	mg/mL	MMM	Flammable Liquid	C5H8O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
1690	CYFLUTHRIN																										(NTP, 1992)		200.19													C12H8O3		4.0	0.0	12.0	3.0	3.0
1691	CYHALOTHRIN								(NTP, 1992)		5.8				(NTP, 1992)		1.312										(NTP, 1992)		152.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	37.0	3.0	3.0
1692	CYTIDINE	(NTP, 1992)	: 5 mm Hg at 157.6Â° F	1		111		mm Hg	(NTP, 1992)		4.4				(NTP, 1992)		1.563		68		(NTP, 1992)		381		760		(NTP, 1992)		128.94						(NTP, 1992)	at 59Â° F		greater than or equal to 100	mg/mL		Corrosive	C2H2Cl2O2		7.0	0.0	35.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1693	D & C GREEN 5	(BLOB)	4403-90-1	PHYSICAL DESCRIPTION: Fine black or green powder. (NTP, 1992)	1.0	2.5	5.0	3440.0	350.0	1210.0	576.0	392.0	764.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this material are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1694	D & C YELLOW 11	ARLOSOL YELLOW S|C.I. 47000|C.I. SOLVENT YELLOW 33|CHINOLINE YELLOW D (SOL. IN SPIRITS)|CHINOLINE YELLOW D SOLIN SPIRITS|CHINOLINE YELLOW ZSS|D & C YELLOW 11|D AND C YELLOW NO. 11|D&C YELLOW NO. 11|1,3-ISOBENZOFURANDIONE, REACTION PRODUCTS WITH DIMETHYLQUINOLINE AND METHYLQUINOLINE|JAPAN YELLOW 204|JAPAN YELLOW NO. 204|KAYASET YELLOW 2G|NITRO FAST YELLOW SL|OIL YELLOW SIS|PETROL YELLOW C|QUINOLINE YELLOW A|QUINOLINE YELLOW A SPIRIT SOLUBLE|QUINOLINE YELLOW BASE|QUINOLINE YELLOW SPIRIT SOLUBLE|QUINOLINE YELLOW SS|SOLVENT YELLOW 33|SPIRIT SOLUBLE|WAXOLINE YELLOW T	8003-22-3	PHYSICAL DESCRIPTION: Bright greenish yellow solid or canary yellow powder. (NTP, 1992)	1.0	2.5	5.0	3440.0	350.0	1210.0	576.0	392.0	764.0	82.0	276.0	138.0	85.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1695	DACARBAZINE	BIOCARBAZINE R|DACARBAZINE|DETICENE|DIC|5-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-4-CARBOXAMIDE|4-(5)-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-5(4)-CARBOXAMIDE|4-(3,3-DIMETHYL-1-TRIAZENO)IMIDAZOLE-5-CARBOXAMIDE|5-(3,3-DIMETHYL-1-TRIAZENYL)-1H-IMIDAZOLE-4-CARBOXAMIDE|5-(DIMETHYLTRIAZENO)IMIDAZOLE-4-CARBOXAMIDE|5-(3,3-DIMETHYLTRIAZENO)IMIDAZOLE-4-CARBOXAMIDE|4-(DIMETHYLTRIAZENO)IMIDAZOLE-5-CARBOXAMIDE|(DIMETHYLTRIAZENO)IMIDAZOLECARBOXAMIDE|DTIC|DTIC-DOME|IMIDAZOLE-4(OR 5)-CARBOXAMIDE, 5(OR 4)-(3,3-DIMETHYL-1-TRIAZENO)-IMIDAZOLE-4-CARBOXAMIDE, 5-(3,3-| 4342-03-4	PHYSICAL DESCRIPTION: White to ivory microcrystals or off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	3443.0	350.0	1210.0	576.0	392.0	765.0	82.0	276.0	138.0	85.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.		
1696	D-ALPHA-TOCOPHERYL ACID SUCCINATE	ALPHA-TOCOPHEROL ACID SUCCINATE|ALPHA-TOCOPHEROL HEMISUCCINATE|ALPHA-TOCOPHEROL SUCCINATE|ALPHA-TOCOPHEROL,, SUCCINATE|ALPHA-TOCOPHERYL ACID SUCCINATE|ALPHA-TOCOPHERYL SUCCINATE|(+)-ALPHA-TOCOPHERYL SUCCINATE|BUTANEDIOIC ACID, MONO[3,4-DIHYDRO-2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-2H-1-BENZOPYRAN-6-YL] ESTER, [2R-[2R*(4R*,8R*)]]-|6-CHROMANOL, 2,5,7,8-TETRAMETHYL-2-(4,8,12-TRIMETHYLTRIDECYL)-, HYDROGEN SUCCINATE, (+)-|COVITOL 1210|D-ALPHA-TOCOPHEROL ACID SUCCINATE|D-ALPHA-TOCOPHERYL ACID SUCCINATE|D-ALPHA-	4345-03-3	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	3443.0	350.0	1210.0	576.0	392.0	765.0	82.0	276.0	138.0	85.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1697	DANTHRON	ALTAN|ANTHRAQUINONE, 1,8-DIHYDROXY-|ANTRAPUROL|CHRYSAZIN|DANIVAC|DANTHRO-LAX|DANTHRON|DANTHRONE|DANTRON|DIANTHON|DIAQUONE|1,8-DIHYDROXY-9,10-ANTHRACENEDIONE|1,8-DIHYDROXY-9,10-ANTHRAQUINONE|DIHYDROXYANTHRAQUINONE|1,8-DIHYDROXYANTHRAQUINONE|DIONONE|DIOXYANTHRACHINONUM|1,8-DIOXYANTHRAQUINONE|DORBANE|DORBANEX|DUOLAX|ISTIN|ISTIZIN|LAXANORM|LAXANTHREEN|LAXIPUR|LAXIPURIN|LTAN|MODANE|USAF ND-59|ZWITSALAX	117-10-2	PHYSICAL DESCRIPTION: Orange crystalline powder. Almost odorless and tasteless. (NTP, 1992)	1.0	2.5	5.0	3446.0	350.0	1210.0	576.0	392.0	766.0	82.0	276.0	138.0	85.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1693	D & C GREEN 5	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in hot water [Hawley]. Unstable to prolonged exposure to air (NTP, 1992).	5-SULFOANTHRANILIC ACID is an amino acid. [[Details on specifics of reactivity not yet available.]]								0																						
1694	D & C YELLOW 11	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Burns slowly, emitting a thick black smoke, but will not flash (NTP, 1992). Water soluble.	DICHLOROACETONITRILE is a halogenated nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 212																				
1695	DACARBAZINE		(BLOB)	Ignites or explodes upon contact with air (MCA Case History 1989 (1974)).	DICHLOROACETYLENE is a reducing agent. Incompatible with oxidizing agents. Can ignite or explode on contact with air or if heated. Can explode if shocked. Burns in the presence of chlorine to form phosgene (Ann. Chem. 640:5(1961)).	Explosive; Strong Reducing Agent							0																			(NIOSH, 2003)		-87 to -58
1696	D-ALPHA-TOCOPHERYL ACID SUCCINATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be light and air sensitive.	6-AZACYTIDINE is an organic compound with both amine and alcohol subsituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.							0																						
1697	DANTHRON	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	A halogenated aromatic amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)		(NFPA, 2010)	Note: NFPA ratings shown are for 3,4-dichloroaniline, CAS number 95-76-1.	3	1	0	1																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1693	D & C GREEN 5																										(NTP, 1992)		217.2						(NTP, 1992)	at 68.9Â°F		10 to 50	mg/mL			C7H7NO5S		7.0	0.0	33.0	3.0	3.0
1694	D & C YELLOW 11														(NTP, 1992)		1.369		68		(NTP, 1992)	(decomposes)		234 to 235	760		(NTP, 1992)		109.94						(NTP, 1992)	at 70.7Â°F		10 to 50	mg/mL		Poison	C2HCl2N		6.0	0.0	36.0	3.0	3.0
1695	DACARBAZINE														(NIOSH, 2003)		1.26				(NIOSH, 2003)	(Explodes)	90		760		(NIOSH, 2003)		94.9		(NIOSH, 2003)	A potential human carcinogen.									C2Cl2		7.0	0.0	22.0	3.0	3.0
1696	D-ALPHA-TOCOPHERYL ACID SUCCINATE																										(NTP, 1992)		244.24														C8H12N4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	16.0	3.0	3.0
1697	DANTHRON																																									Poison	C6H5Cl2N		8.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1698	DAZOMET	BASAMID|BASAMID G|BASAMID P|BASAMID-GRANULAR|BASAMID-PUDER|BASIMID G|BUSAN|BUSAN 1058|CARBOTHIALDIN|CARBOTHIALDINE|CRAG|CRAG 85W|CRAG 974|CRAG FUNGICIDE 974|CRAG NEMACIDE|D 35|DAZOMET|DAZOMET-POWDER BASF|3,5-DIMETHYL-1,2,3,5-TETRAHYDRO-1,3,5-THIADIAZINETHIONE-2|3,5-DIMETHYL-1,3,5-2H-TETRAHYDROTHIADIAZINE-2-THIONE|3,5-DIMETHYL-2-THIONOTETRAHYDRO-1,3,5-THIADIAZINE|DIMETHYLFORMOCARBOTHIALDINE|3,5-DIMETHYLTETRAHYDRO-1,3,5-2H-THIADIAZINE-2-THIONE|3,5-DIMETHYLTETRAHYDRO-1,3,5-THIADIAZINE-2-THIONE|3,5-DIMETHYLTETRAHYDRO-2H-1,3,5-THIADIAZINE-2-	533-74-4	PHYSICAL DESCRIPTION: White crystals or off-white powder. Pungent, acrid odor. (NTP, 1992)	1.0	2.5	5.0	3446.0	353.0	1213.0	576.0	395.0	766.0	83.0	277.0	138.0	86.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1699	DECAHYDRONAPHTHALENE	BICYCLO[4.4.0]DECANE|DEKALIN|DEC|DECAHYDRONAPHTHALENE|DECALIN|DECALINE|DEKALIN|NAPHTHAN|NAPHTHANE|NAPTHALANE|PERHYDRONAPHTHALENE|PERHYDRONAPTHALENE	91-17-8	A clear colorless liquid with an aromatic odor. Flash point 134Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3449.0	353.0	1213.0	576.0	395.0	767.0	83.0	277.0	138.0	86.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1700	DECALDEHYDE	ALDEHYDE C-10|CAPRALDEHYDE|CAPRICALDEHYDE|DECALDEHYDE|DECANAL|N-DECYL ALDEHYDE	112-31-2	Colorless to light yellow liquid with a pleasant odor. Floats on water. Freezing point is 64Â°F. (USCG, 1999)	2.5	5.0	2.5	3449.0	353.0	1213.0	576.0	395.0	767.0	83.0	277.0	138.0	86.0	(BLOB)	Poisonous gases are produced in fire and when heated. Decomposition may lead to sufficient internal pressure to cause the container to rupture violently. Avoid oxidizing materials. Unstable. High temperatures (120F) cause decomposition. (EPA, 1998)	Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear special protective clothing. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
1701	DECYL ALCOHOL	ALCOHOL C-10|ALFOL 10|ANTAK|CAPRIC ALCOHOL|CAPRINIC ALCOHOL|CONOL 10N|DECANOL|1-DECANOL (DECANOL)|1-DECANOL|DECYL ALCOHOL|DYTOL S-91|EPAL 10|1-HYDROXYDECANE|KALCOHL 1098|KALCOHL 10|LOROL 22|N-DECANOL|N-DECYL ALCOHOL|NACOL 10-99|NONYLCARBINOL|ROYALTAC|SIPOL L 10|T 148	112-30-1	A clear colorless liquid with a sweet fat-like odor. Flash point 180Â°F. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	3452.0	353.0	1216.0	576.0	395.0	768.0	83.0	278.0	138.0	86.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1702	DESMEDIPHAM	DESMEDIPHAM	13684-56-5		1.0	2.5	5.0	3455.0	353.0	1219.0	576.0	395.0	769.0	83.0	279.0	138.0	86.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1698	DAZOMET	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light and oxidizing materials. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	(BLOB)	Slightly water soluble.	DICHLOROBROMOMETHANE may react with strong bases and magnesium. Incompatible with oxidizing materials (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		-67	
1699	DECAHYDRONAPHTHALENE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is insoluble in water.	Half decomposed in 8 days at 40Â° C. When a sample was heated in a small test tube it decomposed in a few minutes, the residue exploded (Food Chem. 4(1):42. 1956].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1700	DECALDEHYDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Insoluble in water.	METHYL PARATHION is half decomposed in 8 days at 40Â°C. When a sample was heated in a small test tube it decomposed in a few minutes and the residue exploded (Food Chem. 4(1):42. 1956).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	commercial product, containing xylene, has flashpoint of 115F																	(EPA, 1998)			99 to 100
1701	DECYL ALCOHOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Insoluble in water.	METHYL PENTANE may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1702	DESMEDIPHAM	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	1,3-DICHLORO-1,1,2,2,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature. Strong bases may release toxic gases.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1698	DAZOMET	(NTP, 1992)		50		68		mm Hg							(NTP, 1992)		1.98		68		(NTP, 1992)		189		760		(NTP, 1992)		163.83						(NTP, 1992)	at 66Â° F		5 to 10	mg/mL		Poison	CHBrCl2		5.0	0.0	14.0	3.0	3.0
1699	DECAHYDRONAPHTHALENE																																									Poison	C8H10N O5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	15.0	3.0	3.0
1700	DECALDEHYDE	(EPA, 1998)		9.70E-06		68		mm Hg	(NTP, 1992)		9.1				(EPA, 1998)		1.358		68		(NTP, 1992)		246		0.13		(EPA, 1998)		263.23						(NTP, 1992)	at 73Â° F		less than 1	mg/mL	MPT	Poison|Flammable Liquid	C8H10N O5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	15.0	3.0	3.0
1701	DECYL ALCOHOL																																								Flammable Liquid	C6H14		9.0	0.0	23.0	3.0	3.0
1702	DESMEDIPHAM																																								Class 9	C3HCl2F5		6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1703	DEUTERIUM	DEUTERIUM|DEUTERIUM (D2)|DEUTERIUM MOL.|DEUTERIUM MOLECULE|DEUTERIUM, COMPRESSED|DI|DEUTERIUM|DIPLOGEN|HYDROGEN, ISOTOPE OF MASS 2|HYDROGEN-2|HYDROGEN-D2	7782-39-0	Deuterium is an isotope of hydrogen but it is chemically identical. It is a colorless, odorless gas. It is easily ignited. Once ignited it burns with a pale blue, almost invisible flame. The vapors are lighter than air. It is flammable over a wide range of vapor/air concentrations. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is not toxic but is a simple asphyxiate by the displacement of oxygen in the air.	5.0	1.0	1.0	3455.0	353.0	1219.0	576.0	395.0	769.0	83.0	279.0	138.0	86.0	INGESTION: give large amount of water; consult a doctor if large amount was ingested. EYES: flush with water; consult a doctor if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and irritating oxides of sulfur may form in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1704	D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)CARBONYL]AMINO]-	D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]-|2-DEOXY-2-(((METHYLNITROSOAMINO)CARBONYL)AMINO)-D-GLUCOPYRANOSE|2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-, D-|GLUCOPYRANOSE, 2-DEOXY-2-(3-METHYL-3-NITROSOUREIDO)-, D-|NCI-C03167|NSC 85998|NSC-85998|STREPTOZOCIN|STREPTOZOTICIN|STREPTOZOTOCIN|STRZ|U-9889	18883-66-4	Off-white powder. Melting point 115Â°C. Used as an anti-cancer drug. Carcinogenic.	1.0	2.5	5.0	3455.0	353.0	1219.0	576.0	395.0	769.0	83.0	279.0	138.0	86.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1705	DI-(2-ETHYLHEXYL)PHOSPHORIC ACID	BIS(2-ETHYLHEXYL) HYDROGEN PHOSPHATE|BIS(2-ETHYLHEXYL) ORTHOPHOSPHATE|BIS(2-ETHYLHEXYL) PHOSPHATE|BIS-(2-ETHYLHEXYL)HYDROGEN PHOSPHATE|D 2EHPA|DEHPA|DI(2-ETHYLHEXYL) PHOSPHATE|DI(2-ETHYLHEXYL)ORTHOPHOSPHORIC ACID|DI(2-ETHYLHEXYL)PHOSPHORIC ACID|DI-(2-ETHYLHEXYL) PHOSPHATE|DI-(2-ETHYLHEXYL) PHOSPHORIC ACID|DI-(2-ETHYLHEXYL)PHOSPHORIC ACID|DI-2-ETHYLHEXYL HYDROGEN PHOSPHATE|DIOCTYL HYDROGEN PHOSPHATE|DIOCTYL ORTHOPHOSPHATE|DIOCTYL PHOSPHATE|DP 8R|2-ETHYL-1-HEXANOL HYDROGEN	298-07-7	Odorless light yellow liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3458.0	353.0	1222.0	576.0	395.0	770.0	83.0	280.0	138.0	86.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1706	DIACETONE ACRYLAMIDE	ACRYLAMIDE, N-(1,1-DIMETHYL-3-OXOBUTYL)-|DAA|DIACETONE ACRYLAMIDE|DIALLYL ESTER ACETIC ACID|N-(1,1-DIMETHYL-3-OXOBUTYL)-2-PROPENAMIDE|N-(1,1-DIMETHYL-3-OXOBUTYL)ACRYLAMIDE|N-[2-(2-METHYL-4-OXOPENTYL)]ACRYLAMIDE	2873-97-4	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	3458.0	353.0	1222.0	576.0	395.0	770.0	83.0	280.0	138.0	86.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1707	DIALLYL PHTHALATE	ALLYL PHTHALATE|1,2-BENZENEDICARBOXYLIC ACID, DI-2-PROPENYL ESTER|DAP|DAP-M|DAPON 35|DAPON R|DAPPU|DIALLYL ESTER O-PHTHALIC ACID|DIALLYL PHTHALATE|ß,ALLYLESTER PHTHALIC ACID|DT 170|NCI-C50657|O-PHTHALIC ACID, DIALLYL ESTER|PHTHALIC ACID, DIALLYL ESTER	131-17-9	PHYSICAL DESCRIPTION: Clear pale-yellow liquid. Odorless. (NTP, 1992)	2.5	5.0	2.5	3458.0	353.0	1222.0	576.0	395.0	770.0	83.0	280.0	138.0	86.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of oxides of nitrogen and sulfur. (Non-Specific -- Thiocyanates) Incompatible with nitric acid. Violent reactions have occurred when mixed with chlorates, nitrates, nitric acid, organic peroxides, peroxides, potassium chlorate, and sodium chlorate. This material is volatile. (EPA, 1998)	(Non-Specific -- Pesticide, Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. (Non-Specific -- Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
1708	DIALLYLAMINE	DI-2-PROPENYLAMINE|DIALLYLAMINE|N-2-PROPENYL-2-PROPEN-1-AMINE	124-02-7	A liquid with a disagreeable odor. Less dense than water. May be toxic by inhalation and skin absorption. Irritates skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	3461.0	353.0	1222.0	576.0	395.0	771.0	83.0	280.0	138.0	86.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1703	DEUTERIUM	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Rubber gloves; face mask or goggles (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	TRIETHANOLAMINE DODECYLBENZENESULFONATE is an amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Reacts violently with strong oxidants. [Handling Chemicals Safely 1980. p. 928].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1704	D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO]-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to light. May be sensitive to prolonged exposure to air. Insoluble in water.	6-N-PROPYL-2-THIOURACIL is incompatible with strong oxidizing agents, strong acids and strong bases. Forms complexes with divalent metals. Reacts with sulfhydryl-oxidizing agents (NTP, 1992). When reduced will produce hydrogen sulfide.						0																					(NTP, 1992)			426 to 430
1705	DI-(2-ETHYLHEXYL)PHOSPHORIC ACID	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously [MCA Case History 616. 1960]. Insoluble in water.	Ethers, such as METHYL PROPYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
1706	DIACETONE ACRYLAMIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	7-BROMOMETHYL-12-METHYLBENZ(A)ANTHRACENE is sensitive to prolonged exposure to light. (NTP, 1992)						0																					(NTP, 1992)	(decomposes)		305.2 to 307.9
1707	DIALLYL PHTHALATE	Avoid inhalation and skin contact. (Non-Specific -- Pesticide, Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. For small spills, absorb with sand or other noncombustible absorbent material and place into containers for later disposal. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Very slightly soluble in water [Merck].	METHYL THIOCYANATE is a moderately toxic liquid, flammable. Violent, possibly explosive oxidation reaction when mixed with chlorates, nitrates, nitric acid, organic or inorganic peroxides, perchlorates. On contact with mineral acids or acid fumes deadly toxic hydrogen cyanide gas is produced. When heated to decomposition or on contact with mineral acids it emits highly toxic fumes of nitriles, oxides of sulfur and nitrogen [Lewis, 3rd ed., 1993, p. 879, 1234].		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									(EPA, 1998)		-60	
1708	DIALLYLAMINE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	A halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. A mixture of the ester and trimethylamine reacted violently. Polymerization of a reactive dehydrochlorination of the ester was viewed as the most likely product, along with generous amounts of heat.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1703	DEUTERIUM														(USCG, 1999)	(est.)	1.2		68								(USCG, 1999)	(solute)	475.6												DBS	Class 9	C18H30O3S.C6H15NO3	Cellulose-Based Absorbents	8.0	0.0	12.0	3.0	3.0
1704	D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)CARBONYL]AMINO]-																										(NTP, 1992)		170.23						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C7H10N2OS	Dirt/Earth	6.0	0.0	16.0	3.0	3.0
1705	DI-(2-ETHYLHEXYL)PHOSPHORIC ACID																																								Flammable Liquid	C4H10O		9.0	0.0	17.0	3.0	3.0
1706	DIACETONE ACRYLAMIDE																										(NTP, 1992)		335.26						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C20H15Br		8.0	0.0	19.0	3.0	3.0
1707	DIALLYL PHTHALATE	(EPA, 1998)		10		70.88		mm Hg							(EPA, 1998)		1.068		77		(EPA, 1998)			266 to 271	760		(EPA, 1998)		73.12											Poison|Flammable Liquid	C2H3NS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	16.0	3.0	3.0
1708	DIALLYLAMINE																																							Poison	C3H3Cl3O2		6.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1709	DIAMINOMALEONITRILE	2-BUTENEDINITRILE, 2,3-DIAMINO-, (Z)-|DAMN|1,2-DIAMINO-1,2-DICYANOETHYLENE|2,3-DIAMINO-2-BUTENEDINITRILE|DIAMINOMALEONITRILE|2,3-DIAMINOMALEONITRILE|HYDROGEN CYANIDE TETRAMER|MALEONITRILE, DIAMINO-	1187-42-4	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	3464.0	353.0	1222.0	576.0	395.0	772.0	83.0	280.0	138.0	86.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1710	DIBROMOMETHANE	DIBROMOMETHANE|METHYLENE BROMIDE|METHYLENE DIBROMIDE	74-95-3	A colorless liquid with a pleasant odor. Insoluble in water and denser than water. May be toxic by ingestion. Used as a solvent and as a motor fuel.	2.5	5.0	2.5	3467.0	353.0	1222.0	576.0	395.0	773.0	83.0	280.0	138.0	86.0	(BLOB)	Special Hazards of Combustion Products: Irritating and toxic hydrogen chloride and phosgene vapors may be formed. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1711	DIBUTYLPHENOL	2,6-DI-TERT-BUTYLPHENOL|DIBUTYLPHENOL	128-39-2	Odorless colorless to light yellow solid or liquid. Floats on water. Freezing point is 97Â°F. (USCG, 1999)	1.0	2.5	5.0	3470.0	353.0	1225.0	576.0	395.0	774.0	83.0	281.0	138.0	86.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1712	DIBUTYLTIN DIACETATE	BA 2726|BIS(ACETYLOXY)DIBUTYL STANNANE|DIACETOXYBUTYLIN|DIACETOXYDIBUTLYLTIN|DIACETOXYDIBUTYLSTANNANE|DIACETOXYDIBUTYLTIN|DIBUTLY TIN DIACETATE|DIBUTYLDIACETOXYSTANNANE|DIBUTYLTIN DIACETATE|FASCAT 4200|METACURE T 1|NCI-C02028|NSC 8786|S-CAT 8|STANNANE, DIACETOXYDIBUTYL-|SYL-OFF 23|T 1|T 1 (CATALYST)|TI(CATALYST)|TIN,DIBURYL-,DIACETATE|U 200|U 200 (TIN COMPOUND)	1067-33-0	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	3470.0	353.0	1225.0	576.0	395.0	774.0	83.0	281.0	138.0	86.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flashback containing explosion may occur during fire conditions. Forms explosive mixtures in air. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1713	DICAMBA	BANVEL|BANVEL 480|BANVEL D|BANVEL SGF|DIANAT|DICAMBA|3,6-DICHLORO-2-METHOXYBENZOIC ACID|2,5-DICHLORO-6-METHOXYBENZOIC ACID|3,6-DICHLORO-O-ANISIC ACID|3,6-DICHLORO-O-ANISIC ACID|MDBA|MEDIBEN|2-METHOXY-3,6-DICHLOROBENZOIC ACID|O-ANISIC ACID, 3,6-DICHLORO-|VANQUISH|VELSICOL 58CS11|VELSICOL COMPOUND R	1918-00-9	Dicamba is a white solid dissolved in a liquid carrier. The carrier is water emulsifiable. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It can cause illness by inhalation, skin absorption and/or ingestion. It is used as a herbicide.	1.0	2.5	5.0	3473.0	353.0	1228.0	576.0	395.0	775.0	83.0	282.0	138.0	86.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1709	DIAMINOMALEONITRILE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	7H-DIBENZO(C,G)CARBAZOLE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
1710	DIBROMOMETHANE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic canister mask; goggles; rubber gloves. (USCG, 1999)	Highly flammable. It may react with water at elevated temperatures. (NTP, 1992). Insoluble in water.	METHYLALLYL CHLORIDE is sensitive to light. This chemical can react vigorously with oxidizers. It is incompatible with strong bases. It may react with water at elevated temperatures. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NTP, 1992)		9		(NTP, 1992)		2.3		%	(NTP, 1992)		9.3		%			(NTP, 1992)			less than - 112
1711	DIBUTYLPHENOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Denser than water and soluble in water.	(BLOB)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		167																
1712	DIBUTYLTIN DIACETATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as METHYLCYCLOHEXANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		25		(USCG, 1999)		1.1		%	(USCG, 1999)		6.7		%	(USCG, 1999)		482		(USCG, 1999)		-194.8	
1713	DICAMBA	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	TETRAHYDROFURFURYLAMINE is an amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1709	DIAMINOMALEONITRILE																																								Poison	C20H17N	Mineral-Based & Clay-Based Absorbents	7.0	0.0	13.0	3.0	3.0
1710	DIBROMOMETHANE	(NTP, 1992)		101.7		68		mm Hg	(NTP, 1992)		3.12				(USCG, 1999)		0.928		68		(NTP, 1992)			160 to 162	760		(NTP, 1992)		90.55						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	MCL	Flammable Liquid	C4H7Cl	Dirt/Earth	8.0	0.0	13.0	3.0	3.0
1711	DIBUTYLPHENOL																																							Combustible Liquid	C5H10O2	Cellulose-Based Absorbents	9.0	0.0	19.0	3.0	3.0
1712	DIBUTYLTIN DIACETATE	(USCG, 1999)		83.29				mm Hg							(USCG, 1999)		0.77				(USCG, 1999)			213.8	760		(USCG, 1999)		98.21		(NIOSH, 2003)	Based on the lower explosive limit	1200	ppm	(NIOSH, 2003)	Insoluble				MCY	Flammable Liquid	C7H14		6.0	0.0	11.0	3.0	3.0
1713	DICAMBA																																							Flammable Liquid	C5H11NO	Mineral-Based & Clay-Based Absorbents	5.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1714	DICAMBA, [OTHER THAN LIQUID]	DICAMBA|DICAMBA, [OTHER THAN LIQUID]|3,6-DICHLORO-2-METHOXYBENZOIC ACID|3,6-DICHLORO-ORTHOANISIC ACID	1918-00-9	A white solid herbicide. Melting point of 116Â°C. Used to control broadleaf weeds. A wettable powder. Soluble in ethanol, aceton, methyl ethyl ketone and other ketones. Less readily soluble in zylene. Can cause illness by inhalation, skin absorption, and/or ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment.	1.0	2.5	5.0	3476.0	353.0	1231.0	576.0	395.0	776.0	83.0	283.0	138.0	86.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1715	DICHLOBENIL	CASORON|CASORON 133|CASORON G|DBN|DBN (PESTICIDE)|2, 6-DBN|DICHLOBENIL|2, 6-DICHLOROBENZONITRILE|2, 6-DICHLOROBENZONITRILE|2, 6-DICHLOROCYANOBENZENE|DU-SPREX|H 133|NIA 5996|NIAGARA 5996	1194-65-6	Dichlobenil is a white solid dissolved or suspended in a water-emulsifiable liquid carrier. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Can easily penetrate the soil and contaminate groundwater and nearby streams. Can cause illness by inhalation, skin absorption and/or ingestion. Used as a herbicide.	1.0	2.5	5.0	3476.0	353.0	1231.0	576.0	395.0	776.0	83.0	283.0	138.0	86.0	INGESTION: induce vomiting; call a doctor; medical treatment should be aimed at conservation of liver and kidney function. EYES: flush with water for at least 15 min; call a doctor. SKIN: wipe off, wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1716	DICHLOBENIL, [OTHER THAN LIQUID]	DICHLOBENIL|DICHLOBENIL, [OTHER THAN LIQUID]|2,6-DICHLOROBENZONITRILE	1194-65-6	A white solid. It is a wettable powder. It can cause illness by inhalation, skin absorption, and/or ingestion. Used as a herbicide. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment.	1.0	2.5	5.0	3476.0	353.0	1231.0	576.0	395.0	776.0	83.0	283.0	138.0	86.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1717	DICHLONE	ALGISTAT|ALGISTAT (QUINONE)|COMPOUND 604|DICHLONE|2,3-DICHLORO-1,4-DIHYDRO-1,4-DIOXONAPHTHALENE|2,3-DICHLORO-1,4-NAPHTHALENEDIONE|2,3-DICHLORO-1,4-NAPHTHOQUINONE|DICLONE|1,4-NAPHTHOQUINONE, 2,3-DICHLORO-|PHYGON|PHYGON SEED PROTECTANT|PHYGON XL|PHYGON-XL|SANQUINON|USR 604	117-80-6	Dichlone is a yellow crystalline solid dissolved in a water-emulsifiable liquid carrier. Can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Can easily penetrate the soil and contaminate groundwater and nearby streams. Used as a fungicide.	1.0	2.5	5.0	3476.0	353.0	1234.0	576.0	395.0	776.0	83.0	284.0	138.0	86.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1718	DICHLONE, [OTHER THAN LIQUID]	DICHLONE|DICHLONE, [OTHER THAN LIQUID]|2,3-DICHLORO-1,4-NAPHTHOQUINONE	117-80-6	A yellow crystalline solid. It is a wettable powder. Can cause illness by inhalation, skin absorption and/or ingestion. Used as a herbicide.	1.0	2.5	5.0	3476.0	353.0	1234.0	576.0	395.0	776.0	83.0	284.0	138.0	86.0	(BLOB)	A finely divided suspension of elemental tellurium in air will explode. Burning tellurium produces toxic tellurium oxide gas. Avoid solid sodium, halogens, interhalogens, metals, hexalithium disilicide. Reacts with nitric acid; reacts with concentrated sulfuric acid forming a red solution. Dissolves in potassium hydroxide in the presence of air with formation of deep red solution; combines with halogens. Avoid antimony and chlorine trifluoride; chlorine trifluoride reacts vigorously with tellurium producing flame. Fluorine and tellurium react with incandescence. Lithium silicide attacks tellurium with incandescence. Reaction with zinc is accompanied by incandescence (same potential with cadmium, only hazard is less). A vigorous reaction results when liquid tellurium is poured over solid sodium. (EPA, 1998)	Straight water streams will scatter molten tellurium oxide. Wear goggles, rubber gloves, and proper respirator with filter. Use water spray. Tellurium will burn only slowly in air. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1714	DICAMBA, [OTHER THAN LIQUID]	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	DICHLOROPENTANE may react with some metals to form dangerous products. Incompatible with strong oxidizing and reducing agents. Incompatible with many amines, nitriles, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		106																			
1715	DICHLOBENIL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air-supplied mask in closed tanks; goggles or face shield; rubber gloves. (USCG, 1999)	Flammable.	TETRAHYDRONAPHTHALENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		176		(USCG, 1999)		0.8		%	(USCG, 1999)		5		%	(USCG, 1999)		725		(USCG, 1999)		-23.1	
1716	DICHLOBENIL, [OTHER THAN LIQUID]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly oxidized in air. Insoluble in water.	DICHLOROPHENE is incompatible with strong oxidizing agents and strong bases (NTP, 1992). Weakly acidic.					0																						(NTP, 1992)		351 to 352
1717	DICHLONE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Dissolves readily in water with the evolution of heat and production of corrosive HCl.	Compounds that act as inorganic acids, such as titanium tetrachloride, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. TITANIUM TETRACHLORIDE acts as an acid in aqueous solution. During the reduction of TITANIUM TETRACHLORIDE to titanium metal with potassium, an explosion occurred. The system had been heated to 90Â° C (Walter and Mandell 1967).	Water-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for titanium tetrachloride, CAS number 7550-45-0	3	0	2	2	No Water																						
1718	DICHLONE, [OTHER THAN LIQUID]	Caution : When heated to decomposition, toxic fumes of tellurium oxide will be emitted. Avoid sources of extreme heat. Ventilate area of spill or leak; collect spilled material in the most convenient and safe manner and deposit in sealed containers for reclamation or for disposal in a secured sanitary landfill. Liquids containing tellurium should be absorbed in vermiculite, dry sand, earth or a similar material. (EPA, 1998)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	A finely divided suspension of elemental tellurium in air will explode. Insoluble in water.	TELLURIUM is attacked by chlorine fluoride with incandescence. When tellurium and potassium are warmed in an atmosphere of hydrogen, combination occurs with incandescence [Mellor 11:40. 1946-47]. Burning tellurium produces toxic tellurium oxide gas. Avoid solid sodium, halogens, interhalogens, metals, hexalithium disilicide. Reacts with nitric acid; reacts with concentrated sulfuric acid forming a red solution. Dissolves in potassium hydroxide in the presence of air with formation of deep red solution; combines with halogens. Avoid antimony and chlorine trifluoride; chlorine trifluoride reacts vigorously with tellurium producing flame. Fluorine and tellurium react with incandescence. Lithium silicide attacks tellurium with incandescence. Reaction with zinc is accompanied by incandescence (same potential with cadmium, only hazard is less). A vigorous reaction results when liquid tellurium is poured over solid sodium [EPA, 1998].	Pyrophoric					0																						(EPA, 1998)		842	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1714	DICAMBA, [OTHER THAN LIQUID]																																								Flammable Liquid	C5H10Cl2		5.0	0.0	17.0	3.0	3.0
1715	DICHLOBENIL	(USCG, 1999)		1.03				mm Hg							(USCG, 1999)	(liquid	0.974		68		(USCG, 1999)		406		760		(USCG, 1999)		132.21											THN	Combustible Liquid	C10H12		9.0	0.0	28.0	3.0	3.0
1716	DICHLOBENIL, [OTHER THAN LIQUID]	(NTP, 1992)	; 0.0001 mm Hg at 212Â° F	1.00E-10		77		mm Hg																			(NTP, 1992)		269.13						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C13H14Cl2O2		9.0	0.0	28.0	3.0	3.0
1717	DICHLONE																																								Corrosive|Flammable Liquid	TiCl4 (titanium tetrachloride)|MgCl2 (magnesium chloride)		6.0	0.0	14.0	3.0	3.0
1718	DICHLONE, [OTHER THAN LIQUID]	(EPA, 1998)		1		968		mm Hg							(EPA, 1998)		6.24				(EPA, 1998)	1814Â° F amorphous powder 2534Â° F crystalline solid					(EPA, 1998)		127.6		(NIOSH, 2003)	(as Te)	25	mg/m3	(NIOSH, 2003)	Insoluble						Te		6.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1719	DICHLORAN	AL-50|ALLISAN|ANILINE, 2,6-DICHLORO-4-NITRO-|BENZENAMINE, 2,6-DICHLORO-4-NITRO-|BORTRAN|BOTRAN|CDNA|CNA|DCNA|DCNA|FUNGICIDE)|DICHLORAN|DICHLORAN(AMINE FUNGICIDE)|2,6-DICHLORO-4-NITROANILINE|2,6-DICHLORO-4-NITROBENZENAMINE|DICLORAN|DITRANIL|4-NITROANILINE, 2,6-DICHLORO-|RD-6584|RESISAN|U-2069	99-30-9	PHYSICAL DESCRIPTION: Yellow crystals or solid. Slight aniline odor. Used as a fungicide. Insoluble in water, but often formulated as a wettable powder (easily dispersed in water).	1.0	2.5	5.0	3479.0	353.0	1234.0	582.0	395.0	777.0	83.0	284.0	140.0	86.0	(BLOB)	Container may explode in heat of fire. When heated to decompositon, it emits very toxic fumes of fluoride and tellurium. Decomposes in water, acid, and alkali. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and full protective clothing. Do not get water inside container. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Spray cooling water on containers that are exposed to flames until well after fire is out. Isolate area until gas has dispersed. This material is not combustible. Small fires: dry chemical or carbon dioxide. Large fires: water spray, fog or foam. (EPA, 1998)
1720	DICHLOROACETIC ACID	ACETIC ACID, DICHLORO-|BICHLORACETIC ACID|DCA|DCA (ACID)|DICHLORACETIC ACID|DICHLORETHANOIC ACID|DICHLOROACETIC ACID|2,2-DICHLOROACETIC ACID|DICHLOROETHANOIC ACID|DKHUK|URNER'S LIQUID	79-43-6	A colorless crystalline solid melting at 49Â°F. Corrosive to metals and tissue.	1.0	2.5	5.0	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1721	DICHLOROACETONITRILE	ACETONITRILE, DICHLORO-|DICHLOROACETONITRILE|DICHLOROMETHYL CYANIDE	3018-12-0	Clear liquid.	2.5	5.0	2.5	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	INHALATION: Call a physician. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush with copious amounts of water for 15 minutes while removing contaminated clothing and shoes. Assure adequate flushing of the eyes by holding eyelids open with fingers. (USCG, 1999)	Special Hazards of Combustion Products: Vapors may travel considerable distance to a source of ignition and flash back. Forms explosive mixtures in air. Container explosion may occur under fire conditions. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1722	DICHLOROACETYL CHLORIDE	ALPHA,ALPHA-DICHLOROACETYL CHLORIDE|DICHLORACETYL CHLORIDE|DICHLOROACETIC ACID CHLORIDE|DICHLOROACETYL CHLORIDE|2,2-DICHLOROACETYL CHLORIDE|DICHLOROETHANOYL CHLORIDE	79-36-7	Colorless liquid with a pungent odor. Flash point 151Â°F Boiling point 107-108Â°F. Vapors are irritating to the eyes and mucous membranes. Corrosive to metals and tissue.	2.5	5.0	2.5	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	(BLOB)	When heated to decomposition, this compound emits toxic fumes of carbon monoxide. Hazardous polymerization may not occur. (EPA, 1998)	Extinguish with water, dry chemicals, foam, or carbon dioxide. Wear goggles and self-contained breathing apparatus. (EPA, 1998)
1723	DICHLORODIFLUOROMETHANE	ALGOFRENE TYPE 2|ARCTON 12|ARCTON 6|CARBON DICHLORIDE DIFLUORIDE|CF 12|CF 12 (HALOCARBON)|CFC 12|CFC-12|CHLADONE 12|CHLOROFLUOROCARBON 12|DICHLORODIFLUOROMETHANE|DICHLORODIFLUOROMETHANE (CCL2F2)|DIFLUORODICHLOROMETHANE|DYMEL 12|ELECTRO-CF 12|ESKIMON 12|F 12|F 12 (HALOCARBON)|F-12|FC 12|FCC 12|FKW 12|FLUOROCARBON 12|FORANE 12|FREON 12|FREON F-12|FRIGEN 12|FRIGEN R12|FRON 12|GENETRON 12|HALON 122|HC 12|ISCEON 122|ISOTRON 12|KHLADON 12|LEDON 12|METHANE, DICHLORODIFLUORO-|PROPELLANT 12|R 12|R 12 (REFRIGERANT)|REFRIGERANT 12|REFRIGERANT GAS R-12|REFRIGERANT R 12|SDD	75-71-8	A colorless gas having a faint ethereal odor. Shipped as a liquid confined under its own vapor pressure. Contact with the unconfined liquid can cause frostbite. Both components are noncombustible. Can asphyxiate by the displacement of air. Exposure of the closed container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1724	DICHLORODIFLUOROMETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 12.5% ETHYLENE OXIDE	DICHLORODIFLUOROMETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 12.5% ETHYLENE OXIDE|ETHYLENE OXIDE AND DICHLORODIFLUOROMETHANE MIXTURE, WITH NOT MORE THAN 12.5% ETHYLENE OXIDE	75-71-8	A colorless gaseous mixture at room conditions. Ethylene oxide diluted with dichlorodifluoromethane (Freon-12) to eliminate flammability for use as a fumigant (Farm Chemicals). Ethylene oxide is a confirmed carcinogen. Shipped as a confined liquid under own vapor pressure. May asphyxiate by the displacement of air. Liquid contact may cause frostbite by evaporative cooling. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. Dust clouds may form explosive mixtures with air. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1719	DICHLORAN	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	TELLURIUM HEXAFLUORIDE reacts with water to yield toxic hydrogen fluoride vapors. It emits very toxic fumes of fluoride and tellurium. Decomposes in water, acid, and alkali. [EPA, 1998].	TELLURIUM HEXAFLUORIDE is a colorless, toxic gas, when heated to decomposition it emits very toxic fumes containing metallic tellurium and tellurium fluorides [Lewis, 3rd ed., 1993, p. 1207].	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2195 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		-35.7	
1720	DICHLOROACETIC ACID	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with water evolving carbon dioxide.	DICHLOROPHENYL ISOCYANATES may react exothermically with possible generation of toxic gases with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizing agents, hydrides, phenols, and peroxides. React with water to form amines and liberate carbon dioxide.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
1721	DICHLOROACETONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, protective clothing, rubber boots and heavy rubber gloves. (USCG, 1999)	Flammable. Insoluble in water.	METHYLCYCLOPENTADIENE DIMER may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents to release gaseous hydrogen. May undergo autoxidation upon exposure to the air to form explosive peroxides. Explosions in ammonia synthesis gas have been traced to the breakdown of addition products of dienes similar to this diene and oxides of nitrogen produced from the interaction of nitrogen oxide and oxygen [Bretherick, 1995].		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		80	(USCG, 1999)		1		%	(USCG, 1999)		10		%							(USCG, 1999)		-59.8	
1722	DICHLOROACETYL CHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	METHYLCYCLOPENTADIENYLMANGANESE TRICARBONYL decomposes when exposed to light. It is stable in water. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3281 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		230																	(EPA, 1998)		34	
1723	DICHLORODIFLUOROMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)	(decomposes)		914 to 923
1724	DICHLORODIFLUOROMETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 12.5% ETHYLENE OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Oxidizing agents and reducing agents may destroy this chemical's color. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)		greater than 572

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1719	DICHLORAN	(EPA, 1998)	Greater than 760 mm Hg						(EPA, 1998)		2.499		14								(EPA, 1998)		95.9		760		(EPA, 1998)		241.61		(NIOSH, 2003)		1	ppm	(NIOSH, 2003)	Decomposes					Poison Gas|Corrosive	F6Te	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	12.0	3.0	3.0
1720	DICHLOROACETIC ACID																																									Poison	C7-H3-Cl2-N-O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	17.0	3.0	3.0
1721	DICHLOROACETONITRILE														(USCG, 1999)		0.941				(USCG, 1999)		392		760		(USCG, 1999)		160.26											MCK	Flammable Liquid	C12H16	Dirt/Earth	7.0	0.0	13.0	3.0	3.0
1722	DICHLOROACETYL CHLORIDE	(EPA, 1998)		7.3		212		mm Hg	(NTP, 1992)	g/L	0.00064		70		(EPA, 1998)		1.39		68		(EPA, 1998)		449		760		(EPA, 1998)		218.1						(NTP, 1992)	Insoluble					Poison	C9H7MnO3		7.0	0.0	11.0	3.0	3.0
1723	DICHLORODIFLUOROMETHANE																										(NTP, 1992)		456.5						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C34H16O2		6.0	0.0	15.0	3.0	3.0
1724	DICHLORODIFLUOROMETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 12.5% ETHYLENE OXIDE																										(NTP, 1992)		646.62						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C42H18N2O6	Mineral-Based & Clay-Based Absorbents	9.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1725	DICHLORODIFLUOROMETHANE-TRICHLOROTRIFLUOROETHANE MIXTURE	DICHLORODIFLUOROMETHANE-TRICHLOROTRIFLUOROETHANE MIXTURE	75-71-8	A colorless odorless mixture of gases. Shipped as a liquid confined under its own vapor pressure. Contact with the unconfined liquid can cause frostbite. Both components are noncombustible. Can asphyxiate by the displacement of air. Exposure of the closed container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	3482.0	353.0	1234.0	582.0	395.0	778.0	83.0	284.0	140.0	86.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1726	DICHLORODIMETHYL ETHER, SYMMETRICAL	ALPHA,ALPHA'-DICHLORODIMETHYL ETHER|BCME|BIS(CHLOROMETHYL) ETHER|BIS-CHLOROMETHYL ETHER|BISCME|CHLORO(CHLOROMETHOXY) METHANE|CHLOROMETHYL ETHER|DICHLORINATED METHYL OXIDE|DICHLORODIMETHYL ETHER|DICHLORODIMETHYL ETHER, SYMMETRICAL|1,1'DICHLORODIMETHYL ETHER|DICHLOROMETHYL ETHER|DIMETHYL-1,1'-DICHLOROETHER|ETHER, BIS(CHLOROMETHYL)|METHANE, OXYBIS[CHLORO-|METHANE, OXYBIS[CHLORO-|MONOCHLOROMETHYL ETHER|OXYBIS[CHLOROMETHANE]|OXYBIS[CHLOROMETHANE]|SYM-DICHLORO-DIMETHYL ETHER|SYM-DICHLOROMETHYL ETHER	75-71-8	A colorless volatile liquid with a chloroform-like odor. Toxic by inhalation, skin absorption and ingestion. Dangerous fire risk - flash point below 0Â°F. Vapors much denser than air. Insoluble in water and denser than water. Used to make paints and varnish, and as a solvent.	2.5	5.0	2.5	3485.0	353.0	1234.0	588.0	395.0	779.0	83.0	284.0	142.0	86.0	Get medical attention following all exposures to this compound. INHALATION: remove victim from exposure; if breathing has stopped, begin artificial respiration. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene gases may be formed. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires will generate irritating hydrogen chloride gas. (USCG, 1999)	(BLOB)
1727	DICHLORODIPHENYLDICHLOROETHANE	(BLOB)	72-54-8	A colorless crystalline solid. Insoluble in water and sinks in water. Toxic by inhalation, skin absorption or ingestion. Used as a pesticide.	1.0	2.5	5.0	3488.0	353.0	1234.0	588.0	395.0	780.0	83.0	284.0	142.0	86.0	Inhalation and skin are routes of entry.Move victim to fresh air; call emergency medical care. Remove and isolate contaminated clothing and shoes at the site. In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes. Keep victim quiet and maintain normal body temperature. (EPA, 1998)	This material may burn but does not ignite readily. Flammable/poisonous gases may accumulate in tanks and hopper cars. This material may ignite combustibles (wood, paper, oil, etc.). The compound is a slight fire hazard when exposed to heat or flame. It is decomposed by moisture or water to hydrochloric acid with the evolution of heat. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Do not use water on material itself. Use spray to absorb vapors. This material may react violently with water. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. Also dry sand may be used. (EPA, 1998)
1728	DICHLOROFLUOROMETHANE	AF 22|AF 22 (FLUOROCARBON)|ALGOFREN E TYPE 5|ARCTON 7|CFC 21|DICHLOROFLUOROMETHANE|DICHLOROMONOFLUOROMETHANE|F 21|F 21 (FLUOROCARBON)|F-21|FC 21|FLUOROCARBON-21|FLUORODICHLOROMETHANE|FREON 21|FREONÂ® 21|GENETRON 21|GENETRONÂ® 21|HALOCARBON 21|HALON 112|HALONÂ® 112|HCFC 21|HCFC-21|MONOFLUORODICHLOROMETHANE|R 21|R 21 (REFRIGERANT)|R-21|REFRIGERANT 21|REFRIGERANT GAS R-21	111-44-4	Dichlorofluoromethane is a colorless, odorless gas. It is shipped as a liquid under its own vapor pressure. Contact with the liquid may cause frostbite to unprotected skin. It can asphyxiate by displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	3488.0	353.0	1237.0	588.0	398.0	780.0	83.0	285.0	142.0	87.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1729	DICHLOROPHENE	ANTHIPHEN|ANTIFEN|ANTIPHEN|BIS(2-HYDROXY-5-CHLOROPHENYL)METHANE|BIS(5-CHLORO-2-HYDROXYPHENYL)METHANE|BIS(CHLOROHYDROXYPHENYL)METHANE|CORDOCEL|DDDM|DDM|DI(5-CHLORO-2-HYDROXYPHENYL)METHANE|DI-(5-CHLORO-2-HYDROXYPHENYL)METHANE|DICESTAL|5,5'-DICHLORO 2,2'-DIHYDROXYDIPHENYLMETHANE|4,4'-DICHLORO-2,2'-METHYLENEDIPHENOL|DICHLOROFEN|DICHLOROPHEN|DICHLOROPHEN B|DICHLOROPHENE|DICHLOROPHENE 10|DICHLORPHEN|DIDROXAN|DIDROXANE|DIFENTAN|2,2'-DIHYDROXY-5,5'-DICHLORODIPHENYLMETHANE|DIPHENTANE 70|DIPHENTHANE 70|EMBEPHEN|FUNGICIDE FX|FUNGICIDE	97-23-4	PHYSICAL DESCRIPTION: White slightly cream or light pink-colored powder. Melting point 177Â°C. Slight phenolic odor and a saline phenolic taste. Moderately toxic. Used as a fungicide and bactericide.	1.0	2.5	5.0	3488.0	353.0	1240.0	588.0	398.0	780.0	83.0	286.0	142.0	87.0	INGESTION: Call a physician. Keep victim warm. EYES: Flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Flush affected areas with plenty of water. Wash with soap and water. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. (USCG, 1999)	Special Hazards of Combustion Products: Explosive Behavior in Fire: In fire, may decompose to form flammable or explosive mixtures in air. Old samples may explode upon heating. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1725	DICHLORODIFLUOROMETHANE-TRICHLOROTRIFLUOROETHANE MIXTURE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	VERATRALDEHYDE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992). VERATRALDEHYDE is an aldehyde. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction).						0		(NTP, 1992)			greater than 230															(NTP, 1992)			108 to 109
1726	DICHLORODIMETHYL ETHER, SYMMETRICAL	(BLOB)	Full protective clothing; acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect skin and eyes. (USCG, 1999)	Highly flammable. May enflame spontaneously in air [NFPA 1991]. Undergoes vigorous reaction with water to generate hydrogen chloride, heat and other products. The heat may be sufficient to ignite nearby combustible material. Methyldichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as METHYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases. Impact of dichlorosilane causes mixtures to burst into flame. This is the case, when the dichlorosilane and most likely related substances are mixed with oxidants such as potassium permanganate, lead oxide, copper oxide, or silver oxide, even under inert gas atmosphere [Bretherick, 1995, pg. 193]. With METHYLDICHLOROSILANE, toxic hydrogen chloride and phosgene gases may be formed when burned.	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1242 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5	No Water	(USCG, 1999)		-14		(USCG, 1999)		6		%	(USCG, 1999)		55		%	(USCG, 1999)		greater than 600	(USCG, 1999)		-135	
1727	DICHLORODIPHENYLDICHLOROETHANE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Dichlorophenyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of HYDROGEN cHLORIDE gas will be created in 1.4 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as DICHLOROPHENYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1766 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		286		(EPA, 1998)	Material will burn but requires some effort to ignite.					(EPA, 1998)	Material will burn but requires some effort to ignite.										
1728	DICHLOROFLUOROMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	VIDARABINE is an organic compound containing both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																			(NTP, 1992)			500 to 518
1729	DICHLOROPHENE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. (USCG, 1999)	Highly flammable. Forms heat-sensitive explosive peroxides on contact with air. Slightly soluble in water.	ACETAL can react vigorously with oxidizing agents. Stable in base but readily decomposed by dilute acids. Forms heat-sensitive explosive peroxides on contact with air. Old samples have been known to explode when heated due to peroxide formation [Sax, 9th ed., 1996, p. 5].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		-5		(USCG, 1999)		1.65		%	(USCG, 1999)		10.4		%	(USCG, 1999)		446		(USCG, 1999)		-148	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1725	DICHLORODIFLUOROMETHANE-TRICHLOROTRIFLUOROETHANE MIXTURE																				(NTP, 1992)		538		760		(NTP, 1992)		166.18						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C9H10O3	Cellulose-Based Absorbents	9.0	0.0	16.0	3.0	3.0
1726	DICHLORODIMETHYL ETHER, SYMMETRICAL														(USCG, 1999)		1.11		77		(USCG, 1999)		106.7		760		(USCG, 1999)		115											MCS	Dangerous When Wet|Corrosive|Flammable Liquid	CH4Cl2S|	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	16.0	3.0	3.0
1727	DICHLORODIPHENYLDICHLOROETHANE														(EPA, 1998)		1.562				(EPA, 1998)		500		760		(EPA, 1998)		280.43												Corrosive	C6H3Cl5Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	16.0	3.0	3.0
1728	DICHLOROFLUOROMETHANE																										(NTP, 1992)		267.28						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C10H13N5O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	15.0	3.0	3.0
1729	DICHLOROPHENE	(USCG, 1999)		56.87				mm Hg							(USCG, 1999)		0.831		68		(USCG, 1999)		216		760		(USCG, 1999)		118.17											AEL	Flammable Liquid	C6H14O2		8.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1730	DICHLOROPROPANE (mixture of 1,2 and 1,3)	DCP|DICHLORO-1,2-PROPANE|DICHLOROPROPANE|1,2-DICHLOROPROPANE|PROPANE DICHLORIDE|PROPYLENE DICHLORIDE|R 270	78-87-5 and 142-28-9	Colorless liquid with a chloroform-like odor. Toxic by ingestion and inhalation. (NIOSH, 1997)	2.5	5.0	2.5	3488.0	353.0	1240.0	588.0	398.0	780.0	83.0	286.0	142.0	87.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as nitrogen oxides and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1731	DICLOFOP METHYL	2-(4-(2,4-DICHLOROPHENOXY)PHENOXY)PROPANOIC ACID, METHYL ESTER|DICLOFOP METHYL	51338-27-3	Colorless crystals. Decomposed by either strong acid or base. Used as a selective herbicide.	1.0	2.5	5.0	3488.0	353.0	1240.0	588.0	398.0	780.0	83.0	286.0	142.0	87.0	(BLOB)	Special Hazards of Combustion Products: Produces irritating vapor when heated Behavior in Fire: Vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1732	DICOFOL	ACARIN|BENZENEMETHANOL,|BENZHYDROL, 4,4'-DICHLORO-ALPHA-(TRICHLOROMETHYL)-|1,1-BIS(4-CHLOROPHENYL)-2,2,2-TRICHLOROETHANOL|1,1-BIS(CHLOROPHENYL)-2,2,2-TRICHLOROETHANOL|1,1-BIS(P-CHLOROPHENYL)-2,2,2-TRICHLOROETHANOL|CARBAX|CEKUDIFOL|CHLORETANOL|4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-(TRICHLOROMETHYL)BENZENEMETHANOL|CPCA|DECOFOL|DI-(P-CHLOROPHENYL) TRICHLOROMETHYLCARBINOL|DI-(P-CHLOROPHENYL)TRICHLOROMETHYLCARBINOL|4,4'-DICHLORO-ALPHA-(TRICHLOROMETHYL)BENZHYDROL|4,4'-DICHLORO-ALPHA-TRICHLOROMETHYL BENZHYDROL|DICHLOROKELTHANE|DICOFOL|DICOFOL, [SOLID]|DTMC|ENT 23,648|ETHANOL, 2,2,2-TRICHLORO-1,1-BIS(4-CHLOROPHENYL)-	115-32-2	Dicofol or kelthane is a white crystalline, wettable powder dissolved in a liquid carrier, (water). The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It can cause illness by inhalation, skin absorption, and/or ingestion. It is used as a pesticide.	1.0	2.5	5.0	3491.0	353.0	1240.0	588.0	398.0	781.0	83.0	286.0	142.0	87.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1733	DIDECANOYL PEROXIDE	DECANOX F|DECANOYL PEROXIDE|DECANOYL PEROXIDE, [TECHNICALLY PURE]|DIDECANOYL PEROXIDE|PERKADOX SE 10	762-12-9	White wet solid. May float or sink in water. This solid peroxide is particularly sensitive to temperature rises, contamination, and friction. Above a given "Control Temperature" they decompose violently.	1.0	2.5	5.0	3491.0	353.0	1240.0	588.0	398.0	781.0	83.0	286.0	142.0	87.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1734	DIETHOXYMETHANE	DIETHOXYMETHANE|1,1-DIETHOXYMETHANE|DIETHYLFORMAL|3,5-DIOXAHEPTANE|ETHOXYMETHYL ETHYL ETHER|ETHYLAL|FORMALDEHYDE DIETHYL ACETAL|METHANE, DIETHOXY-	462-95-3	A colorless volatile liquid with an agreeable odor. Less dense than water. Vapors heavier than air. May be narcotic in high concentrations. Used as a solvent and in the manufacture of cosmetics.	2.5	5.0	2.5	3491.0	353.0	1240.0	588.0	398.0	781.0	83.0	286.0	142.0	87.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1730	DICHLOROPROPANE (mixture of 1,2 and 1,3)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Soluble in water.	METHYLETHANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound may react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		165													(NTP, 1992)		23.9	
1731	DICLOFOP METHYL	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Easily oxidized by air to form unstable peroxides which may explode. Forms explosive mixture with air above 100Â°C (30-60% of the vapor in air) owing to formation of peroxyacetic acid [White, A. G. et al., J. Soc. Chem. Ind., 1950, 69, p. 206]. Soluble in water.	ACETALDEHYDE undergoes a vigorously exothermic condensation reaction in contact with strong acids, bases or traces of metals. Can react vigorously with oxidizing reagents such as dinitrogen pentaoxide, hydrogen peroxide, oxygen, silver nitrate, etc. Contamination often leads either to reaction with the contaminant or polymerization, both with the evolution of heat. Can react violently with acid anhydrides, alcohols, ketones, phenols, ammonia, hydrogen cyanide, hydrogen sulfide, halogens, phosphorus, isocyanates, concentrated sulfuric acid, and aliphatic amines. Reactions with cobalt chloride, mercury(II) chlorate or perchlorate form sensitive, explosive products [Sax, 9th ed., 1996, p. 5]. An oxygenation reaction of acetaldehyde in the presence of cobalt acetate at -20Â°C exploded violently when stirred. The event was ascribed to peroxyacetate formation [Phillips B. et al., J. Am. Chem. Soc., 1957, 79, p. 5982].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6		(NTP, 1992)		-40		(NTP, 1992)		4		%	(NTP, 1992)		57		%	(USCG, 1999)	365Â° F; 300Â° F; 347Â° F			(NTP, 1992)		-190.3	
1732	DICOFOL	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Fumes in moist air as it reacts exothermically with the moisture to produce hydrochloric acid [Merck 11th ed. 1989]. Dry powdered form is pyrophoric in air. Dissolves in water with decomposition and release of hydrochloric acid.	TITANIUM TRICHLORIDE is acidic and a powerful reducing agent. Reduces nitrate to ammonia; reduces aqueous sulfur dioxide to sulfur. Can cause fires in the presence of oxidizing agents. Gives acidic solutions that neutralize bases in exothermic reactions. Ethylene can polymerize at low pressure if catalyzed by titanium halides. (Sundaram, K. M, M. M. Shreehan, E. F. Olszewski. "Ethylene." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.)	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1733	DIDECANOYL PEROXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to prolonged exposure to air (NTP, 1992). Water insoluble.	ACETANILIDE is an amide. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		345												(NTP, 1992)		1004		(NTP, 1992)		237.7	
1734	DIETHOXYMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it at ambient temperatures. This compound is a Schedule II DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	METHYLPHENIDATE HYDROCHLORIDE is incompatible with alkalis and solutions of barbiturates (NTP, 1992). Undergoes typical ester hydrolysis in aqueous solutions at 176Â°F.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1730	DICHLOROPROPANE (mixture of 1,2 and 1,3)	(NTP, 1992)		0.7		68		mm Hg	(NTP, 1992)		2.59				(USCG, 1999)		0.9414				(NTP, 1992)	; 147-149Â° F (12 mm Hg); 126Â° F (6 mm Hg)	316		760		(NTP, 1992)		75.11						(NTP, 1992)	Very soluble				MME	Corrosive	C3H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	15.0	3.0	3.0
1731	DICLOFOP METHYL	(NTP, 1992)	; 760 mm Hg at 68.4Â° F	400		40.8		mm Hg	(NTP, 1992)		1.52				(USCG, 1999)		0.78		68		(NTP, 1992)		70		760		(NTP, 1992)		44.06		(NIOSH, 2003)	; A potential human carcinogen.	2000	ppm	(NTP, 1992)	at 66Â° F		0.1 to 1.0	mg/mL	AAD	Flammable Liquid	C2H4O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	11.0	3.0	3.0
1732	DICOFOL																																							Corrosive	Cl3Ti		9.0	0.0	16.0	3.0	3.0
1733	DIDECANOYL PEROXIDE	(NTP, 1992)		1		237		mm Hg	(NTP, 1992)		4.65				(NTP, 1992)		1.219		59		(NTP, 1992)		579		760		(NTP, 1992)		135.17						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C8H9NO		9.0	0.0	12.0	3.0	3.0
1734	DIETHOXYMETHANE																											(NTP, 1992)		269.8						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C14H19NO2.ClH		9.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1735	DIETHYL CHLOROPHOSPHATE	CHLORODIETHOXYPHOSPHINE OXIDE|CHLOROD|DIETHYLPHOSPHATE|CHLOROPHOSPHORIC ACID, DIETHYL ESTER|DIETHOXYPHOSPHOROUS OXYCHLORIDE|DIETHOXYPHOSPHORUS OXYCHLORIDE|DIETHOXYPHOSPHORYL CHLORIDE|DIETHYL CHLOROPHOSPHATE|DIETHYL CHLOROPHOSPHONATE|DIETHYL PHOSPHOCHLORIDATE|DIETHYL PHOSPHOROCHLORIDATE|DIETHYL PHOSPHOROCHLORIDE|DIETHYLPHOSPHORIC ACID CHLORIDE|ETHYL PHOSPHOROCHLORIDATE|ETHYL PHOSPHOROCHLORIDATE (CL(ETO)2PO)|ETHYL PHOSPHOROCHLORIDATE (ETO)2CLPO|O,O-DIETHYL	814-49-3	Clear liquid. This material is used as an intermediate in organic synthesis. (EPA, 1998)	2.5	5.0	2.5	3491.0	353.0	1240.0	588.0	398.0	781.0	83.0	286.0	142.0	87.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1736	DIETHYL SULFATE	DES|DIETHYL SULFATE|DIETHYL SULPHATE|ETHYL SULFATE|SULFURIC ACID, DIETHYL ESTER	64-67-5	A clear colorless liquid with a peppermint odor. Burns, though may be difficult to ignite. Corrosive to metals and tissue. It is a potent alkylating agent. Flash point is 104Â° C (219Â° F) [Aldrich MSDS].	2.5	5.0	2.5	3494.0	353.0	1240.0	588.0	398.0	782.0	83.0	286.0	142.0	87.0	(BLOB)	As for other solid carbamate pesticides, container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Emits toxic fumes of nitrogen oxides when heated to decomposition. Avoid decomposing heat. (EPA, 1998)	Procedures for carbamate pesticides, solid, include the following. Stay upwind and keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Metolcarb is a carbamate insecticide. Solid carbamate pesticides may burn but do not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, and foam. For large fires, use water spray, fog or foam. Dike fire control water for later disposal. (EPA, 1998)
1737	DIETHYLAMINOETHOXYETHANOL	2-(BETA-DIETHYLAMINO)ETHOXYETHANOL|2-[2-(DIETHYLAMINO)ETHOXY]ETHANOL|DIETHYLAMINOETHOXYETHANOL|DIETHYLAMINOETHOXYETHANOL, [FLAMMABLE LIQUID LABEL]|DIETHYL[2-(2-HYDROXYETHOXY)ETHYL]AMINE|2-[2-(N,N-DIETHYLAMINO)ETHOXY]ETHANOL	140-82-9	A colorless liquid with an amine-like odor. Slightly less dense than water and slightly soluble in water. May emit toxic oxides of nitrogen when heated to high temperatures May cause irritate the skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3497.0	353.0	1240.0	588.0	398.0	783.0	83.0	286.0	142.0	87.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1738	DIETHYLAMINOETHYLMETHACRYLATE, [LIQUID]	BETA-(DIETHYLAMINO)ETHYL METHACRYLATE|BETA-(N,N-DIETHYLAMINO)ETHYL METHACRYLATE|DAKTOSEB|DIETHYLAMINOETHYL METHACRYLATE|2-DIETHYLAMINOETHYL METHACRYLATE|DIETHYLAMINOETHYLMETHACRYLATE, [LIQUID]|LIGHT ESTER DE|METHACRYLIC ACID, 2-(DIETHYLAMINO)ETHYL ESTER|[2-(METHACRYLOYLOXY)ETHYL]DIETHYLAMINE|2-(N,N-DIETHYLAMINO)ETHYL METHACRYLATE|N,N-DIETHYLAMINOETHYL METHACRYLATE	105-16-8	A clear light colored liquid. Insoluble in water and slightly denser than water. May be toxic by ingestion. Contact may severely irritate skin.	2.5	5.0	2.5	3500.0	353.0	1240.0	588.0	398.0	784.0	83.0	286.0	142.0	87.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1739	DIETHYLCARBAMAZINE CITRATE	BANOCIDE|CARICIDE|CARITROL|CYPIP|DICAROCIDE|DIETHYLCARBAMAZANE CITRATE|DIETHYLCARBAMAZINE ACID CITRATE|DIETHYLCARBAMAZINE CITRATE|DIETHYLCARBAMAZINE HYDROGEN CITRATE|1-DIETHYLCARBAMOYL-4-METHYLPIPERAZINE DIHYDROGEN CITRATE|DIROCIDE|DITRAZIN|DITRAZIN CITRATE|DITRAZINE|ETHODRYL CITRATE|ETHYLAMINOAZINE CITRATE|FILAZINE|FRANOCIDE|FRANOZAN|HETRAZAN|LOXURAN|1-METHYL-4-DIETHYLCARBAMOYLPIPERAZINE CITRATE|N,N-DIETHYL-4-METHYL-1-PIPERAZINECARBOXAMIDE CITRATE|N,N-DIETHYL-4-METHYL-1-PIPERAZINECARBOXAMIDE	1642-54-2	Crystalline solid, scored white tablets. Used against filariasis in man and animals. (EPA, 1998)	1.0	2.5	5.0	3503.0	353.0	1243.0	588.0	398.0	785.0	83.0	287.0	142.0	87.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1735	DIETHYL CHLOROPHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	METHYLSILATRANE is incompatible with strong oxidizing materials. (NTP, 1992)								0		(NTP, 1992)			greater than 305.6															(NTP, 1992)		306	
1736	DIETHYL SULFATE	Avoid inhalation. For solid carbamate pesticides, use the following procedures. For small spills, take up with sand or other noncombustible absorbent material and place in containers for later disposal. For small dry spills, with clean shovel place material into clean, dry container and cover; move container from spill area. For large spills, dike far ahead of spill for later disposal. Do not touch spilled material. Use water spray to reduce vapors. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water.	METOLCARB is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0				(EPA, 1998)	Not flammable.									(EPA, 1998)	Not flammable.							(EPA, 1998)		169 to 171	
1737	DIETHYLAMINOETHOXYETHANOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	MEVINPHOS is stable under normal laboratory conditions. This chemical is extremely stable in neutral and aqueous acidic media but rapidly hydrolyzes in alkaline media. It is corrosive to cast iron and some stainless steel and brass; passes slowly through films of polythene; incompatible with strong oxidizers. (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(NTP, 1992)			greater than 200																	(NTP, 1992)	70Â° F (cis); 44.4Â° F (trans)		
1738	DIETHYLAMINOETHYLMETHACRYLATE, [LIQUID]	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	MEVINPHOS is stable under normal laboratory conditions. This chemical is extremely stable in neutral and aqueous acidic media but rapidly hydrolyzes in alkaline media. It is corrosive to cast iron and some stainless steel and brass; passes slowly through films of polythene; incompatible with strong oxidizers (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																								
1739	DIETHYLCARBAMAZINE CITRATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Halogenated unsaturated aliphatics.	Highly Flammable; Polymerizable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2,3-dichloropropene, CAS number 78-88-6.	3	3	0	3																								

| id | name | yp_source | yp_note | yp_value | yp_range | yp_range_tempDegF | yp_unit | vd_source | vd_note | vd_value | vd_range | vd_range_tempDegF | sg_range | sg_range_tempDegF | sg_value | sg_value_tempDegF | sg_range | sg_note | sg_source | sg_range_tempDegF | vd_range_tempDegF | vd_value_tempDegF | vd_range | vp_range_tempDegF | vp_value_tempDegF | vp_range | vp_value | vp_note | vp_source | bp_range | bp_value | bp_note | bp_source | bp_range_tempDegF | sg_range | sg_value_tempDegF | sg_range | sg_value | sg_note | sg_source | sg_range_tempDegF | vd_range_tempDegF | vd_value_tempDegF | vd_range | vd_value | vd_note | vd_source | vp_unit | vp_range_tempDegF | vp_value_tempDegF | vp_range | vp_value | vp_note | vp_source | bp_range | bp_value | bp_note | bp_source | molwgt_range | molwgt_value | molwgt_source | solbly_source | solbly_note | solbly_range | solbly_value | solbly_unit | chris_code | descLabels | formulas | incompatible_ab sorbents | # of Nations Producing | Production Score | # of Distributions Sites | Distribution Score | Prob Score |
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id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1740	DIETHYLENE GLYCOL DIBUTYL ETHER	BIS(2-BUTOXYETHYL) ETHER|BIS(BUTOXYETHYL) ETHER|BUTANE, 1,1'-(OXYBIS[2,1-ETHANEDIYLOXY))BIS-|BUTEX|2-(2-BUTOXYETHOXY)-1-BUTOXYETHANE|2-BUTOXYETHYL ETHER|BUTYL DIGLYME|DI-2-BUTYOXYETHYL ETHER|DIBUTOXY DIETHYLENE GLYCOL|2,2'-DIBUTOXYETHYL ETHER|DIBUTYL CARBITOL|DIETHYLENE GLYCOL DI-N-BUTYL ETHER|DIETHYLENE GLYCOL DIBUTYL ETHER|DIETHYLENEGLYCOLDIBUTYL ETHER|ETHER, BIS(2-BUTOXYETHYL)|1,1'-(OXYBIS[2,1-ETHANEDIYLOXY))BISBUTANE|5,8,11-TRIOXAPENTADECANE	112-73-2	Colorless liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3503.0	353.0	1243.0	588.0	398.0	785.0	83.0	287.0	142.0	87.0	(BLOB)	Literature sources indicate that this chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1741	DIETHYLENE GLYCOL DIETHYL ETHER	BIS(2,2-DIETHOXYETHYL) ETHER|BIS(2-ETHOXYETHYL) ETHER|BIS(2-ETHOXYETHYL)ETHER|DIETHYL CARBITOL|DIETHYLENE GLYCOL DIETHYL ETHER|ETHANOL, 2,2'-OXYBIS-, DIETHYL ETHER|ETHER, BIS(2-ETHOXYETHYL)|1-ETHOXY-2-(BETA-ETHOXYETHOXY)ETHANE|2-(2-ETHOXYETHOXY)-1-ETHOXYETHANE|2-ETHOXYETHYL ETHER|ETHYL DIGLYME|ETHYLDIGLYME|1,1'-OXYBIS(2-ETHOXYETHANE)|2,2'-OXYBISETHANOL DIETHYL ETHER|3,6,9-TRIOXAUNDECANE	112-36-7	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	3506.0	353.0	1243.0	588.0	398.0	786.0	83.0	287.0	142.0	87.0	Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breaths large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 1997)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1742	DIETHYLENE GLYCOL ETHYL ETHER ACETATE	DIETHYLENE GLYCOL ETHYL ETHER ACETATE	112-15-2	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3506.0	353.0	1243.0	588.0	398.0	786.0	83.0	287.0	142.0	87.0	(BLOB)	Flash point data for this mixture are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1743	DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	2-(2-BUTOXYETHOXY) ETHANOL ACETATE|BUTYL CARBITOL ACETATE|DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE|DIGLYCOL MONOBUTYL ETHER ACETATE|EKTASOLVE DB ACETATE	124-17-4	Colorless liquid with a mild odor. Floats and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	3506.0	353.0	1243.0	588.0	398.0	786.0	83.0	287.0	142.0	87.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
1744	DIETHYLENE GLYCOL MONOMETHYL ETHER	BETA-METHOXY-BETA'-HYDROXYDIETHYL ETHER|2 BETA-METHYL CARBITOL|DIETHYLENE GLYCOL METHYL ETHER|DIETHYLENE GLYCOL MONOMETHYL ETHER|DIGLYCOL MONOMETHYL ETHER|3,6-DIOXA-1-HEPTANOL|DOWANOL DM|EKTASOLVE DM|ETHANOL, 2,2'-OXYBIS-, MONOMETHYL ETHER|ETHANOL, 2-(2-METHOXYETHOXY)-|ETHYLENE DIGLYCOL MONOMETHYL ETHER|GLYCOL ETHER DM|HICOTOL CAR|MECB|METHOXYDIGLYCOL|2-(2-METHOXYETHOXY)-ETHANOL|2-(2'-METHOXYETHOXY)ETHANOL|2-(2-METHOXYETHOXY)ETHANOL|METHOXYETHOXYETHANOL|METHYL	111-77-3	Colorless liquid with a sweet odor. Floats and mixes with water. (USCG, 1999)	2.5	5.0	2.5	3509.0	353.0	1243.0	588.0	398.0	787.0	83.0	287.0	142.0	87.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1740	DIETHYLENE GLYCOL DIBUTYL ETHER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	MICHLER'S KETONE is incompatible with strong oxidizing agents and strong reducing agents (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		342	
1741	DIETHYLENE GLYCOL DIETHYL ETHER	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Flammable. Insoluble in water.	OIL, [MINERAL] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted oil and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Burns exothermically when heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		380															(NIOSH, 2003)		0	
1742	DIETHYLENE GLYCOL ETHYL ETHER ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and moisture. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Component 1 (4%: MITOMYCIN C) is incompatible with strong oxidizers, strong acids and strong bases. Calcium salts may cause decomposition. Component 2 (96%: SODIUM CHLORIDE) reacts violently with BrF3 and lithium. It is incompatible with strong oxidizing agents. It is also incompatible with silver, lead and mercury salts. It may react with nitrogeneous compounds and dichloromaleic anhydride. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																															
1743	DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	M-NITROBENZOIC ACID is incompatible with strong oxidizers. It is also incompatible with strong bases. It may react with cyanides. (NTP, 1992)					0																							(NTP, 1992)		284 to 288	
1744	DIETHYLENE GLYCOL MONOMETHYL ETHER	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor and high efficiency particulate filter cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Insoluble in water.	A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1740	DIETHYLENE GLYCOL DIBUTYL ETHER																				(NTP, 1992)	(decomposes)		greater than 680	760		(NTP, 1992)		268.36						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C17H20N2O	Mineral-Based & Clay-Based Absorbents	7.0	0.0	13.0	3.0	3.0
1741	DIETHYLENE GLYCOL DIETHYL ETHER														(USCG, 1999)		0.822		68		(USCG, 1999)	Very high								(NIOSH, 2003)		2500	mg/m3	(NIOSH, 2003)	Insoluble				OMN				9.0	0.0	17.0	3.0	3.0
1742	DIETHYLENE GLYCOL ETHYL ETHER ACETATE																																								Poison	C15H18N4O5 + NaCl	Mineral-Based & Clay-Based Absorbents	6.0	0.0	13.0	3.0	3.0
1743	DIETHYLENE GLYCOL MONOBUTYL ETHER ACETATE														(NTP, 1992)		1.494		68								(NTP, 1992)		167.12						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C7H5NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	25.0	3.0	3.0
1744	DIETHYLENE GLYCOL MONOMETHYL ETHER																				(NTP, 1992)			343 to 361		30-35	(NTP, 1992)		171.58						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C7H6ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1745	DIETHYLENETRIAMINE	2-(2-AMINOETHYLAMINO)ETHYLAMINE|AMINOETHYLETHANEDIAMINE|ANCAMINEDETA|3-AZAPENTANE-1,5-DIAMINE|BETA,BETA'-DIAMINODIETHYLAMINE|BIS(2-AMINOETHYL)AMINE|BIS(BETA-AMINOETHYL)AMINE|BIS-(2-AMINOETHYL) AMINE|CHS-P I|DEH 20|DETA|1,5-DIAMINO-3-AZAPENTANE|2,2'-DIAMINODIETHYLAMINE|DIETHYLENETRIAMINE|H 950|N,2,2'-IMINOBIS(ETHANAMINE)|2,2'-IMINOBISETHYLAMINE|N,N-BIS(2-AMINOETHYL)AMINE|N-(2-AMINOETHYL)-1,2-ETHANEDIAMINE|N-(2-AMINOETHYL)1,2-ETHANEDIAMINE|N-(2-AMINOETHYL)ETHYLENEDIAMINE|1,4,7-TRIAZAHEPTANE	111-40-0	A yellow liquid with an ammonia-like odor. Less dense than water. Corrosive to metals and tissue. Vapors heavier than air. Burns, although possibly difficult to igntie. Toxic oxides of nitrogen produced during combustion. Used as a solvent for plastics and dyes and in chemical synthesis.	2.5	5.0	2.5	3512.0	353.0	1243.0	588.0	398.0	788.0	83.0	287.0	142.0	87.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1746	DIETHYLTHIOPHOSPHORYL CHLORIDE	(CHLORODIETHOXY)PHOSPHINE SULFIDE|DIETHOXYTHIOPHOSPHORYL CHLORIDE|DIETHYL CHLOROTHIOPHOSPHATE|DIETHYL PHOSPHOROCHLORIDOTHIOATE|DIETHYL PHOSPHOROCHLOROTHIOATE|DIETHYL PHOSPHOROTHIOCHLORIDATE|DIETHYL PHOSPHOROTHIONOCHLORIDATE|DIETHYL THIOPHOSPHORYL CHLORIDE|DIETHYLTHIOPHOSPHORYL CHLORIDE|ETHYL PHOSPHOROCHLORIDOTHIOATE ((ETO)2CLPS)O,O-DIETHYL CHLORIDOPHOSPHOROTHIOATE|O,O-DIETHYL CHLORIDOTHIONOPHOSPHATE|O,O-DIETHYL CHLOROPHOSPHOROTHIOATE|O,O-DIETHYL CHLOROTHIONOPHOSPHAT	2524-04-1	A colorless to light amber liquid with a disagreeable odor. Insoluble in water but soluble in most organic solvents. May be highly toxic and irritating to the eyes and lungs. Used as an intermediate for pesticides, as an oil and gasoline additive, and as a flame retardant.	2.5	5.0	2.5	3515.0	353.0	1243.0	588.0	398.0	789.0	83.0	287.0	142.0	87.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1747	DIFLUOROETHANE 1,1- 75-37-6 1,2-624-72-6 (4,6)	DIFLUOROETHANE|ETHYLIDENE DIFLUORIDE	25497-28-3	Colorless odorless gas. Insoluble in water.	5.0	1.0	1.0	3515.0	353.0	1246.0	588.0	398.0	789.0	83.0	288.0	142.0	87.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1748	DIFLUOROMETHANE	DIFLUOROMETHANE|ECOLOACE 32|FC 32|FREON 32|GENETRON 32|HFC 32|METHYLENE DIFLUORIDE|R 32|R 32 (REFRIGERANT)|REFRIGERANT GAS R-32	75-10-5	A colorless odorless gas. Insoluble in water and has a high thermal stability. Its vapors are heavier than air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. Contact with the unconfined liquid can cause frostbite. Used as a refrigerant.	5.0	1.0	1.0	3515.0	353.0	1246.0	588.0	398.0	789.0	83.0	288.0	142.0	87.0	(BLOB)	When heated to decomposition, it burns and emits acrid fumes. Highly dangerous when exposed to heat, flames or oxidizers; explosion hazard with strong acids and strong oxidizers. Incompatible with alumina, oxidizing materials, 2-aminoethanol, chlorosulfonic acid; ethyleneimine; 36% hydrochloric acid; 48.7% hydrofluoric acid; 70% nitric acid; oleum; 96% sulfuric acid; ethylene diamine; peroxides and silica gel. Avoid light or any polymerizing initiator. Hazardous polymerization can be initiated by organic and inorganic peroxides; azo compounds; redox systems (including organometallic components); light; and high energy radiation. (EPA, 1998)	Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Spray cooling water on containers that are exposed to flames until well after the fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: extinguish with dry chemical, carbon dioxide, water spray, fog, or alcohol foam. Large fires: water spray, fog, or alcohol foam. (EPA, 1998)
1749	DIGOXIN	ACYGOXIN|12BETA-HYDROXYDIGITOXIN|CARD-20(22)-ENOLIDE, 3-[(O-2,6-DIDEOXY-BETA-D-RIBO-HEXOPYRANOSYL-(HEXOPYRANOSYL-(1-4)-2,6-DIDEOXY-BETA-D-RIBO-HEXOPYRANOSYL)OXY)-12,14-DIHYDROXY-,|CHLOROFORMIC DIGITALIN|CORDIOXIL|DAVOXIN|DIGACIN|DIGITALIS GLYCOSIDE|DIGITOXIN, 12BETA-HYDROXY-|DIGOSIN|DIGOXIN|DILANACIN|DIXINA|HOMOLLE'S DIGITALIN|LANACORDIN|LANATILIN|LANICOR|LANOCARDIN|LANOXIN|ROUGOXIN|SAROXIN|VANOXIN	20830-75-5	Clear to white crystals or white crystalline powder. Odorless. Used as a cardiotonic drug. (EPA, 1998)	1.0	2.5	5.0	3518.0	353.0	1246.0	588.0	398.0	790.0	83.0	288.0	142.0	87.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1745	DIETHYLENETRIAMINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	MOLINATE is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1746	DIETHYLTHIOPHOSPHORYL CHLORIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		424 to 428
1747	DIFLUOROETHANE 1,1- 75-37-6 1,2-624-72-6 (4,6)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	(BLOB)	This chemical is sensitive to moisture. Slightly water soluble.	TRIETHYL TIN BROMIDE is incompatible with strong oxidizers. Corrosive. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		210														(NTP, 1992)		7.7	
1748	DIFLUOROMETHANE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	VINYL ACETATE may undergo spontaneous exothermic polymerization on exposure to light. Reacts with air or water to produces peroxides that initiate explosively violent polymerization. Reacts with hydrogen peroxide to form explosive peracetic acid. Reacts with oxygen to form explosive peroxides. Forms explosive vinyl acetate ozonide on contact with ozone. Undergoes violent or explosive reactions with 2-aminoethanol, chlorosulfonic acid, ethylenediamine, mineral acids (hydrochloric acid, hydrofluoric acid, nitric acid, sulfuric acid, oleum), and peroxides [Lewis, 3rd ed., 1993, p. 1311]. Polymerization initiated by dibenzoyl peroxide in ethyl acetate accelerated out of control, ignited and exploded [Vervalin, 1973, p. 81]. Polymerization in toluene solution has caused several large industrial explosions [MCA Case History No. 2087].	Highly Flammable; Polymerizable; Strong Reducing Agent; Peroxidizable Compound	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(EPA, 1998)		18		(EPA, 1998)		2.6		%	(EPA, 1998)		13.4		%	(USCG, 1999)		756		(EPA, 1998)		-136	
1749	DIGOXIN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	DICHLORVOS MIXTURE is incompatible with strong acids and bases. It is slowly hydrolyzed in acidic media and rapidly hydrolyzed by alkalis. It is corrosive to iron and mild steel. (NTP, 1992). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1			(NFPA, 2010)		350																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1745	DIETHYLENETRIAMINE																																							Poison	C8H17NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	22.0	3.0	3.0
1746	DIETHYLTHIOPHOSPHORYL CHLORIDE																										(NTP, 1992)		825.06												Poison	C46H56N4O10	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	22.0	3.0	3.0
1747	DIFLUOROETHANE 1,1- 75-37-6 1,2-624-72-6 (4,6)														(NTP, 1992)		1.63		68		(NTP, 1992)		435		760		(NTP, 1992)		285.79		(NIOSH, 2003)	(as Sn)	25	mg/m3	(NTP, 1992)	at 72Â° F		5 to 10	mg/mL		Corrosive	(C2H5)3SnBr		8.0	0.0	19.0	3.0	3.0
1748	DIFLUOROMETHANE	(EPA, 1998)		83 to 140		68 to 86	mm Hg	(EPA, 1998)		3					(EPA, 1998)		0.932		68		(EPA, 1998)		162 to 163	760		(EPA, 1998)		86.09						(NIOSH, 2003)		2		%	VAM	Flammable Liquid	C4H6O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	19.0	3.0	3.0
1749	DIGOXIN																														(NIOSH, 2003)		100	mg/m3							Poison	C4H7Cl2O4P	Dirt/Earth	7.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1750	DIISOBUTYLAMINE	BIS(2-METHYLPROPYL)AMINE|DI-ISO-BUTYLAMINE|DI-ISOBUTYLAMINE|DIISOBUTYLAMINE|DIISOBUTYLAMINE, [COMBUSTIBLE LIQUID]|DIISOBUTYLAMINE, [FLAMMABLE LIQUID]|2-METHYL-N-(2-METHYLPROPYL)-1-PROPANAMINE|N,N-BIS(2-METHYLPROPYL)AMINE|1-PROPANAMINE, 2-METHYL-N-(2-METHYL PROPYL)-	110-96-3	A clear colorless liquid with an ammonia-like odor. Insoluble in water and less dense than water. Hence floats on water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	3521.0	353.0	1249.0	588.0	398.0	791.0	83.0	289.0	142.0	87.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1751	DIISOBUTYRYL PEROXIDE	DIISOBUTYRYL PEROXIDE|ISOBUTYROYL PEROXIDE|ISOBUTYRYL PEROXIDE|TRIGONOX 187C30	3437-84-1	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently.	2.5	5.0	2.5	3521.0	353.0	1249.0	588.0	398.0	791.0	83.0	289.0	142.0	87.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1752	DIISONONYL ADIPATE	DIISONONYL ADIPATE	33703-08-1	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3524.0	356.0	1249.0	588.0	401.0	792.0	84.0	289.0	142.0	88.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
1753	DIISOPROPANOLAMINE	BIS(2-HYDROXYPROPYL)AMINE|BIS(2-PROPANOL)AMINE|DI-2-PROPANOLAMINE|2,2'-DIHYDROXYDIPROPYLAMINE|DIISOPROPANOLAMINE|DIPA|DIPA (ALCOHOL)|DIPROPYL-2,2'-DIHYDROXY-AMINE|1,1'-IMINO-2-PROPANOL|1,1'-IMINOBIS[2-PROPANOL]|1,1'-IMINODI-2-PROPANOL|N,N-BIS(2-HYDROXYPROPYL)AMINE|2-PROPANOL, 1,1'-IMINODI-	110-97-4	Colorless liquid or white to yellow crystalline solid with an odor of dead fish or ammonia. Liquid floats and mixes with water. Solid sinks and mixes in water. (USCG, 1999)	1.0	2.5	5.0	3527.0	356.0	1249.0	588.0	401.0	793.0	84.0	289.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1754	DIISOPROPYL PEROXYDICARBONATE	BIS-(1-METHYLETHYL) ESTER|DI-ISO-PROPYL PEROXYDICARBONATE|DIISOPROPYL PERCARBONATE|DIISOPROPYL PEROXYDICARBONATE|DIISOPROPYL PEROXYDIFORMATE|IPP|ISOPROPYL PERCARBONATE|ISOPROPYL PEROXYDICARBONATE|LUPEROX IPP|PERKADOX IPP|PEROXYDICARBONIC ACID,|PEROXYDICARBONIC ACID, DIISOPROPYL ESTER|PEROYL IPP	105-64-6	A white solid (shipped packed in Dry Ice to stabilize) with a sharp unpleasant odor. Insoluble in sater and sinks in water. Used as polymerization catalyst. (USCG, 1999)	1.0	2.5	5.0	3527.0	356.0	1249.0	588.0	401.0	793.0	84.0	289.0	142.0	88.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1755	DIMENHYDRINATE	(BLOB)	523-87-5	PHYSICAL DESCRIPTION: Crystalline white powder. (NTP, 1992)	1.0	2.5	5.0	3530.0	356.0	1252.0	588.0	401.0	794.0	84.0	290.0	142.0	88.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1750	DIISOBUTYLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Phenols, such as MONO-TERT-BUTYL-M-CRESOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1751	DIISOBUTYRYL PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	M-PHENETIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235																				
1752	DIISONONYL ADIPATE		(BLOB)	No rapid reaction with air No rapid reaction with water	M-TERPHENYL is non-flammable but combustible (flash point 403ÂºF). Extremely stable thermally. Incompatible with strong oxidizing agents but not very reactive at room conditions.			(NFPA, 2010)		1	1	0	1		(NIOSH, 2003)		375															(NIOSH, 2003)		192	
1753	DIISOPROPANOLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Stable in dry air. Decomposes in moist air and in water to form HCl (NTP, 1992).	TITANOCENE DICHLORIDE is incompatible with strong oxidizers. It may decompose on exposure to water. (NTP, 1992).	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		552	
1754	DIISOPROPYL PEROXYDICARBONATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very hygroscopic. Soluble in water.	ACETIN may hydrolyze in acid or alkaline aqueous solutions. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. They exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		greater than 201.2																				
1755	DIMENHYDRINATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water (3 mg/l).	A bridged diphenyl. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1750	DIISOBUTYLAMINE																																							Flammable Liquid	C11H16O		7.0	0.0	12.0	3.0	3.0
1751	DIISOBUTYRYL PEROXIDE	(NTP, 1992)	; 5 mm Hg at 202.5Â° F; 760 mm Hg at 442Â° F	1		153		mm Hg							(NTP, 1992)		1.032				(NTP, 1992)		478		760		(NTP, 1992)		137.18						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL		Poison	C8H11NO		9.0	0.0	11.0	3.0	3.0
1752	DIISONONYL ADIPATE	(NIOSH, 2003)		0.01		200		mm Hg							(NIOSH, 2003)		1.23				(NIOSH, 2003)		689		760		(NIOSH, 2003)		230.3		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	Insoluble						C6H5C6H4C6H5		9.0	0.0	13.0	3.0	3.0
1753	DIISOPROPANOLAMINE														(NTP, 1992)		1.6										(NTP, 1992)		249						(NTP, 1992)	Decomposes				Corrosive	C10H10Cl2Ti		7.0	0.0	15.0	3.0	3.0
1754	DIISOPROPYL PEROXYDICARBONATE	(NTP, 1992)		3		266		mm Hg							(NTP, 1992)		1.206		68		(NTP, 1992)		316		16.5		(NTP, 1992)		134.13						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C5H10O4	Cellulose-Based Absorbents	9.0	0.0	11.0	3.0	3.0
1755	DIMENHYDRINATE																																							Class 9	C19H17Cl2N3O5S		8.0	0.0	27.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1756	DIMETHYL ADIPATE	ADIPIC ACID, DIMETHYL ESTER|DIMETHYL ADIPATE|DIMETHYL HEXANEDIOATE|HEXANEDIOIC ACID, DIMETHYL ESTER|METHYL ADIPATE	627-93-0	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. SKIN: Wash with soap and copious amounts of water. EYES: Immediately flush with copious amounts of water. Insure adequate flushing of the eyes by holding the eyelids open with the fingers. (USCG, 1999)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flashback. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1757	DIMETHYL CARBONATE	DIMETHYL CARBONATE|METHYL CARBONATE|METHYL CARBONATE ((MEO)2CO)	616-38-6	A clear, colorless liquid with a pleasant odor. Denser than water and slightly soluble in water. Vapors are heavier than air. Used to make other chemicals and as a special purpose solvent.	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1758	DIMETHYL DISULFIDE	DIMETHYL DISULFIDE|DIMETHYL DISULPHIDE|DIMETHYLDISULFIDE|DISULFIDE, DIMETHYL|2,3-DITHIABUTANE|DMDS|METHYL DISULFIDE|(METHYLDITHIO)METHANE|SULFA-HITECH	624-92-0	A colorless oily liquid with a garlic-like odor. Denser than water and slightly soluble in water. Flash point 40Â°F. Vapors heavier than air. May irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1759	DIMETHYL GLUTARATE	DIMETHYL GLUTARATE	1119-40-0	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1760	DIMETHYL HEXADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	DIMETHYL HEXADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	112-69-6	A clear yellow colored liquid with a fishlike odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, dry chemical or Halon extinguisher. (NTP, 1992)
1761	DIMETHYL METHYLPHOSPHONATE	DIMETHOXYMETHYL PHOSPHINE OXIDE|DIMETHYL METHANEPHOSPHONATE|DIMETHYL METHYLPHOSPHONATE|DMMP|FURAN TF 2000|FYROL DMMP|METARAN|METHANE PHOSPHONIC ACID DIMETHYL ESTER|METHYLPHOSPHONIC ACID DIMETHYL ESTER|NCI-C54762|O,O-DIMETHYL METHYLPHOSPHONATE|REOFLAM DMMP	756-79-6	PHYSICAL DESCRIPTION: Clear colorless liquid with a pleasant odor. (NTP, 1992)	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1756	DIMETHYL ADIPATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as MYRCENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions. Many of these compounds undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions have occurred at low temperatures in ammonia synthesis gas units. These explosions have been traced to the addition products of dienes and oxides of nitrogen, produced from the interaction of nitrogen oxide and oxygen [Bretherick, 1995].		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		103																		
1757	DIMETHYL CARBONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	You should protect N-(1,3-DIMETHYLBUTYL)-N'-PHENYL-P-PHENYLENEDIAMINE from exposure to strong oxidizing agents such as chlorine or hydrogen peroxide. This material will ignite if heated strongly. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		400																	(NTP, 1992)			113.4 to 113.9
1758	DIMETHYL DISULFIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N-(3-ETHOXYPHENYL)ACETAMIDE is an example of an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																				(NTP, 1992)			207 to 210
1759	DIMETHYL GLUTARATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																				(NTP, 1992)			390 to 392
1760	DIMETHYL HEXADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Highly flammable. Slowly decomposes in air. Water soluble.	N,N,N',N'-TETRAMETHYL-1,3-BUTANEDIAMINE may be sensitive to air and heat (NTP, 1992). Can burn in air to give toxic NOx gases (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		114																	(NTP, 1992)			less than -148
1761	DIMETHYL METHYLPHOSPHONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to heat, air and moisture during long term storage. Insoluble in water.	N,N'-BIS(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE may react with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.			(NFPA, 2010)		2	1	0	1		(NTP, 1992)			greater than 200													(NTP, 1992)			-33

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1756	DIMETHYL ADIPATE	(USCG, 1999)		4.61				mm Hg													(USCG, 1999)		332.6		760		(USCG, 1999)		136.24											MRE	Flammable Liquid	C10H16	Dirt/Earth	9.0	0.0	23.0	3.0	3.0
1757	DIMETHYL CARBONATE														(NTP, 1992)		1.1				(NTP, 1992)		500		760		(NTP, 1992)		268.44						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Class 9	C18H24N2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	37.0	3.0	3.0
1758	DIMETHYL DISULFIDE																				(NTP, 1992)		179.24												(NTP, 1992)	Soluble						C10H13NO2		8.0	0.0	28.0	3.0	3.0
1759	DIMETHYL GLUTARATE																				(NTP, 1992)		223.29												(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C15H13NO		4.0	0.0	14.0	3.0	3.0
1760	DIMETHYL HEXADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	(NTP, 1992)		1.64		68		mm Hg							(NTP, 1992)		0.802		68		(NTP, 1992)		329		760		(NTP, 1992)		144.3						(NTP, 1992)	Soluble					Flammable Liquid	C8H20N2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	17.0	3.0	3.0
1761	DIMETHYL METHYLPHOSPHONATE														(NTP, 1992)		0.91				(NTP, 1992)		459		13.5		(NTP, 1992)		304.52						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C20H36N2		8.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1762	DIMETHYL SUCCINATE	BUTANEDIOIC ACID, DIMETHYL ESTER|DBE 4|DIMETHYL BUTANEDIOATE|DIMETHYL SUCCINATE|METHYL SUCCINATE|SUCCINIC ACID, DIMETHYL ESTER	106-65-0	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1763	DIMETHYL SULFIDE	DIMETHYL MONOSULFIDE|DIMETHYL SULFIDE|DIMETHYL SULPHIDE|DIMETHYL THIOETHER|DMS|METHANE THIOMETHANE|METHYL MONOSULFIDE|METHYL SULFIDE|2-THIAPROPANE|THIOBIS(METHANE)	75-18-3	A clear colorless to straw colored liquid with a disagreeable odor. Flash point less than 0Â°F. Less dense than water and slightly soluble in water. Vapors are heavier than air.	2.5	5.0	2.5	3533.0	356.0	1252.0	588.0	401.0	795.0	84.0	290.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1764	DIMETHYL TEREPHTHALATE	1,4-BENZENEDICARBOXYLIC ACID, DIMETHYL ESTER|DIMETHYL 1,4-BENZENEDICARBOXYLATE|DIMETHYL ESTER OF 1,4-BENZENEDICARBOXYLIC ACID|DIMETHYL P-BENZENEDICARBOXYLATE|DIMETHYL P-PHTHALATE|DIMETHYL TEREPHTHALATE|DIMETHYLTEREPHTHALATE|DMT|METHYL 4-(CARBOMETHOXY)BENZOATE|METHYL 4-CARBOMETHOXYBENZOATE|METHYL P-(METHOXYCARBONYL)BENZOATE|NCI-C50055|TEREPHTHALIC ACID METHYL ESTER|TEREPHTHALIC ACID, DIMETHYL ESTER	120-61-6	White solid or heated colorless liquid. Has no odor. Liquid solidifies in cool water. Solid and liquid sink in water. (USCG, 1999)	1.0	2.5	5.0	3536.0	356.0	1252.0	588.0	401.0	796.0	84.0	290.0	142.0	88.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1765	DIMETHYLAMINOETHYL METHACRYLATE	BETA-(N,N-DIMETHYLAMINO)ETHYL METHACRYLATE|BETA-DIMETHYLAMINOETHYL METHACRYLATE|(DIMETHYLAMINO)ETHYL METHACRYLATE|2-(DIMETHYLAMINO)ETHYL METHACRYLATE|DIMETHYLAMINOETHYL METHACRYLATE|DM|DM (METHACRYLATE)|LIGHT ESTER DM|METHACRYLIC ACID, 2-(DIMETHYLAMINO)ETHYL ESTER|2-(N,N-DIMETHYLAMINO)ETHYL METHACRYLATE|N,N-DIMETHYLAMINOETHYL METHACRYLATE|N,N-DIMETHYLETHANOLAMINE METHACRYLATE	2867-47-2	A clear colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air and corrosive to eyes and mucous membranes. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a closed container, the container may rupture violently. Produces toxic oxides of nitrogen during combustion. Toxic by skin absorption, ingestion and inhalation. Used to make plastics and in textiles.	2.5	5.0	2.5	3536.0	356.0	1255.0	588.0	401.0	796.0	84.0	291.0	142.0	88.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1766	DIMETHYLCARBAMOYL CHLORIDE	CARBAMOYL CHLORIDE, DIMETHYL-|CHLOROFORMIC ACID DIMETHYLAMIDE|DDC|DIMETHYL CARBAMIC CHLORIDE|DIMETHYL CARBAMOYL CHLORIDE|DIMETHYL CARBAMYL CHLORIDE|DIMETHYLAMINO)CARBONYL CHLORIDE|DIMETHYLCARBAMIC ACID CHLORIDE|DIMETHYLCARBAMIC CHLORIDE|DIMETHYLCARBAMIDOYL CHLORIDE|DIMETHYLCARBAMOYL CHLORIDE|DIMETHYLCARBAMYL CHLORIDE|DIMETHYLCARBAMYLCHLORIDE|DIMETHYLCHLOROFORMAMIDE|DMCC|[N,N-DIMETHYLAMINO]CARBONYL CHLORIDE|N,N-DIMETHYLCARBAMIC ACID CHLORIDE|N,N-	79-44-7	A colorless to yellow liquid with a pungent odor. Burns to skin, eyes and mucous membranes. A lachrymator. Used to make dyes and pharmaceuticals.	2.5	5.0	2.5	3536.0	356.0	1255.0	588.0	401.0	796.0	84.0	291.0	142.0	88.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1762	DIMETHYL SUCCINATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	N,N'-DICYCLOHEXYLTHIOUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, tbey can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This compound is incompatible with acids and oxidizing agents. It reacts with water. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1763	DIMETHYL SULFIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		171 to 172
1764	DIMETHYL TEREPHTHALATE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Reacts exothermically with water or moisture in air to form tetrahyrophthalic acid.	TETRAHYDROPHTHALIC ANHYDRIDE reacts exothermically with water. The reactions are usually slow, but can become violent when local heating accelerates their rate. Acid accelerates the rate of reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1765	DIMETHYLAMINOETHYL METHACRYLATE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Soluble in water. Absorbs water and carbon dioxide from air.	N,N-DIETHYLETHYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.	Strong Reducing Agent	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		178																		
1766	DIMETHYLCARBAMOYL CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for evenual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This material may be sensitive to exposure to air. (NTP, 1992). Slightly soluble in water.	N,N'-DIETHYLTHIOUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																								(NTP, 1992)		291	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1762	DIMETHYL SUCCINATE																									(NTP, 1992)		240.45						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C13H24N2S		9.0	0.0	26.0	3.0	3.0
1763	DIMETHYL SULFIDE														(NTP, 1992)		1.225										(NTP, 1992)		194.23						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C10H14N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	21.0	3.0	3.0
1764	DIMETHYL TEREPHTHALATE																																							Corrosive	C8H8O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	17.0	3.0	3.0
1765	DIMETHYLAMINOETHYL METHACRYLATE																																							Corrosive|Flammable Liquid	C4H10N2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	18.0	3.0	3.0
1766	DIMETHYLCARBAMOYL CHLORIDE																				(NTP, 1992)	Decomposes					(NTP, 1992)		132.25						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C5H12N2S		5.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1767	DIMETHYLCHLOROSILANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	CHLORODIMETHYLHYDROSILANE|CHLORODIMETHYLSILANE|DIMETHYLCHLOROHYDROSILANE|DIMETHYLCHLOROSILANE|DIMETHYLCHLOROSILANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)|DIMETHYLHYDROSILYL CHLORIDE|DIMETHYLMONOCHLOROSILANE|DIMETHYLSILYL CHLORIDE	1066-35-9	A colorless fuming liquid with a pungent, burning odor. Extremely corrosive to skin and respiratory tissues, both as a liquid and vapor. Vapors are heavier than air.	2.5	5.0	2.5	3539.0	356.0	1255.0	588.0	401.0	797.0	84.0	291.0	142.0	88.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1768	DIMETHYLCYCLOHEXYLAMINE	CYCLOHEXYLAMINE, N,N-DIMETHYL|CYCLOHEXYLAMINE, N,N-DIMETHYL-|CYCLOHEXYLDIMETHYLAMINE|(DIMETHYLAMINO)CYCLOHEXANE|DIMETHYLCYCLOHEXYLAMINE|KL 3|KL 3 (AMINE)|N,N-DIMETHYLAMINOCYCLOHEXANE|N,N-DIMETHYLCYCLOHEXANAMINE|N,N-DIMETHYLCYCLOHEXYLAMINE|N,N-DIMETHYLCYCLOHEXYLAMINE, [LIQUID]|N,N-DIMETHYLCYLOHEXYLAMINE|N-CYCLOHEXYLDIMETHYLAMINE|N-DIMETHYLCYCLOHEXANAMINE|NIAX C 8|PC CAT DMCHA|PC CAT NP 33R|POLYCAT 8|TOYOCAT DMCH|WANDAMIN DMCA|WONDAMINE DMCA	98-94-2	Colorless liquid with a musky ammonia odor. Less dense than water. (USCG, 1999)	2.5	5.0	2.5	3542.0	356.0	1255.0	588.0	401.0	798.0	84.0	291.0	142.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1769	DIMETHYLDICHLOROSILANE	DICHLORODIMETHYLSILANE|DICHLORODIMETHYLSILICON|DIMETHYLDICHLOROSILANE|DIMETHYLSILANE DICHLORIDE|INERTON AW-DMCS|LS 130|M 2|M 2 (SILANE)|REPEL-SILANE|SILANE, DICHLORODIMETHYL-	75-78-5	A colorless fuming liquid with a pungent odor. Flash point 16Â°F. Vapor and liquid may cause burns. Denser than water. Vapors heavier than air.	2.5	5.0	2.5	3545.0	356.0	1255.0	588.0	401.0	799.0	84.0	291.0	142.0	88.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1770	DIMETHYLDIETHOXYSILANE	DIETHOXYDIMETHYLSILANE|DIMETHYLDIETHOXYSILANE|DIMETHYLSILICONDIETHOXIDE|KBE 22|SZ 6078	78-62-6	A colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3548.0	356.0	1255.0	588.0	401.0	800.0	84.0	291.0	142.0	88.0	(BLOB)	The flash point for this chemical is not available. However, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or a Halon extinguisher. (NTP, 1992)
1771	DIMETHYLETHYLAMINE, [LIQUID]	DIMETHYLETHYLAMINE, [LIQUID]	598-56-1	A clear colorless liquid with a strong odor that can vary from ammonia-like to fishlike. Vapors irritate the eyes and mucous membranes. Less dense than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used in the manufacture of other chemicals.	2.5	5.0	2.5	3551.0	356.0	1255.0	588.0	401.0	801.0	84.0	291.0	142.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1767	DIMETHYLCHLOROSILANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	N,N-DIISOPROPYL ETHANOLAMINE is an amino alcohol. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		175																			
1768	DIMETHYLCYCLOHEXYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N,N-DIMETHYL-1-OCTADECANAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1769	DIMETHYLDICHLOROSILANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	Explosive decomposition occurred when finely divided benzoyl peroxide was allowed to react with N,N-DIMETHYLANILINE by breaking an ampoule containing 0.5 grams of dimethylaniline in an autoclave, NFPA 491M, 1991. This result may be expected with other peroxides and various oxidants.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		145											(NTP, 1992)		700		(NTP, 1992)		36.4	
1770	DIMETHYLDIETHOXYSILANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DODECYLDIMETHYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1771	DIMETHYLETHYLAMINE, [LIQUID]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Tends to darken upon exposure to air. Insoluble in water.	N,N-DIMETHYL-M-TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1767	DIMETHYLCHLOROSILANE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)																																								Corrosive	C8H19NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	11.0	3.0	3.0
1768	DIMETHYLCYCLOHEXYLAMINE																																								Corrosive	C20H43N	Mineral-Based & Clay-Based Absorbents	9.0	0.0	21.0	3.0	3.0
1769	DIMETHYLDICHLOROSILANE	(NTP, 1992)		1		85.1		mm Hg	(NTP, 1992)		4.17				(NTP, 1992)		0.9557		68		(NTP, 1992)		381		760		(NTP, 1992)		121.2		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C8H11N	Mineral-Based & Clay-Based Absorbents	9.0	0.0	23.0	3.0	3.0
1770	DIMETHYLDIETHOXYSILANE																													213.46										Corrosive	C14H31N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	15.0	3.0	3.0
1771	DIMETHYLETHYLAMINE, [LIQUID]																																							Poison	C9H13N		6.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1772	DIMETHYLTETRADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	DIMETHYLTETRADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	112-75-4	A light yellow liquid with a fishlike odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3551.0	356.0	1255.0	588.0	401.0	801.0	84.0	291.0	142.0	88.0	(BLOB)	Flash point data for this chemical are not available; it is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
1773	DIMETHYLZINC	DIMETHYLZINC|METHYLZINC|ZINC DIMETHYL|ZINC METHYL	544-97-8	Mobile liquid, with peculiar garlic odor.	2.5	5.0	2.5	3554.0	356.0	1255.0	588.0	401.0	802.0	84.0	291.0	142.0	88.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1774	DINITOLMIDE	COCCIDIN|COCCIDINE A|COCCIDOT|DINITOLMIDE|3,5-DINITRO-2-METHYLBENZAMIDE|3,5-DINITRO-O-TOLUAMIDE|2-METHYL-3,5-DINITROBENZAMIDE|O-TOLUAMIDE, 3,5-DINITRO-|SALCOSTAT|ZOALENE|ZOAMIX	148-01-6	Yellowish, crystalline solid. Mp: 177Â°C. Very slightly soluble in water. Soluble in acetone, acetonitrile, and dimethylformamide. Used as an anti-parasite drug for poultry. Store in a cool, ventilated place, away from acute fire hazards and easily oxidized materials.	1.0	2.5	5.0	3554.0	356.0	1255.0	588.0	401.0	802.0	84.0	291.0	142.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1775	DINITROTOLUENES, MOLTEN	2,4-DINITROTOLUENE|DINITROTOLUENES, MOLTEN|2,4-DINITROTOLUOL|DNT|2,4-DNT|4-METHYL-1,3-DINITROBENZENE|6-METHYL-1,3-DINITROBENZENE|1-METHYL-2, 4-DINITROBENZENE|1-METHYL-2,4-DINITROBENZENE|NCI-C01865|TOLUENE, 2,4-DINITRO-	121-14-2	Heated yellow liquid. Solidifies if allowed to cool. Insoluble in water and more dense than water. Toxic by skin absorption, inhalation and ingestion. Easily absorbed through the skin. Produces toxic oxides of nitrogen during combustion. Used to make dyes and other chemicals.	1.0	2.5	5.0	3554.0	356.0	1258.0	588.0	401.0	802.0	84.0	292.0	142.0	88.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1776	DI-N-OCTYL ETHER	ANTAR|BIS(1-OCTYL) ETHER|CAPRYLIC ETHER|CETIOL OE|DI-N-OCTYL ETHER|DIOCTYL ETHER|ETHER, CAPRYLIC|ETHER, DI-N-OCTYL|ETHER, DIOCTYL|ETHER, OCTYL|N-OCTYL ETHER|OCTANE,1,1'-OXYBIS-|OCTYL ETHER|1,1'-OXYBISOCTANE	629-82-3	Liquid. (NTP, 1992)	2.5	5.0	2.5	3554.0	356.0	1258.0	588.0	401.0	802.0	84.0	292.0	142.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1777	DIOXOLANE	5-CROWN-2|1,3-DIOXACYCLOPENTANE|1,3-DIOXOLANE|DIOXOLANE|1,3-DIOXOLE, DIHYDRO-|ETHYLENE GLYCOL FORMAL|FORMAL GLYCOL|GLYCOLFORMAL	646-06-0	A clear colorless liquid. Slightly denser than water. Vapors heavier than air.	2.5	5.0	2.5	3554.0	356.0	1258.0	588.0	401.0	802.0	84.0	292.0	142.0	88.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1772	DIMETHYLTETRADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N,N'-DIMETHYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).							0																						(NTP, 1992)		226	
1773	DIMETHYLZINC	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Self-reactive. N,N'-DINITROSOPENTAMETHYLENE TETRAMINE is a blowing agent with an exothermic decomposition slightly above its melting point of 203Â°C, Ellern, 161(1968). It is shock sensitive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1774	DINITOLMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizers. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DICYCLOHEXYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound reacts with oxidizers. It hydrolyzes under acid and basic conditions. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		405															(NTP, 1992)			144 to 149
1775	DINITROTOLUENES, MOLTEN	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	This compound is a metal alkoxide, a strong base.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1776	DI-N-OCTYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	N-ACETYL-P-TOLUIDINE is an amide. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).			(NFPA, 2010)		2	1		1		(NTP, 1992)		335													(NTP, 1992)		307	
1777	DIOXOLANE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as NAPHTHALENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. Naphthalene, camphor, glycerol, or turpentine will react violently with chromic anhydride [Haz. Chem. Data 1967. p 68]. Friedel-Crafts acylation of naphthalene using benzoyl chloride, catalyzed by AlCl3, must be conducted above the melting point of the mixture, or the reaction may be violent [Clar, E. et al., Tetrahedron, 1974, 30, 3296].	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		190		(NTP, 1992)		0.9		%	(NTP, 1992)		5.9		%	(USCG, 1999)		979		(NTP, 1992)		176.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1772	DIMETHYLTETRADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)														(NTP, 1992)		1.142				(NTP, 1992)			514 to 518	760		(NTP, 1992)		88.13						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C3H8N2O		9.0	0.0	21.0	3.0	3.0
1773	DIMETHYLZINC																																								Flammable Solid	C5H10N6O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	14.0	3.0	3.0
1774	DINITOLMIDE	(NTP, 1992)		0.1		302		mm Hg							(NTP, 1992)		1.383		68		(NTP, 1992)			392 to 455	4		(NTP, 1992)		330.43						(NTP, 1992)	Insoluble					Class 9	C20H26O4		5.0	0.0	12.0	3.0	3.0
1775	DINITROTOLUENES, MOLTEN																																							Flammable Liquid|Corrosive	C12H40O4Ti	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	11.0	3.0	3.0
1776	DI-N-OCTYL ETHER								(NTP, 1992)		5.14				(NTP, 1992)		1.212		59		(NTP, 1992)	(sublimes)	585		760		(NTP, 1992)		149.21						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C9H11NO		9.0	0.0	13.0	3.0	3.0
1777	DIOXOLANE	(NTP, 1992)	; 1 mm Hg at 126.7Â° F	0.05		68		mm Hg	(NTP, 1992)		4.42				(NIOSH, 2003)		1.15				(NTP, 1992)		424		760		(NTP, 1992)		128.17		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 72Â° F		less than 1	mg/mL	NTM	Flammable Solid	C10H8		9.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1778	DIPHENYL OXIDE	BENZENE, PHENOXY-|BIPHENYL OXIDE|CHEMCRYL JK-EB|DIPHENYL ETHER|DIPHENYL OXIDE|GERANIUM CRYSTALS|OXYBISBENZENE|1,1'-OXYBISBENZENE|PHENOXYBENZENE|PHENOXYBENZENE|PHENYL ETHER|PHENYL ETHER (VAPOR)|PHENYL OXIDE	101-84-8	Colorless liquid with a mild pleasant odor. May float or sink in water. Freezing point is 81Â°F. (USCG, 1999)	2.5	5.0	2.5	3557.0	356.0	1258.0	588.0	401.0	803.0	84.0	292.0	142.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1779	DIPHENYLDICHLOROSILANE	DICHLORODIPHENYLSILANE|DICHLORODIPHENYLSILICANE|DIPHENYL DICHLOROSILANE|DIPHENYLDICHLOROSILANE|DIPHENYLSILICON DICHLORIDE|DIPHENYLSILYL DICHLORIDE|TSL 8062	80-10-4	Diphenyldichlorosilane is a colorless liquid with a pungent odor. It will burn though it may require some effort to ignite. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	3557.0	356.0	1261.0	588.0	401.0	803.0	84.0	293.0	142.0	88.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
1780	DIPHENYLMETHYL BROMIDE	ALPHA-BROMODIPHENYLMETHANE|ALPHA-PHENYLBENZYL BROMIDE|BENZHYDRYL BROMIDE|BROMODIPHENYLMETHANE|DIPHENYL METHYL BROMIDE, [SOLID]|DIPHENYLBROMOMETHANE|DIPHENYLMETHYL BROMIDE|METHANE, BROMODIPHENYL-	776-74-9	Diphenylmethyl bromide is a white crystalline solid. A lachrymator. In the presence of moisture corrosive to tissue and most metals.	1.0	2.5	5.0	3560.0	356.0	1261.0	588.0	401.0	804.0	84.0	293.0	142.0	88.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1781	DIPHENYLOXIDE-4,4'-DISULFONYL HYDRAZIDE	BENZENESULFONIC ACID, 4,4'-OXYDI-, DIHYDRAZIDE|4,4'-BIS(HYDRAZINOSULFONYL) DIPHENYL ETHER|CELLMICS|CELOGEN OT|CELOGEN TO|DIHYDRAZIDE SDO|DIPHENYL ETHER 4,4'-DISULFOHYDRAZIDE|DIPHENYL OXIDE 4,4'-DISULFOHYDRAZIDE|DIPHENYLOXIDE-4,4'-DISULFONYL HYDRAZIDE|DIPHENYLOXIDE-4,4'-DISULPHONYL HYDRAZIDE|FE 9|GENITRON OB|NEOCELLBORN FE 9|NEOCELLBORN N 1000S|NEOCELLBORN N 50|NEOCELLBORN N 5000|NEOCELLBORN P 1000|NEOCELLBORN P 1000M|OBSH|4,4'-OXYBIS(BENZENESULFONIC ACID HYDRAZIDE)|4,4'-OXYBIS(BENZENESULFONIC ACID) DIHYDRAZIDE|4,4'-OXYBIS(BENZENESULFONYL HYDRAZIDE)|4,4'-OXYDI(BENZENESULFONIC	80-51-3	A colorless, crystalline solid with a geranium-like odor. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. Moderately toxic by ingestion, inhalation and skin absorption. Readily ignited by sparks or flames and burns intensely and persistently.	1.0	2.5	5.0	3563.0	356.0	1261.0	588.0	401.0	805.0	84.0	293.0	142.0	88.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating hydrogen chloride fumes may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1782	DIPROPYLENE GLYCOL METHYL ETHER	ARCOSOLV|DIPROPYLENE GLYCOL METHYL ETHER|DIPROPYLENE GLYCOL MONOMETHYL ETHER|DOWANOL DPM|DOWANOL-50B|DOWANOLÃ® 50B|UCAR SOLVENT 2LM	34590-94-8	Colorless liquid with a weak odor . (USCG, 1999)	2.5	5.0	2.5	3563.0	356.0	1261.0	588.0	401.0	805.0	84.0	293.0	142.0	88.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1778	DIPHENYL OXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	An organosulfide and an amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1779	DIPHENYLDICHLOROSILANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Liquid oxygen gives an explosive mixture when combined with liquid methane [NFPA 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980]. Involved in many explosions when combined with especially powerful oxidizers such as bromine pentafluoride, chlorine trifluoride, chlorine, iodine, heptafluoride, dioxygenyl tetrafluoroborate, dioxygen difluoride, trioxygen difluoride and liquid oxygen. Other violent reactions include, chlorine dioxide and nitrogen trifluoride.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4																								
1780	DIPHENYLMETHYL BROMIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Partially soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1781	DIPHENYLOXIDE-4,4'-DISULFONYL HYDRAZIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	DIELDRIN is sensitive to mineral acids, acid catalysts, acid oxidizing agents and active metals. It reacts with phenols. This compound is also slightly corrosive to metals. It may react vigorously with strong oxidizers such as chlorine and permanganates and strong acids such as sulfuric or nitric. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1782	DIPROPYLENE GLYCOL METHYL ETHER	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Slightly soluble in water.	N-BUTYL FORMATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges [Handling Chemicals Safely 1980. p. 247].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3	(USCG, 1999)		64											(USCG, 1999)		612		(USCG, 1999)		-130	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_temp[DegF	vp_range_temp[DegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_temp[DegF	vd_range_temp[DegF	sk_source	sk_note	sk_value	sk_range	sk_value_temp[DegF	sk_range_temp[DegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	fdlh_source	fdlh_note	fdlh_value	fdlh_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chris_codes	doc_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1778	DIPHENYL OXIDE																																																
1779	DIPHENYLDICHLOROSILANE																																																
1780	DIPHENYLMETHYL BROMIDE																																															
1781	DIPHENYLOXIDE-4,4'-DISULFONYL HYDRAZIDE	(NTP, 1992)		3.10E-06		68		mm Hg	(NTP, 1992)		13.2				(USCG, 1999)		1.75	0.0805 to 0.0898	68		(NIOSH, 2003)	Decomposes		224.6	760		(NTP, 1992)		390.91		(NIOSH, 2003)	- λ potential human carcinogen.	50	mg/m3	(NTP, 1992)	at 75Å° F		less than 1	mg/mL	DED	Poison	C12H8Cl6O	Mineral-Based & Clay-Based Absorbents(Diatomaceous earth	6.0	0.0	12.0	3.0	3.0
1782	DIPROPYLENE GLYCOL METHYL ETHER																																															

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1783	DIRECT BLUE 1	(BLOB)	2610-05-1	PHYSICAL DESCRIPTION: Bright greenish-blue solid or dark blue powder. (NTP, 1992)	1.0	2.5	5.0	3563.0	356.0	1261.0	588.0	401.0	805.0	84.0	293.0	142.0	88.0	(BLOB)	When heated to decomposition it emits acrid smoke and irritating fumes. (EPA, 1998)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1784	DIRECT BLUE 15	(BLOB)	2429-74-5	PHYSICAL DESCRIPTION: Deep purple to dark blue microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	3563.0	356.0	1261.0	588.0	401.0	805.0	84.0	293.0	142.0	88.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1785	DIRECT BLUE 53	AZOVAN BLUE|4,4'-BIS[7-(1-AMINO-8-HYDROXY-2,4-DISULFO)NAPHTHYLAZO]-3,3'-BITOLYL TETRASODIU|C.I. 23860|C.I. DIRECT BLUE 53|C.I. DIRECT BLUE 53, TETRASODIUM SALT|CHLORAZOL SKY BLUE FF|DIAMINE SKY BLUE FF|DIAZOBLEU|DIAZOL PURE BLUE BF|6,6'-[(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL)BIS(AZO)]BIS[4-AMINO-5-HYDROXY-1,3-NAPHTHALENEDISULFONIC ACID] TETRASODIUM SALT|DIRECT BLUE 53|DYE EVANS BLUE|EVABLIN|EVAN'S BLUE|EVANS BLUE|EVANS BLUE DYE|EVANS BLUE, SODIUM SALT|GEIGY-BLAU 56|GEIGY-BLUE 536, MED.|T 1824|T1824	314-13-6	PHYSICAL DESCRIPTION: Blue crystals with a greenish-bronze luster or a black powder. (NTP, 1992)	1.0	2.5	5.0	3563.0	356.0	1261.0	588.0	401.0	805.0	84.0	293.0	142.0	88.0			
1786	DIRECT YELLOW 11	(BLOB)	1325-37-7	PHYSICAL DESCRIPTION: Reddish-yellow to reddish-brown powder or solid. (NTP, 1992)	1.0	2.5	5.0	3563.0	356.0	1264.0	588.0	401.0	805.0	84.0	294.0	142.0	88.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1787	DIVINYL BENEZENE, {COMBUSTIBLE LIQUID LABEL}	DIVINYL BENEZENE, {COMBUSTIBLE LIQUID LABEL}|DIVINYL BENZENE	1321-74-0	A water-white to straw colored liquid. Slightly less dense than water and insoluble in water. Vapors may be toxic. Flash point 165Â°F. Used in making rubber.	2.5	5.0	2.5	3566.0	356.0	1264.0	591.0	401.0	806.0	84.0	294.0	143.0	88.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode in fire. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1783	DIRECT BLUE 1	Do not touch spilled material. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly Flammable	Epoxides, such as DIEPOXYBUTANE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3384 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1784	DIRECT BLUE 15	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Water soluble.	DIETHANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound is hygroscopic. It may be sensitive to exposure to air and light. This compound can react with oxidizing materials, acids, CO2, copper alloys, aluminum, zinc, galvanized iron and copper. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		279		(NTP, 1992)	(calculated)	1.6		%	(NTP, 1992)	(estimated)	9.8		%	(USCG, 1999)		1224		(NTP, 1992)		82	
1785	DIRECT BLUE 53			Hydrolyzed by either strong aqueous base or acid.	A chloroacetanilide. [[Details on specifics of reactivity not yet available.]]								0																								
1786	DIRECT YELLOW 11	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective clothing; rubber gloves and goggles, organic vapor canister or air mask. (USCG, 1999)	Highly flammable. Insoluble in water.	DIETHYL CARBONATE reacts with acids to liberate heat along with ethanol and carbon dioxide. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NTP, 1992)		77													(NTP, 1992)		-45	
1787	DIVINYL BENEZENE, [COMBUSTIBLE LIQUID LABEL]	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Dissolves in water with evolution of heat. The resulting solutions are basic.	N-BUTYL AMINE reacts violently with strong oxidizing agents and acids. Attacks copper and copper compounds [Handling Chemicals Safely 1980 p. 123]. Reacts with hypochlorites to give N-chloroamines which may be explosive when isolated [Bretherick 1979 p. 108].	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		10		(NTP, 1992)		1.7		%	(NTP, 1992)		9.8		%	(USCG, 1999)		594		(NTP, 1992)		-58	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1783	DIRECT BLUE 1														(EPA, 1998)		1.113		64.4		(EPA, 1998)		280		760		(EPA, 1998)		86.1													Poison Inhalation Hazard|Flammable Liquid	C4H6O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	20.0	3.0	3.0
1784	DIRECT BLUE 15	(NTP, 1992)	; <0.01 mm Hg at 68Â° F	5		280		mm Hg	(NTP, 1992)		3.65				(USCG, 1999)		1.095		82.4		(NTP, 1992)	(Decomposes)	516.4		760		(NTP, 1992)		105.14						(NTP, 1992)	at 57Â° F		greater than or equal to 100	mg/mL	DEA	Class 9	C4H11NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	25.0	3.0	3.0
1785	DIRECT BLUE 53																																								C16H22ClNO2		8.0	0.0	13.0	3.0	3.0
1786	DIRECT YELLOW 11	(NTP, 1992)		10		74.8		mm Hg	(NTP, 1992)		4.07				(USCG, 1999)		0.975		68		(NTP, 1992)		259		760		(NTP, 1992)		118.15						(NTP, 1992)	Insoluble				DEC	Flammable Liquid	C5H10O3		7.0	0.0	29.0	3.0	3.0
1787	DIVINYL BENEZENE, [COMBUSTIBLE LIQUID LABEL]	(NTP, 1992)		72		68		mm Hg	(NTP, 1992)		2.52				(USCG, 1999)		0.741		68		(NTP, 1992)		172.4		760		(NTP, 1992)		73.14		(NIOSH, 2003)		300	ppm	(NTP, 1992)	Soluble (>=10 mg/ml)				BAM	Flammable Liquid|Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	8.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1788	DIVINYL BENZENE	BENZENE, DIVINYL-|BENZENE, M-DIVINYL-|DIETHENYLBENZENE|DIVINYL BENZENE|DIVINYL BENZENE, [FLAMMABLE LIQUID LABEL]|DIVINYLBENZENE|1, 3-DIVINYLBENZENE|DVB 810|DVB 960|M-DIVINYLBENZENE|M-VINYLSTYRENE|VINYLSTYRENE	1321-74-0	A water-white to straw colored liquid. Slightly less dense than water and insoluble in water. Flash point below 141Â°F. Vapors may be toxic. Used in making rubber.	2.5	5.0	2.5	3569.0	356.0	1264.0	591.0	401.0	807.0	84.0	294.0	143.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1789	DIVINYL SULFONE	BIS(ETHENYL)SULFONE|DIVINYL SULFONE|SULFONE, DIVINYL|1,1-SULFONYLBISETHANE|TL 797|VINYL SULFONE	77-77-0	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3569.0	356.0	1264.0	591.0	401.0	807.0	84.0	294.0	143.0	88.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1790	DMA 4 (DOW) 49 PERCENT 2,4- D, DIMETHYLAMINE SALT	(BLOB)	2008-39-1	PHYSICAL DESCRIPTION: Brown liquid. A solution of the dimethylammonium salt of the weak organic acid 2,4-dichlorophenoxyacetic acid. Used as an herbicide.	2.5	5.0	2.5	3569.0	356.0	1264.0	591.0	401.0	807.0	84.0	294.0	143.0	88.0	(BLOB)	Flash point data for this compound is not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1791	DODECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	DODECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	124-22-1	A yellow liquid with an ammonia-like odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3572.0	356.0	1267.0	591.0	401.0	808.0	84.0	295.0	143.0	88.0	(BLOB)	Special Hazards of Combustion Products: May produce toxic fumes, including carbon monoxide. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1792	DOXYLAMINE SUCCINATE	2-(ALPHA-(2-(DIMETHYLAMINO)ETHOXY)-ALPHA-METHYLBENZYL)PYRIDINE SUCCINATE (1:1)|2-(ALPHA-(2-DIMETHYLAMINOETHOXY)-ALPHA-METHYLBENZYL)PYRIDINE SUCCINATE|DECAPRYN|DECAPRYN SUCCINATE|DECAPRYN SUCCINATE (1:1)|DIMETHYLAMINOETHOXYMETHYLBENZYLPYRIDINE SUCCINATE|2-DIMETHYLAMINOETHOXYPHENYLMETHYL-2-PICOLINE SUCCINATE|DOXYLAMINE SUCCINATE|DOXYLAMINE SUCCINATE (1:1)|ETHANAMINE, N,N-DIMETHYL-2-[1-PHENYL-1-(2-PYRIDINYL)ETHOXY]-, BUTANEDIOATE (1:1)|HOGGAR NIMEREPRINE|PHENYL 2-PYRIDYLMETHYL-BETA-N,N-DIMETHYLAMINOETHYL	562-10-7	PHYSICAL DESCRIPTION: White or creamy white powder. pH (1% aqueous solution) between 4.9 and 5.1. (NTP, 1992)	1.0	2.5	5.0	3572.0	356.0	1270.0	591.0	401.0	808.0	84.0	296.0	143.0	88.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorides. Decomposes in water. (EPA, 1998)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1788	DIVINYL BENZENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N-BUTYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1																								
1789	DIVINYL SULFONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to light and air. Insoluble in water. Slowly hydrolyzed when boiled in water. Also will hydrolyze under high and low pH conditions (NTP, 1992).	N-BUTYL-P-AMINOBENZOATE is an aminophenyl ester derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.					0																								(NTP, 1992)		136	
1790	DMA 4 (DOW) 49 PERCENT 2,4- D, DIMETHYLAMINE SALT	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																								(NTP, 1992)		183 to 185	
1791	DODECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved self-contained respirator, safety glasses, impervious gloves, and chemical protective clothing. (USCG, 1999)	Flammable. Insoluble in water.	DECANE is incompatible with oxidizing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		115	(NTP, 1992)		0.8		%	(NTP, 1992)		2.6		%	(USCG, 1999)		410		(NTP, 1992)		-21.5	
1792	DOXYLAMINE SUCCINATE	Avoid inhalation. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Polymerizes readily upon exposure to oxygen in the air. Reacts exothermically with water to give hydrochloric acid and acrylic acid.	ACRYLYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, amines, alkali. Polymerizes readily upon exposure to oxygen. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Polymerizable; Water-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1788	DIVINYL BENZENE																																								Poison	C10H15N		8.0	0.0	15.0	3.0	3.0
1789	DIVINYL SULFONE																				(NTP, 1992)			343 to 345	8		(NTP, 1992)		193.25						(NTP, 1992)	Insoluble						C11H15NO2		7.0	0.0	16.0	3.0	3.0
1790	DMA 4 (DOW) 49 PERCENT 2,4- D, DIMETHYLAMINE SALT	(NTP, 1992)			less than 1	68		mm Hg							(NTP, 1992)			greater than 1.00	68								(NTP, 1992)		253.36						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C13H19NO2S	Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0
1791	DODECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	(NTP, 1992)	; 2.7 mm Hg at 68Â° F; 10 mm Hg at 131.7Â° F	1		61.7		mm Hg	(NTP, 1992)		4.9				(USCG, 1999)		0.73		60		(NTP, 1992)		345.4		760		(NTP, 1992)		142.29						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	DCC	Flammable Liquid	C10H22		9.0	0.0	19.0	3.0	3.0
1792	DOXYLAMINE SUCCINATE														(EPA, 1998)		1.1136		68		(EPA, 1998)		167		760		(EPA, 1998)		90.51												Flammable Liquid|Corrosive	C3H3ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	26.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1793	ELLAGIC ACID	ALIZARINE YELLOW|BENZOARIC ACID(1)BENZOPYRANO[5,4,3-CDE](1)BENZOPYRAN-5,10-DIONE, 2,3,7,8-TETRAHYDROXY-|[1,1'-BIPHENYL]-2,2'-DICARBOXYLIC ACID, 4,4',5,5',6,6'-HEXAHYDROXY-, DI-DELTA-LACTONE|C.I. 55005|C.I. 75270|ELAGOSTASINE|ELEAGIC ACID|ELLAGIC ACID|GALLOGEN|GALLOGEN (ASTRINGENT)|4,4',5,5',6,6'-HEXAHYDRODIPHENIC ACID 2,6,2',6'-DILACTONE|LAGISTASE|2,3,7,8-TETRAHYDROXY(1)BENZOPYRANO(5,4,3-CDE)(1)BENZOPYRAN-5,10-DIONE	476-66-4	PHYSICAL DESCRIPTION: Cream-colored needles (from pyridine) or yellow powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	3572.0	356.0	1270.0	591.0	401.0	808.0	84.0	296.0	143.0	88.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1794	EMODIN	9,10-ANTHRACENEDIONE, 1,3,8-TRIHYDROXY-6-METHYL-|ANTHRAQUINONE, 1,3,8-TRIHYDROXY-6-METHYL-|C.I. 75440|C.I. NATURAL YELLOW 14|EMODIN|EMODOL|FRANGULA EMODIN|6-METHYL-1,3,8-TRIHYDROXYANTHRAQUINONE|3-METHYL-1,6,8-TRIHYDROXYANTHRAQUINONE|PERSIAN BERRY LAKE|RHEUM EMODIN|RHEUM EMODINUM|SCHUTTGELB|4,5,7-TRIHYDROXY-2-METHYLANTHRAQUINONE|1,6,8-TRIHYDROXY-3-METHYLANTHRAQUINONE|1,3,8-TRIHYDROXY-6-METHYL-9,10-ANTHRAQUINONE|1,3,8-TRIHYDROXY-6-METHYLANTHRAQUINONE	518-82-1	PHYSICAL DESCRIPTION: Orange needles or powder. (NTP, 1992)	1.0	2.5	5.0	3575.0	356.0	1270.0	591.0	401.0	809.0	84.0	296.0	143.0	88.0	INHALATION: remove victim to fresh air; get medical attention if irritation persists. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Melts and may decompose to give volatile acidic vapors of valeric acid and other substances. Dust may form explosive mixture with air. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1795	EPINEPHRINE	(BLOB)	51-43-4	PHYSICAL DESCRIPTION: White to nearly-white microcrystalline powder or granules. Odorless. Melting point 211-212Â°C. Aqueous solutions are slightly alkaline. Slightly bitter, numbing taste.	1.0	2.5	5.0	3578.0	356.0	1273.0	591.0	401.0	810.0	84.0	297.0	143.0	88.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1796	ESTRAGOLE	4-ALLYL-1-METHOXYBENZENE|1-ALLYL-4-METHOXYBENZENE|4-ALLYLANISOLE|4-ALLYLMETHOXYBENZENE|ANISOLE, P-ALLYL-|CHAVICOL METHYL ETHER|CHAVICOL, METHYL-|CHAVICOL, O-METHYL-|ESDRAGOL|ESDRAGOLE|ESDRAGON|ESTRAGOL|ESTRAGOLE|ETHER, P-ALLYLPHENYL METHYL|ISOANETHOLE|1-METHOXY-4-(2-PROPENYL)BENZENE|4-METHOXYALLYLBENZENE|METHYL CHAVICOL|P-ALLYLANISOLE|P-ALLYLPHENYL METHYL ETHER|P-METHOXYALLYLBENZENE|3(P-METHOXYPHENYL)PROPENE|TARRAGON	140-67-0	PHYSICAL DESCRIPTION: Colorless liquid with odor of anise. Insoluble in water. Isolated from rind of persea gratissima grath. and from oil of estragon. Found in oils of Russian anise, basil, fennel turpentine, tarragon oil, anise bark oil. (NTP, 1992)	2.5	5.0	2.5	3578.0	356.0	1273.0	591.0	401.0	810.0	84.0	297.0	143.0	88.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1797	ETHION	AC 3422|BIS(S-(DIETHOXYPHOSPHINOTHIOYL)MERCAPTO)METHANE|BLADAN|DIETHION|EMBATHION|ENT 24,105|ETHANOX|ETHIOL|ETHIOL 100|ETHION|ETHODAN|ETHOPAZ|ETHYL METHYLENE PHOSPHORODITHIOATE|ETHYL METHYLENE PHOSPHORODITHIOATE ([(ETO)2P(S)S]2CH2)|FMC-1240|FOSFATOX E|FOSFONO 50|HYLEMAX|HYLEMOX|ITOPAZ|KWIT|NIA 12 40|NIA 1240|NIAGARA 1240|NIALATE|O,O,O',O'-TETRAETHYL S,S'-METHYLENE DI(PHOSPHORODITHIOATE)|O,O,O',O'-TETRAETHYL S,S'-METHYLENEBISPHOSPHORDITHIOATE)|O,O,O',O'-TETRAETHYL S,S'-METHYLENE BIS(PHOSPHORODITHIOATE)|O,O,O',O'-TETRAETHYL S,S'-METHYLENEBISPHOS-	563-12-2	Ethion is a colorless or amber colored liquid with a disagreeable odor. It is a wettable emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. It burns, but is not easily ignited. Fire may produce toxic and irritating fumes. It is used as a pesticide.	2.5	5.0	2.5	3581.0	356.0	1273.0	597.0	401.0	811.0	84.0	297.0	145.0	88.0	(BLOB)	Behavior in Fire: Vapors may explode (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_flire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_spec ific	nfpa_react	nfpa_flam	nfpa_heal th	nfpa_sour ce	nfpa_note	fp_source	fp_note	fp_value	fp_range	el_source	el_note	el_value	el_range	el_source	el_unit	uel_source	uel_note	uel_value	uel_range	al_source	al_note	al_value	al_range	mp_source	mp_note	mp_value	mp_range
1797	ETHION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor but may not prevent ignition in closed spaces. (EHO, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100A°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	HEXANE may be sensitive to light. It may also be sensitive to prodigiosin exposure to heat. This compound can react vigorously with oxidizing materials. This would include compounds such as liquid chlorine, concentrated O_2, sodium hypochlorite and calcium hypochlorite. It is also incompatible with dinitrogen tetraoxide. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			3	0	3	(NTP, 1992)	-9.4	(NTP, 1992)			7.5			%	(NTP, 1992)		437	(NTP, 1992)	(USCG, 1999)	%		-139
1794	EMODIN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (EHC, 2012)	Normal protection against exposure to finely divided organic solids (rubber gloves, plastic apron) (USCG, 1999)	Dust may form explosive mixture with air (USCG, 1999). Insoluble in water.	(BLOD)				1	1	0	1	(USCG, 1999)	Combust ible solid	376	(USCG, 1999)	(dust)	15			(USCG, 1999)	mg/l	10 to 15	mg/l	(dust)		(USCG, 1999)	788A° F; 450A° F		304
1793	ELLAGIC ACID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water (NTP, 1992).	ADIPAMIDE forms flammable gases with strong reducing agents. A very weak base. Mixing with dehydrating agents such as P_2O_5 or SOCl2 generates adiponitrile. Combustion generates toxic mixed oxides of nitrogen (NO_x).			0																						428	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with methanol then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Seal the container with methanol followed by washing all surfaces with methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.																																		
1795	EPINEPHRINE	LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor but may not prevent ignition in closed spaces. (EHO, 2012) Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.	Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																																
1796	ESTRADIOL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992) SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been cleaned.	RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-HEXEICOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbons may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.			0																																
1797	ETHION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor but may not prevent ignition in closed spaces. (EHO, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100A°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	HEXANE may be sensitive to light. It may also be sensitive to prodigiosin exposure to heat. This compound can react vigorously with oxidizing materials. This would include compounds such as liquid chlorine, concentrated O_2, sodium hypochlorite and calcium hypochlorite. It is also incompatible with dinitrogen tetraoxide. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			3	0	3	(NTP, 1992)	-9.4	(NTP, 1992)			7.5			%	(NTP, 1992)		437	(NTP, 1992)	(USCG, 1999)	%		-139

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_unit	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chmis_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1793	ELLAGIC ACID																									(NTP, 1992)		144.2						(NTP, 1992)	Slightly soluble						CGH12N2O2		9.0	0.0	29.0	3.0	3.0
1794	EMODIN													(USCG, 1999)		1.36		68								(USCG, 1999)		146.1						(NTP, 1992)					ADA	Class 9	C6H10O4		6.0	0.0	23.0	3.0	3.0
1795	EPINEPHRINE																									(NTP, 1992)		269.59												Flammable Liquid	C10H15NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt|Earth	9.0	0.0	20.0	3.0	3.0
1796	ESTRAGOLE													(NTP, 1992)		0.7917		68		(NTP, 1992)		673.7		760		(NTP, 1992)		86.18		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1100	ppm	(NTP, 1992)	at 61.7A°F	less than 1	mg/mL		HXA	Flammable Liquid	C6H14		4.0	0.0	14.0	3.0	3.0
1797	ETHION	(NTP, 1992)	180 mm Hg at 77A°F	120		68		(NTP, 1992)		2.97				(USCG, 1999)		0.659		68		(NTP, 1992)		156		760		(NTP, 1992)		86.18		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1100	ppm	(NTP, 1992)	at 61.7A°F	less than 1	mg/mL		HXA	Flammable Liquid	C6H14		4.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1798	ETHION MIXTURE, [DRY]	ETHION MIXTURE, [DRY]|O,O,O',O'-TETRAETHYL S,S'-METHYLENEBIS(PHOSPHORODITHIOATE)	563-12-2	A colorless, light brown, or pale yellow liquid (melting point -12 to -15Â°C absorbed on a dry carrier). A wettable powder. Toxic by inhalation, skin absorption, and ingestion. Combustible and easily ignited. Used as a pesticide.	2.5	5.0	2.5	3581.0	356.0	1273.0	597.0	401.0	811.0	84.0	297.0	145.0	88.0			
1799	ETHIONAMIDE	AETINA|ALPHA-ETHYLISONICOTINIC ACID THIOAMIDE|ALPHA-ETHYLISONICOTINOYLTHIOAMIDE|ALPHA-ETHYLISOTHIONICOTINAMIDE|ALPHA-ETHYLTHIOISONICOTINAMIDE|AMIDAZIN|AMIDAZINE|BAYER 5312|ETH|ETHIMIDE|ETHINA|ETHINAMIDE|ETHIONAMIDE|ETHIONIAMIDE|2-ETHYL-4-PYRIDINECARBOTHIOAMIDE|2-ETHYL-4-THIOAMIDYLPYRIDINE|2-ETHYL-4-THIOCARBAMOYLPYRIDINE|2-ETHYLISONICOTINIC ACID THIOAMIDE|2-ETHYLISONICOTINIC ACID THIOMIDE|2-ETHYLISONICOTINIC THIOAMIDE|2-ETHYLISONICOTINOTHIOAMIDE|ETHYLISOTHIAMIDE|2-ETHYLISOTHIONICOTINAMIDE|2-ETHYLTHIOISONICOTINAMI	536-33-4	PHYSICAL DESCRIPTION: Yellow crystals or canary yellow powder with a faint to moderate sulfide odor. (NTP, 1992)	1.0	2.5	5.0	3581.0	356.0	1276.0	597.0	401.0	811.0	84.0	298.0	145.0	88.0	INHALATION: remove to fresh air and start artificial respiration. INGESTION: do NOT induce vomiting; call a doctor. CONTACT WITH EYES AND SKIN: flush with water for 15 min. Wash skin with soap and water. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1800	ETHYL ALUMINUM DICHLORIDE	ALUMINUM ETHYL DICHLORIDE|EADC|ETHYL ALUMINUM DICHLORIDE|ETHYLALUMINUM DICHLORIDE	563-43-9	A colorless to light-yellow heated liquid. Freezing point 90Â°F. (USCG, 1999)	2.5	5.0	2.5	3581.0	356.0	1276.0	597.0	401.0	811.0	84.0	298.0	145.0	88.0	INGESTION: give large amount of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1801	ETHYL ANTHRANILATE	2-AMINOBENZOIC ACID ETHYL ESTER|AMINOBENZOIC ACID, ETHYL ESTER|2-AMINOBENZOIC ACID, ETHYL ESTER|ANTHRANILIC ACID, ETHYL ESTER|2-CARBOETHOXYANILINE|2-(ETHOXYCARBONYL)ANILINE|ETHYL 2-AMINOBENZOATE|ETHYL ANTHRANILATE|ETHYL O-AMINOBENZOATE|ETHYL-ORTHO-AMINOBENZOATE|O-(ETHOXYCARBONYL)ANILINE|O-AMINOBENZOIC ACID, ETHYL ESTER	87-25-2	PHYSICAL DESCRIPTION: Colorless liquid with a fruity odor. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3584.0	356.0	1276.0	597.0	401.0	812.0	84.0	298.0	145.0	88.0	INHALATION: move to fresh air; got medical attention if exposure has been severe. INGESTION: give large amount of water. EYES: flush with water for at least 15 min. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase intensity of fire if in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1802	ETHYL CHLORIDE	AETHYLIS|AETHYLIS CHLORIDUM|ANODYNON|CHELEN|CHLORENE|CHLORETHYL|CHLORIDUM|CHLOROETHANE|CHLORYL|CHLORYL ANESTHETIC|CLORETILO|DUBLOFIX|ETHANE, CHLORO-|ETHANE,CHLORO-|ETHER CHLORATUS|ETHER HYDROCHLORIC|ETHER MURIATIC|ETHER, HYDROCHLORIC|ETHYL CHLORIDE|HYDROCHLORIC ETHER|KELENE|MONOCHLORETHANE|MONOCHLOROETHANE|MURIATIC ETHER|NARCOTILE|NCI-C06224|R 160	75-00-3	A clear colorless gas with a pungent odor. Flash point -58Â°F. Boiling point 54Â°F. Less dense than water and insoluble in water. Vapors are heavier than air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	3584.0	356.0	1276.0	597.0	401.0	812.0	84.0	298.0	145.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
1803	ETHYL CHLOROACETATE	CHLOROACETIC ACID ETHYL ESTER|2-CHLOROACETIC ACID ETHYL ESTER|CHLOROACETIC ACID, ETHYL ESTER|ETHOXYCARBONYL)METHYL CHLORIDE|ETHYL 2-CHLOROACETATE|ETHYL ALPHA-CHLOROACETATE|ETHYL CHLOROACETATE|ETHYL CHLOROACETATE|ETHYL CHLOROETHANOATE|ETHYL MONOCHLORACETATE|ETHYL MONOCHLOROACETATE|MONOCHLORETHANOIC ACID, ETHYL ESTER	105-39-5	A clear colorless liquid with a pungent odor. Flash point 100Â°F. Denser than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3584.0	356.0	1276.0	597.0	401.0	812.0	84.0	298.0	145.0	88.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1798	ETHION MIXTURE, [DRY]			No rapid reaction with air. No rapid reaction with water.	Most alkyl monohydroperoxides are liquid. The explosivity of the lower members (e.g., methyl hydroperoxide, or possibly due to traces of the dialkyl peroxides) decrease with increasing chain length and branching [Bretherick 2nd ed. 1979 p. 10]. Tetralin hydroperoxide explodes on superheating the liquid [Hock et al. Ber. 1933. pp. 66, 61]. Its interaction with strong reducing agents, like lithium tetrahydroaluminate, is vigorously exothermic.	Explosive; Strong Oxidizing Agent							0																					
1799	ETHIONAMIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, safety goggles (USCG, 1999)	Flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIETHYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)		135										(USCG, 1999)		743		(USCG, 1999)			less than 160
1800	ETHYL ALUMINUM DICHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Safety glasses and face shield; rubber gloves; rubber apron (USCG, 1999)	Water soluble.	Acidic inorganic salts, such as NICKEL FLUOROBORATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																					
1801	ETHYL ANTHRANILATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; face shield or safety goggles; protective clothing (USCG, 1999)	Soluble in water.	Green, crystalline material, toxic and carcinogenic. A powerful oxidizer, it may cause a violent reaction with reducing materials (e.g., magnesium or aluminum powder, tin(II) chloride). Dangerous fire hazard, acts as oxygen carrier. When heated to decomposition it emits highly toxic fumes of oxides of nitrogen [Lewis, 3rd ed., 1993, p. 915]. Complexes with tetrammine and tetrahydrazine are explosive [Bretherick, 5th ed., 1995, p. 1685].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																					
1802	ETHYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Goggles; plastic gloves. (USCG, 1999)	Water soluble.	TRIETHYLENE GLYCOL is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Reacts with strong oxidants. [Handling Chemicals Safely 1980. p. 932].			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		330		(NTP, 1992)		0.9		%	(NTP, 1992)		9.2		%	(USCG, 1999)		700		(NTP, 1992)		24.3	
1803	ETHYL CHLOROACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	(BLOB)							0																	(NTP, 1992)			264 to 268

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1798	ETHION MIXTURE, [DRY]																																									C10H12O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	14.0	3.0	3.0
1799	ETHIONAMIDE	(USCG, 1999)		2.59				mm Hg							(USCG, 1999)		0.86		68		(USCG, 1999)		356		760		(USCG, 1999)		134.21											DEB	Flammable Liquid	C10H14		8.0	0.0	13.0	3.0	3.0
1800	ETHYL ALUMINUM DICHLORIDE														(USCG, 1999)		1.5		68								(USCG, 1999)	Mixture			(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NFB	Class 9	BF4 . 1|2 Ni		9.0	0.0	14.0	3.0	3.0
1801	ETHYL ANTHRANILATE														(USCG, 1999)		2.05		68								(USCG, 1999)	(hexahydrate)	290.8		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NNT	Oxidizer	Ni(NO3)2.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	15.0	3.0	3.0
1802	ETHYL CHLORIDE	(NTP, 1992)	: 1 mm Hg at 237Â° F		less than 0.001	68		mm Hg	(NTP, 1992)		5.17				(USCG, 1999)		1.125		68		(NTP, 1992)		545		760		(NTP, 1992)		150.17						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	TEG		C6H14O4	Cellulose-Based Absorbents	6.0	0.0	14.0	3.0	3.0
1803	ETHYL CHLOROACETATE														(NTP, 1992)		1.4				(NTP, 1992)			302 to 320	760		(NTP, 1992)		122.14						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C6H6N2O	Mineral-Based & Clay-Based Absorbents	9.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1804	ETHYL CROTONATE	CROTONIC ACID, ETHYL ESTER|ETHYL 2-BUTENOATE|ETHYL CROTONATE	10544-63-5	A clear colorless liquid with a pungent odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3587.0	356.0	1276.0	597.0	401.0	813.0	84.0	298.0	145.0	88.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1805	ETHYL CYANOACETATE	CYANOACETIC ACID ETHYL ESTER|CYANOACETIC ESTER|ETHYL 2-CYANOACETATE|ETHYL ALPHA-CYANOACETATE|ETHYL CYANACETATE|ETHYL CYANOACETATE|ETHYL CYANOETHANOATE|MALONIC ACID ETHYL ESTER NITRILE	105-56-6	A colorless liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3587.0	356.0	1276.0	597.0	401.0	813.0	84.0	298.0	145.0	88.0	(BLOB)	As for nicotine, moderate explosion hazard when exposed to heat or flame. When heated to decomposition, emits highly toxic fumes of sulfur oxides and organic fumes. (Non-Specific -- Nicotine) Avoid oxidizing materials. Avoid decomposing heat. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Dike fire control water; do not scatter the material. As for nicotine, extinguish with alcohol foam, dry chemical, or carbon dioxide. Large fires can be extinguished with water spray, fog, or foam. (EPA, 1998)
1806	ETHYL FORMATE	AREGINAL|ETHYL ESTER OF FORMIC ACID|ETHYL FORMATE|ETHYL FORMIC ESTER|ETHYL METHANOATE|FORMIC ACID, ETHYL ESTER|FORMIC ETHER|METHANOIC ACID ETHYL ESTER	109-94-4	A clear colorless liquid with a pleasant odor. Flash point -4Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	3587.0	356.0	1276.0	597.0	401.0	813.0	84.0	298.0	145.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1807	ETHYL ISOVALERATE (FLAMMABLE LIQUID, N.O.S.)	ETHYL 3-METHYLBUTANOATE|ETHYL 3-METHYLBUTYRATE|ETHYL ISOPENTANOATE|ETHYL ISOVALERATE|ETHYL ISOVALERATE (FLAMMABLE LIQUID, N.O.S.)|ISOVALERIC ACID, ETHYL ESTER|3-METHYLBUTYRIC ACID ETHYL ESTER	108-64-5	A colorless oily liquid with a strong odor similar to apples. Less dense than water. Vapors heavier than air. May mildly irritate skin and eyes.	2.5	5.0	2.5	3587.0	356.0	1276.0	597.0	401.0	813.0	84.0	298.0	145.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1808	ETHYL MERCAPTAN	ETHANETHIOL|ETHYL HYDROSULFIDE|ETHYL MERCAPTAN|ETHYL SULFHYDRATE|ETHYL THIOALCOHOL|MERCAPTOETHANE|THIOETHANOL|THIOETHYL ALCOHOL	75-08-1	A clear colorless low-boiling liquid (boiling point 97Â°F) with an overpowering, garlic-like/skunk-like odor. Flash point -55Â°F. Less dense than water and very slightly soluble in water. Vapors are heavier than air. Vapors may irritate nose and throat. May be toxic if swallowed, by inhalation or by contact. Added to natural gas as an odorant. Used as a stabilizer for adhesives.	2.5	5.0	2.5	3590.0	356.0	1276.0	597.0	401.0	814.0	84.0	298.0	145.0	88.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Toxic hydrogen fluoride gas is generated in a fire. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1809	ETHYL METHACRYLATE	ETHYL 2-METHACRYLATE|ETHYL 2-METHYL-2-PROPENOATE|ETHYL 2-METHYLACRYLATE|ETHYL 2-METHYLPROPENOATE|ETHYL ALPHA-METHYLACRYLATE|ETHYL ALPHA-METHYLMETHACRYLATE|ETHYL METHACRYLATE|ETHYL METHACRYLATE, INHIBITED|ETHYL METHACRYLATE-INHIBITED|METHACRYLIC ACID, ETHYL ESTER|2-METHYL-2-PROPENOIC ACID, ETHYL ESTER|RHOPLEX AC-33	97-63-2	A colorless moderately toxic liquid with an acrid odor. Flash point of 70Â°F. Boiling point 278Â°F. Vapors irritate the eyes and respiratory system. Less dense than water. Not soluble in water. Used to make polymers and other chemicals.	2.5	5.0	2.5	3593.0	356.0	1276.0	597.0	401.0	815.0	84.0	298.0	145.0	88.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1804	ETHYL CROTONATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water	Nicotine-An alkaloid produced from tobacco. Colorless, oily liquid, combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 919].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1805	ETHYL CYANOACETATE	To clean up, do not touch spilled material; stop leak if possible. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for disposal. Small dry spill: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble	Nicotine-An alkaloid produced from tobacco. The solid is combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 919].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1806	ETHYL FORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	NICOTINIC ACID is incompatible with strong oxidizers. It is also incompatible with sodium nitrite. (NTP, 1992)					0																						(NTP, 1992)		457	
1807	ETHYL ISOVALERATE (FLAMMABLE LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to heat, air, light and moisture during long term storage. Insoluble in water.	N-ISOPROPYL-N'-PHENYL-P-PHENYLENEDIAMINE reacts with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		303																		(NTP, 1992)		162 to 169	
1808	ETHYL MERCAPTAN	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable, reacts with air to form peroxides	VINYL FLUORIDE is light sensitive, peroxidizable monomer may initiate exothermic polymerization of the bulk material [Handling Chemicals Safely 1980, p. 958]. Sensitive to many oxidants.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6				(USCG, 1999)		2.6		%	(USCG, 1999)		21.7		%	(USCG, 1999)	860		(USCG, 1999)		-258	
1809	ETHYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	NITRAPYRIN is a base. Reacts exothermically with acids.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		144.5 to 145.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1804	ETHYL CROTONATE																																								Poison	C10H14N2.C7H6O3	Mineral-Based & Clay-Based Absorbents	7.0	0.0	13.0	3.0	3.0
1805	ETHYL CYANOACETATE														(EPA, 1998)		1.15		68								(EPA, 1998)		422.56											NCS	Poison	C20H28N4.H2SO4		8.0	0.0	20.0	3.0	3.0
1806	ETHYL FORMATE														(NTP, 1992)		1.473				(NTP, 1992)	Sublimes					(NTP, 1992)		123.11						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL			C6H5NO2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	27.0	3.0	3.0
1807	ETHYL ISOVALERATE (FLAMMABLE LIQUID, N.O.S.)	(NTP, 1992)		0.00343		194		mm Hg							(NTP, 1992)		1.04				(NTP, 1992)		322		1		(NTP, 1992)		226.35						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C15H18N2		9.0	0.0	21.0	3.0	3.0
1808	ETHYL MERCAPTAN	(NIOSH, 2003)		25.2				atm							(USCG, 1999)		0.707		32		(USCG, 1999)		-98		760		(USCG, 1999)		46.1						(NIOSH, 2003)	Insoluble				VFI	Flammable Gas	C2H3F	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	12.0	3.0	3.0
1809	ETHYL METHACRYLATE	(NTP, 1992)		0.0028		73		mm Hg													(NTP, 1992)			277 to 280	11		(NTP, 1992)		230.91						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C6H3Cl4N	Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1810	ETHYL METHANESULFONATE	EMS|ENT 26396|ETHYL ESTER OF METHANESULFONIC ACID|ETHYL ESTER OF METHANESULPHONIC ACID|ETHYL ESTER OF METHYLSULFONIC ACID|ETHYL ESTER OF METHYLSULPHONIC ACID|ETHYL MESYLATE|ETHYL METHANESULFONATE|ETHYL METHANESULPHONATE|ETHYL METHANSULFONATE|ETHYL METHANSULPHONATE|HALF-MYLERAN|METHANESULPHONIC ACID ETHYL ESTER|METHYLSULFONIC ACID, ETHYL ESTER|NSC 26805|O-ETHYL METHYLSULFONATE	62-50-0	PHYSICAL DESCRIPTION: Clear colorless liquid. Denser than water. (NTP, 1992)	2.5	5.0	2.5	3593.0	356.0	1276.0	597.0	401.0	815.0	84.0	298.0	145.0	88.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt, If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1811	ETHYL PHENYLPROPIONATE	ETHYL 3-PHENYLPROPANOATE|ETHYL 3-PHENYLPROPIONATE|ETHYL BETA-PHENYLPROPANOATE|ETHYL BETA-PHENYLPROPIONATE|ETHYL DIHYDROCINNAMATE|ETHYL HYDROCINNAMATE|ETHYL PHENYLPROPIONATE|HYDROCINNAMIC ACID, ETHYL ESTER|3-PHENYLPROPANOIC ACID ETHYL ESTER	2021-28-5	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3593.0	356.0	1276.0	597.0	401.0	815.0	84.0	298.0	145.0	88.0	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
1812	ETHYL PROPIONATE	ETHYL PROPANOATE|ETHYL PROPIONATE|PROPANOIC ACID, ETHYL ESTER|PROPIONIC ACID, ETHYL ESTER|PROPIONIC ESTER|PROPIONIC ETHER	105-37-3	A clear colorless liquid with a pineapple-like odor. Flash point 54Â°F. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	3596.0	356.0	1276.0	597.0	401.0	816.0	84.0	298.0	145.0	88.0	(BLOB)	Literature sources indicate that this chemical is noncombustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1813	ETHYL SILICATE	CONSERVARE OH|DYNASIL A|ES 100|ES 100 (SILICATE)|ES 28|ES 28 (ESTER)|ETHYL ORTHOSILICATE|ETHYL SILICATE|ETHYL SILICATE ((ETO)4SI)|ETHYL SILICATE (CONDENSED)|ETHYL SILICATE 28|ETHYL SILICATE 40|KBE 04|LS 2430|SI 42|SILANE, TETRAETHOXY-|SILIBOND|SILICON ETHOXIDE|SILICON ETHOXIDE (Si(OET)4)|SILICON TETRAETHOXIDE|SILICON TETRAETHOXIDE (Si(OET)4)|SILIKAN L|STEINFESTIGER OH|TEOS|TES 28|TETRAETHOXYSILICON|TETRAETHOXYSILICON(IV)|TETRAETHYL ORTHOSILICATE|TETRAETHYL SILICATE|TSL 8124	78-10-4	A clear colorless liquid with a faint odor. Flash point 125Â°F. Less dense than water. Vapors are heavier than air.	2.5	5.0	2.5	3599.0	356.0	1276.0	597.0	401.0	817.0	84.0	298.0	145.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1814	ETHYL TELLURAC	CARBAMODITHIOIC ACID, DIETHYL-, TETRAKIS(ANHYDROSULFIDE) WITH THIOTELLURIC ACID (H4TES4)|DIETHYLDITHIOCARBAMIC ACID TELLURIUM SALT|ETHYL TELLURAC|ETHYLTELLURAC|NOCCELER TTE|TELLURAC|TELLURIUM BIS(DIETHYLDITHIOCARBAMATE)|TELLURIUM DIETHYLDITHIOCARBAMATE|TELLURIUM(IV) DIETHYLDITHIOCARBAMATE|TELLURIUM, TETRAKIS(DIETHYLCARBAMODITHIOATO-S,S')-, (DD-8-111"1"1'1'1"1")-|TELLURIUM, TETRAKIS(DIETHYLDITHIOCARBAMATO)-|TELLURIUM,TETRAKIS(DIETHYLDITHIOCARBAMATE)-|TETRAKIS(DIETHYLCARBAMODITHIOATO-S,S')TELLURIUM|TETRAKIS(DIETHYLDITHIOCARBAMAT	20941-65-5	PHYSICAL DESCRIPTION: Orange-yellow to bright yellow fluffy powder. (NTP, 1992)	1.0	2.5	5.0	3602.0	356.0	1279.0	597.0	401.0	818.0	84.0	299.0	145.0	88.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1810	ETHYL METHANESULFONATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	NITRATE OF AMMONIA EXPLOSIVE is a powdered high explosive. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979. p. 108-109].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																								
1811	ETHYL PHENYLPROPIONATE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Nitric oxide combines rapidly with oxygen in the air to form nitrogen dioxide. Nitrogen dioxide reacts with water to form nitric acid and nitric oxide, reacts with alkalis to form nitrates and nitrites [Merck 11th ed. 1989]. The liquid nitrogen oxide is very sensitive to detonation, in the presence of water.	NITRIC OXIDE AND NITROGEN DIOXIDE MIXTURE is an oxidizing gas. Supports the combustion of powdered aluminum [Mellor 5:209-212 1946-47]. The slow reaction between nitrogen dioxide and formaldehyde becomes explosive in the region of 180Â°C [Trans. Faraday Soc. 45:767-770. 1949]. Manganese or potassium ignites in nitrogen dioxide [Ann. Chim. et Phys.(2) 2:317]. Nitrogen dioxide and ozone react with the evolution of light, and often explode [J. Chem. Phys. 18:366 1920]. Sodium monoxide and nitric oxide react vigorously above 100Â°C [Mellor 2, Supp. 2:629. 1961].	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1975 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitrogen dioxide, CAS number 10102-44-0	3	0	0	0	Oxidizer																								
1812	ETHYL PROPIONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials and strong acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	NITRILOTRIACETIC ACID TRISODIUM SALT MONOHYDRATE is incompatible with oxidizers, aluminum, copper and strong acids. (NTP, 1992)						0					(NTP, 1992)		2		oz/cu ft									(NTP, 1992)	approximately	770	
1813	ETHYL SILICATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	NITROANILINE is basic. Reacts with acids. May react with organic materials. In the presence of moisture, the heat of the reaction may be sufficient to cause ignition.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 4-nitroaniline, CAS number 100-01-6.	3	1	2	3		(NFPA, 2010)			309 to 390																
1814	ETHYL TELLURAC	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Alcohol C-12 C-16 Poly (1-6) ethoxylate is stable up to 50Â° C. Oxidizes on exposure to the air to form peroxides and peracids. Combustible but not flammable (flash point > 179Â° C). Auto-ignition temperature: 230Â° C. May react with strong oxidizing agents, strong acids, and strong bases. Incompatible with copper and copper alloys and aluminum. A mixture of polyether alcohols of formula R-O-(CH2CH2-O-)n-H where R is a C-12 through C-16 alkyl group and n equals 1 through 6. Synthesized by treating a mixture of C-12 to C-16 alcohols with ethylene oxide.	Peroxidizable Compound	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1810	ETHYL METHANESULFONATE																																								Explosive 1.1D	NH4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1811	ETHYL PHENYLPROPIONATE																																								Poison Gas|Oxidizer|Corrosive	NO (nitric oxide)|NO2 (nitrogen dioxide)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	15.0	3.0	3.0
1812	ETHYL PROPIONATE																										(NTP, 1992)		275.12						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			Na3(C6H6NO6).H2O	Mineral-Based & Clay-Based Absorbents	9.0	0.0	30.0	3.0	3.0
1813	ETHYL SILICATE																																							Poison	C6H6N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	39.0	3.0	3.0
1814	ETHYL TELLURAC																																							Class 9		Cellulose-Based Absorbents	8.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1815	ETHYL-3-ETHOXYPROPIONATE	ETHOXY PROPIONIC ACID, ETHYL ESTER|ETHYL BETA-ETHOXYPROPIONATE|ETHYL-3-ETHOXYPROPIONATE|PROPIONIC ACID, 3-ETHOXYETHYL ESTER	763-69-9	Water-white liquid with an ester-like odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3605.0	356.0	1279.0	597.0	401.0	819.0	84.0	299.0	145.0	88.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1816	ETHYLAMINOETHANOL, [COMBUSTIBLE LIQUID LABEL]	2-(ETHYLAMINO)ETHANOL|ETHYLAMINOETHANOL, [COMBUSTIBLE LIQUID LABEL.]|(2-HYDROXYETHYL)ETHYLAMINE|2-(MONOETHYLAMINO)ETHANOL|N-ETHYL-2-AMINOETHANOL|N-ETHYL-N-(2-HYDROXYETHYL)AMINE|N-ETHYL-N-(BETA-HYDROXYETHYL)AMINE|2-(N-ETHYLAMINO)ETHANOL|N-ETHYLETHANOLAMINE|N-ETHYLMONOETHANOLAMINE	110-73-6	A colorless liquid with an amine-like odor. Slightly less dense than water. May mildly irritate skin and eyes. At high temperature may decompose to yield toxic oxides of nitrogen.	2.5	5.0	2.5	3605.0	356.0	1279.0	597.0	401.0	819.0	84.0	299.0	145.0	88.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1817	ETHYLENE CHLOROHYDRIN	BETA-CHLOROETHANOL|BETA-CHLOROETHYL ALCOHOL|BETA-HYDROXYETHYL CHLORIDE|2-CHLORETHANOL|2-CHLORO-1-ETHANOL|2-CHLORO-1-HYDROXYETHANE|1-CHLORO-2-HYDROXYETHANE|CHLOROETHANOL|2-CHLOROETHANOL|2-CHLOROETHYL ALCOHOL|DELTA-CHLOROETHANOL|ETHANOL, 2-CHLORO-|ETHENE CHLOROHYDRIN|ETHENE, CHLOROHYDRIN|ETHYLCHLOROHYDRIN|ETHYLENE CHLORHYDRIN|ETHYLENE CHLOROHYDRIN|ETHYLENE GLYCOL, CHLOROHYDRIN|GLYCOL CHLOROHYDRIN|GLYCOL MONOCHLOROHYDRIN|GLYCOMONOCHLORHYDRIN|2-HYDROXYETHYL CHLORIDE|2-	107-07-3	Ethylene chlorohydrin is a colorless liquid with an ether-like odor. It is soluble in water and is also a combustible liquid. Its vapors are heavier than air and it is very toxic by inhalation and skin absorption. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects.	2.5	5.0	2.5	3608.0	356.0	1279.0	597.0	401.0	820.0	84.0	299.0	145.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1818	ETHYLENE GLYCOL DIACETATE	1,2-DIACETOXYETHANE|ETHANEDIOL DIACETATE|1,2-ETHANEDIOL DIACETATE|ETHYLENE ACETATE|ETHYLENE DIACETATE|ETHYLENE DIETHANOATE|ETHYLENE GLYCOL ACETATE|ETHYLENE GLYCOL DIACETATE|ETHYLENE GLYCOL, DIACETATE|GLYCOL DIACETATE	111-55-7	Colorless liquid with a mild pleasant odor. Density 9.2 lb /gal. Flash point 191Â°F. Boiling point 369Â°F. Combustible but requires some effort to ignite. Used in the manufacture of perfumes, printing ink, lacquers and resins.	2.5	5.0	2.5	3608.0	356.0	1282.0	597.0	401.0	820.0	84.0	300.0	145.0	88.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1819	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	2-BUTOXYETHANOL ACETATE|2-BUTOXYETHYL ACETATE|BUTYL CELLOSOLVE ACETATE|BUTYL CELLOSOLVEÂ® ACETATE|BUTYL GLYCOL ACETATE|EGBEA|EKTASOLVE EBÂ® ACETATE|ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE|GLYCOL MONOBUTYL ETHER ACETATE	112-07-2	Colorless liquid with a weak fruity odor. Floats and mixes slowly with water. (USCG, 1999)	2.5	5.0	2.5	3611.0	356.0	1285.0	597.0	401.0	821.0	84.0	301.0	145.0	88.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1815	ETHYL-3-ETHOXYPROPIONATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organonitrate compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1816	ETHYLAMINOETHANOL, [COMBUSTIBLE LIQUID LABEL]	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	NITROCELLULOSE, [WET WITH >= 30% ALCOHOL OR SOLVENT] may explode if dried and exposed to heat, flame, friction or shock. May undergo a vigorous reaction with reducing agents, including hydrides, sulfides and nitrides, that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																								
1817	ETHYLENE CHLOROHYDRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	Organonitrate compounds, such as NITROCRESOLS, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
1818	ETHYLENE GLYCOL DIACETATE	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	These substances undergo no chemical reactions under any known circumstances except those under extreme conditions (liquid nitrogen reacts violently in mixture with magnesium powder when a fuse is lit. Due to formation of magnesium nitride). Otherwise, they are nonflammable, noncombustible and nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									(USCG, 1999)		-354	
1819	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	NITROGLYCERIN, DESENSITIZED, [LIQUID] is an OSHA Class A Explosive (1910.109) (NIOSH, 1997). Less subject to explosion when heated or shocked than ordinary nitroglycerin because of the addition of desensitizing materials, but still dangerous. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, salfides and nitrides. Reacts with inorganic bases to form explosive salts. Sensitized toward decomposition by the presence of metal oxides. Incompatible with ozone, acids.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroglycerin, CAS number 55-63-0.	2	3	4	7		(NIOSH, 2003)	Explodes															(NIOSH, 2003)		56	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1815	ETHYL-3-ETHOXYPROPIONATE																																								Poison	C6H4BrNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	15.0	3.0	3.0
1816	ETHYLAMINOETHANOL, [COMBUSTIBLE LIQUID LABEL]																																								Flammable Solid	[C12H14N6O22]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	16.0	3.0	3.0
1817	ETHYLENE CHLOROHYDRIN																																								Poison	C7H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	17.0	3.0	3.0
1818	ETHYLENE GLYCOL DIACETATE														(USCG, 1999)		0.807		-319.9		(USCG, 1999)		-320.1		760		(USCG, 1999)		28											NXX	Non-Flammable Gas	N2		5.0	0.0	14.0	3.0	3.0
1819	ETHYLENE GLYCOL MONOBUTYL ETHER ACETATE	(NIOSH, 2003)		0.0003				mm Hg							(NIOSH, 2003)		1.6				(NIOSH, 2003)	Begins to decompose at 122-140Â° F					(NIOSH, 2003)		227.1		(NIOSH, 2003)	(as nitroglycerine)	75	mg/m3	(NIOSH, 2003)		0.1		%		Explosive 1.1D|Poison	C3H5N3O9	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1820	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	ACETIC ACID, 2-ETHOXYETHYL ESTER|1-ACETOXY-2-ETHOXYETHANE|BETA-ETHOXYETHYL ACETATE|CELLOSOLVE ACETATE|CELLOSOLVEÂ® ACETATE|CSACEGEEA|EKTASOLVE EE ACETATE SOLVENT|ETHOXY ACETATE|2-ETHOXYETHANOL ACETATE|2-ETHOXYETHANOL, ESTER WITH ACETIC ACID|ETHOXYETHYL ACETATE|2-ETHOXYETHYL ACETATE|2-ETHOXYETHYLACETATE|ETHYL CELLOSOLVE ACETATE|ETHYLENE GLYCOL ACETATE MONOETHYL ETHER|ETHYLENE GLYCOL ETHYL ETHER ACETATE|ETHYLENE GLYCOL MONOETHYL ETHER ACETATE|ETHYLENE GLYCOL MONOETHYL	111-15-9	A clear colorless liquid with a pleasant odor. Flash point of 120Â°F. Less dense than water. Vapors are heavier than air.	2.5	5.0	2.5	3614.0	356.0	1288.0	597.0	401.0	822.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1821	ETHYLENE GLYCOL PROPYL ETHER	EKTASOLVE EP|ETHYLENE GLYCOL MONOPROPYL ETHER|ETHYLENE GLYCOL PROPYL ETHER|ETHYLENEGLYCOL MONO-N-PROPYL ETHER|PROPOXYETHANOL|2PROPOXYETHANOL|PROPYL CELLOSOLVE|PROPYL GLYCOL|2-(PROPYLOXY)ETHANOL	2807-30-9	Liquid; colorless; mild, rancid odor; floats and mixes with water. (USCG, 1999)	2.5	5.0	2.5	3614.0	356.0	1288.0	597.0	401.0	822.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1822	ETHYLENE THIOUREA	ACCEL 22|ACCEL 22S|4,5-DIHYDRO-2-MERCAPTOIMIDAZOLE|4,5-DIHYDROIMIDAZOLE-2(3H)-THIONE|END 75|ETC|ETHYLENE THIOUREA|1,3-ETHYLENE-2-THIOUREA|ETHYLENETHIOCARBAMIDE|ETHYLENETHIOUREA|1,3-ETHYLENETHIOUREA|ETU|IMIDAZOLE-2(3H)-THIONE, 4,5-DIHYDRO-(2-IMIDAZOLIDINE)-2-THIONE|IMIDAZOLIDINETHIONE|2-IMIDAZOLIDINETHIONE|IMIDAZOLINE, 2-MERCAPTO-|MIDAZOLINE-2(3H)-THIONE|IMIDAZOLINE-2-THIOL|2-IMIDAZOLINE-2-THIOL|IMIDIZOLIDENETHIONE|2-MERCAPTO-2-IMIDAZOLINE|2-MERCAPTO-4,5-DIHYDROIMIDAZOLE|MERCAPTOIMIDAZOLINE|2-MERCAPTOIMIDAZOLINE|MERCAZIN IN N-	96-45-7	PHYSICAL DESCRIPTION: White to pale green crystals or an off-white solid. Odorless when pure, but technical product may have an amine odor. (NTP, 1992)	1.0	2.5	5.0	3614.0	356.0	1288.0	597.0	401.0	822.0	84.0	302.0	145.0	88.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1823	ETHYLENEDIAMINE TETRAACETIC ACID, TRISODIUM SALT	ACETIC ACID, (ETHYLENEDINITRILO)TETRA-, TRISODIUM SALT|CHELEST C|CLEWAT 300A|EDETATE TRISODIUM|EDTA TRISODIUM SALT|ETHYLENEDIAMINE TETRAACETIC ACID, TRISODIUM SALT|ETHYLENEDIAMINEACETIC ACID TRISODIUM SALT|ETHYLENEDIAMINETETRAACETIC ACID TRISODIUM SALT|ETHYLENEDINITRILO)TETRAACETIC ACID, TRISODIUM SALT|HAMP-ENE NA3 T|N,N'-1,2-ETHANEDIYLBIS[N-(CARBOXYMETHYL)GLYCINE) TRISODIUM SALT|NCI-C03974|NEVANAID-B POWDER|PERMA KLEER 50, TRISODIUM SALT|SEQUESTRENE NA3|SEQUESTRENE TRISODIUM|SEQUESTRENE TRISODIUM SALT|TRILON	150-38-9	PHYSICAL DESCRIPTION: Odorless white crystalline powder. pH (1% aqueous solution) 9.3. pH (10% aqueous solution) about 8.3-8.7. (NTP, 1992)	1.0	2.5	5.0	3617.0	356.0	1288.0	597.0	401.0	823.0	84.0	302.0	145.0	88.0	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1824	ETHYLHEXYL ACETATE	BETA-ETHYLHEXYL ACETATE|2-ETHYL-1-HEXANOL ACETATE|2-ETHYL-1-HEXYL ACETATE|ETHYLHEXYL ACETATE|2-ETHYLHEXYL ACETATE|1-HEXANOL, 2-ETHYL-, ACETATE|OCTYL ACETATE	103-09-3	A water-white liquid. Insoluble in water and is less dense than water. Flash point 180Â°F. Used as a solvent and in perfumes. Liquid or vapors may irritate skin and eyes. Vapors have a fruity, pleasant odor.	2.5	5.0	2.5	3617.0	356.0	1288.0	597.0	401.0	823.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1820	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	Nitroalkanes, such as NITROGLYCERIN, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. This compound is incompatible with the following: Heat, ozone, shock, acids. Note: An OSHA Class A Explosive (1910.109). (NIOSH, 1997).	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroglycerin, CAS number 55-63-0.	2	3	4	7																								
1821	ETHYLENE GLYCOL PROPYL ETHER	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Nitroalkanes, such as NITROGUANIDINE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. Mercury and silver complex salts of nitroguanidine are very impact sensitive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1822	ETHYLENE THIOUREA	(Non-Specific -- Drugs, n.o.s.) Shut off ignition sources; no flares, smoking or flames in hazard area. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch spilled material. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)			286 to 289
1823	ETHYLENEDIAMINE TETRAACETIC ACID, TRISODIUM SALT	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Readily decomposed by water to hydrochloric acid with evolution of heat. Diethyldichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of hYDROGEN cHLORIDE gas will be created in 14 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as DIETHYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1767 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		75.2																			(NTP, 1992)		-141.7	
1824	ETHYLHEXYL ACETATE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Nitroalkanes, such as NITROSTARCH, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1820	ETHYLENE GLYCOL MONOETHYL ETHER ACETATE																																								Flammable Liquid	C3H5N3O9 (solution in ethanol)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	20.0	3.0	3.0
1821	ETHYLENE GLYCOL PROPYL ETHER																																								Flammable Solid	CH4N4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	13.0	3.0	3.0
1822	ETHYLENE THIOUREA																										(EPA, 1998)		391.48													Poison	C10H21N3O.C6H8O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	19.0	3.0	3.0
1823	ETHYLENEDIAMINE TETRAACETIC ACID, TRISODIUM SALT	(NTP, 1992)	; 10 mm Hg at 77.7Â° F; 20 mm Hg at 99.9Â° F	5		56.7		mm Hg	(NTP, 1992)		5.41		(NTP, 1992)			1.05		68		(NTP, 1992)	(decomposes)		262 to 266	760		(NTP, 1992)		157.13							(NTP, 1992)	Decomposes					Corrosive|Flammable Liquid	C4H10Cl2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	15.0	3.0	3.0
1824	ETHYLHEXYL ACETATE																																								Flammable Solid	[C6H7O2(NO3)3]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1825	ETHYL-N-CYCLOHEXYLAMINE	ACCELERATOR HX|CYCLOHEXYLAMINE, N-ETHYL|CYCLOHEXYLAMINE, N-ETHYL-|ETHYL-N-CYCLOHEXYLAMINE|ETHYLAMINO)CYCLOHEXANE|N-CYCLOHEXYLETHYLAMINE|N-ETHYLCYCLOHEXANAMINE|N-ETHYLCYCLOHEXYLAMINE|VULKACIT HX	5459-93-8	A clear colorless liquid with an ammonia-like odor. Floats on water and slightly soluble in water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3620.0	356.0	1288.0	597.0	401.0	824.0	84.0	302.0	145.0	88.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1826	ETHYLPHENOL	1-ETHYL-2-HYDROXYBENZENE|ETHYLPHENOL|2-ETHYLPHENOL|ETHYLPHENYL ALCOHOL|O-ETHYLPHENOL|PHENOL, O-ETHYL-|PHLOROL	90-00-6	Yellow liquid. Freezing point -18Â°C. Flash point 172Â°F.	2.5	5.0	2.5	3623.0	356.0	1288.0	597.0	401.0	825.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1827	FARNESOL	2,6,10-DODECATRIEN-1-OL, 3,7,11-TRIMETHYL-|FARNESOL|FARNESYL ALCOHOL|FCI 119A|3,7,11-TRIMETHYL-2,6,10-DODECATRIEN-1-OL	4602-84-0	PHYSICAL DESCRIPTION: Colorless liquid with a delicate floral odor. (NTP, 1992)	2.5	5.0	2.5	3626.0	356.0	1288.0	597.0	401.0	826.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1828	FENBUTATIN OXIDE	FENBUTATIN OXIDE|HEXAKIS(2-METHYL-2-PHENYLPROPYL)DISTANNOXANE	13356-08-6	White crystalline solid with a mild odor.	1.0	2.5	5.0	3629.0	356.0	1288.0	597.0	401.0	827.0	84.0	302.0	145.0	88.0	(BLOB)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents: Water spray, dry chemical, alcohol foam. (USCG, 1999)
1829	FENITROTHION	(BLOB)	122-14-5	Brownish-yellow oil. Used as a selective acaricide and a contact and stomach insecticide against chewing and sucking insects on rice, orchard fruits, vegetables, cereals, cotton and forest. Also used against flies, mosquitoes, and cockroaches. (EPA, 1998)	2.5	5.0	2.5	3629.0	356.0	1288.0	597.0	401.0	827.0	84.0	302.0	145.0	88.0	(BLOB)	Special Hazards of Combustion Products: Carbon dioxide and carbon monoxide may be produced in fire. Behavior in Fire: Unstable with heat; may form flammable tetrahydrofuran at 300Â°F. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1825	ETHYL-N-CYCLOHEXYLAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes in water to form sulfuric and nitric acids [Merck 11th ed. 1989]. Nitrosylsulfuric acid reacts vigorously with water to generate gaseous NO2. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of NO2 gas will be created in 0.14 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	NITROSYLSULFURIC ACID is an oxidizing agent. Neutralizes chemical bases in exothermic reactions. An attempt to diazotize dinitroaniline using nitrosylsulfuric acid resulted in an explosion with loss of life. The event was blamed on the high concentration of the reactants dinitroaniline hydrochloride and nitrosylsulfuric acid [MCA Case History 1763. 1971].	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2308 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1826	ETHYLPHENOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	p-NITROTOLUENE and sulfuric acid explode at 80Â°C [Chem. Eng. News 27:2504]. Many explosions have occurred in the distillation of this material owing to its heat sensitivity. May become unstable in the presence of strong bases.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitrotoluenes (mixed isomers), CAS numbers 88-72-2, 99-08-1, 99-99-0.	3	1	1	2		(NFPA, 2010)		223																				
1827	FARNESOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	Aromatic nitro compounds, such as NITROXYLOL, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1828	FENBUTATIN OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.	DIETHYLENE GLYCOL DIBUTYL ETHER may react violently with strong oxidizing agents. Incompatible with nitric acid. May form salts with strong acids and addition complexes with Lewis acids. In other reactions, which typically involve the breaking of the carbon-oxygen bond, relatively inert.	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(NTP, 1992)		245																				
1829	FENITROTHION	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Eye protection and rubber gloves. (USCG, 1999)	Highly flammable. This chemical is hygroscopic. Water soluble.	1,4-BUTANEDIOL is heat and light sensitive. This compound reacts with acid chlorides, acid anhydrides and chloroformates. It also reacts with oxidizing agents and reducing agents. It is incompatible with isocyanates and acids. It is also incompatible with peroxides, perchloric acid, sulfuric acid, hypochlorous acid, nitric acid, caustics, acetaldehyde, nitrogen peroxide and chlorine. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		247							(USCG, 1999)		1.9	%	(USCG, 1999)		671		(NTP, 1992)		61	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1825	ETHYL-N-CYCLOHEXYLAMINE																																								Corrosive	HNO5S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	11.0	3.0	3.0
1826	ETHYLPHENOL																																								Poison	C7H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	14.0	3.0	3.0
1827	FARNESOL																																								Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	12.0	3.0	3.0
1828	FENBUTATIN OXIDE	(NTP, 1992)		0.02		68		mm Hg	(NTP, 1992)			greater than 1			(USCG, 1999)		0.885				(NTP, 1992)		493		760		(NTP, 1992)		218.34						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	DIG		C12H26O3		6.0	0.0	11.0	3.0	3.0
1829	FENITROTHION	(NTP, 1992)			less than 1	100		mm Hg	(NTP, 1992)		3.1				(USCG, 1999)		1.017		68		(NTP, 1992)		446		760		(NTP, 1992)		90.12						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	BUG	Flammable Liquid	C4H10O2	Cellulose-Based Absorbents	8.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1830	FENPROPATHRIN	FENPROPATHRIN|2,2,3,3-TETRAMETHYLCYCLOPROPANE CARBOXYLIC ACID	39515-41-8	Yellowish to brown liquid or solid, depending on purity and temperature. Used as an acaricide and insecticide.	1.0	2.5	5.0	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1831	FENVALERATE	4-CHLORO-ALPHA-(1-METHYLETHYL)BENZENEACETIC ACID|FENVALERATE	51630-58-1	A clear viscious yellow liquid with a mild odor. Used as broad spectrum insecticide.	2.5	5.0	2.5	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1832	FERROPHOSPHORUS	FERROPHOSPHORUS	8049-19-2	A solid alloy of iron and phosphorus used in the steel industry ((USCG, 1999). Usually either 18% phosphorus or 25% phosphorus.	1.0	2.5	5.0	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1833	FLUOMETURON	C 2059|CIBA 2059|COTORAN|COTORAN 85DF|COTTONEX|1,1-DIMETHYL-3-(3-TRIFLUOROMETHYLPHENYL)UREA|1,1-DIMETHYL-3-(ALPHA,ALPHA,ALPHA-TRIFLUORO-M-TOLYL)UREA|FLUOMETURON|HERBICIDE C-2059|LANEX|3-(M-TRIFLUOROMETHLYLPHENYL)-1,1-DIMETHYLUREA|3-(M-TRIFLUOROMETHYLPHENYL)-1,1-DIMETHYLUREA|N,N-DIMETHYL-N'-(3-(TRIFLUOROMETHYL)PHENYL)UREA|N,N-DIMETHYL-N'-[3-(TRIFLUOROMETHYL)PHENYL]UREA|N-(3-TRIFLUOROMETHYLPHENYL)-N,N'-DIMETHYLUREA|N-(3-TRIFLUOROMETHYLPHENYL)-N,N-DIMETHYLUREA|N-(M-TRIFLUOROMETHYLPHENY	2164-17-2	PHYSICAL DESCRIPTION: White crystals or powder. Melting point 163-164Â°C. Readily soluble in organic solvents. Used for pre- and post-emergence weed control in cotton.	1.0	2.5	5.0	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1834	FLUOROBENZENE	BENZENE FLUORIDE|BENZENE, FLUORO-|FLUOROBENZENE|MFB|MONOFLUOROBENZENE|PHENYL FLUORIDE	462-06-6	A clear, colorless liquid with a characteristic aromatic odor. About the same density as water. Flash point 5Â°F. Vapors heavier than air. May irritate the skin, eyes, and mucous membranes. Used as an insecticide, larvacide and as a reagent for plastic or resin polymers.	2.5	5.0	2.5	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1835	FOMESAFEN	5-(2-CHLORO-4-(TRIFLUOROMETHYL)PHENOXY)-N-METHYLSULFONYL)-2-NITROBENZAMIDE|FLEX|FLOSIL|FOMESAFEN|FORMAT|REFLEX	72178-02-0	White crystalline solid. Used as an herbicide.	1.0	2.5	5.0	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water fog may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1830	FENPROPATHRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is soluble in water.	TETRAMETHYLAMMONIUM HYDROXIDE acts like a base. Bases are chemically similar to sodium hydroxide (NaOH) or sodium oxide (Na2O). They neutralize acids exothermically to form salts plus water. When soluble in water they give solutions having a pH greater than 7.0. Mixing these materials with water can generate troublesome amounts of heat as the base is dissolved or diluted. Bases react with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. Bases may initiate polymerization reactions in polymerizable organic compounds, especially epoxides). They may generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. Materials of this group often serve as catalysts.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1831	FENVALERATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N-METHYLCARBAMIC ACID, ETHYL ESTER is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.					0		(NTP, 1992)		163.5																					
1832	FERROPHOSPHORUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene and transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene t pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with soap and water solution. All exposed surfaces should be analyzed for contamination. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light during handling and storage. You should also protect it from oxidizing agents. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It may be sensitive to prolonged exposure to air. Insoluble in water.	ALL-TRANS-RETINOIC ACID may discolor on exposure to light. It is extremely sensitive to exposure to light and, therefore, it should be fully protected from light during all handling. Solutions are unstable in the presence of strong oxidizers. This compound is incompatible with strong oxidizing agents. (NTP, 1992).					0																							(NTP, 1992)		354 to 360
1833	FLUOMETURON		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	Ethers, such as DIETHYLENE GLYCOL N-HEXYL ETHER can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound						0		(USCG, 1999)		285																	(USCG, 1999)		-27.4	
1834	FLUOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N-METHYL-O-PHENYLENEDIAMINE DIHYDROCHLORIDE is an acidic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.					0																							(NTP, 1992)		376	
1835	FOMESAFEN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at refrigerated temperatures and protect it from light. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Organophosphates, such as DIETHYLSTILBESTROL DIPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)	(decomposes)		399 to 403

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1830	FENPROPATHRIN																																								Corrosive	C4H12N.HO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	13.0	3.0	3.0
1831	FENVALERATE	(NTP, 1992)	; 20 mm Hg at 169.0Â° F; 100 mm Hg at 234Â° F	1		79.7		mm Hg							(NTP, 1992)		1.011		66.9		(NTP, 1992)		338		760		(NTP, 1992)		103.14						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C4H9NO2		7.0	0.0	33.0	3.0	3.0
1832	FERROPHOSPHORUS																				(NTP, 1992)		300.45												(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C20H28O2	Dirt/Earth	5.0	0.0	14.0	3.0	3.0
1833	FLUOMETURON														(USCG, 1999)		0.9346		68		(USCG, 1999)		498.4		760		(USCG, 1999)		190.32											DHE		C10H22O		5.0	0.0	11.0	3.0	3.0
1834	FLUOROBENZENE																											(NTP, 1992)		195.09						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL			C7H10N2.2ClH		9.0	0.0	28.0	3.0	3.0
1835	FOMESAFEN														(NTP, 1992)		1										(NTP, 1992)		428.34						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C18H22O8P2	Dirt/Earth	5.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1836	FUMARYL CHLORIDE	2-BUTENEDIOYL DICHLORIDE, (E)-|FUMARIC ACID CHLORIDE|FUMARIC ACID DICHLORIDE|FUMARIC DICHLORIDE|FUMAROYL CHLORIDE|FUMAROYL DICHLORIDE|FUMARYL CHLORIDE|FUMARYL DICHLORIDE	627-63-4	A straw colored fuming liquid with a pungent odor. Vapors irritate the eyes and mucous membranes. Corrosive to metals and tissue.	2.5	5.0	2.5	3632.0	356.0	1288.0	597.0	401.0	828.0	84.0	302.0	145.0	88.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1837	FURFURYL ACETATE	ACETIC ACID FURFURYL ESTER|ACETIC ACID, FURFURYL ESTER|2-ACETOXYMETHYL FURAN|2-FURANMETHANOL, ACETATE|2-FURANMETHYL ACETATE|FURFURYL ACETATE|FURFURYL ALCOHOL, ACETATE	623-17-6	PHYSICAL DESCRIPTION: Colorless to clear yellow or orange liquid with a pungent odor. (NTP, 1992)	2.5	5.0	2.5	3635.0	356.0	1288.0	603.0	401.0	829.0	84.0	302.0	147.0	88.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1838	FURFURYLAMINE	ALPHA-FURFURYLAMINE|2-(AMINOMETHYL)FURAN|2-FURANMETHYLAMINE|(2-FURANYLMETHYL)AMINE|FURFURYLAMINE|2-FURFURYLAMINE|(2-FURYLMETHYL)AMINE	617-89-0	A colorless liquid. About the same density as water. Used as a corrosion inhibitor and to make soldering flux.	2.5	5.0	2.5	3635.0	356.0	1288.0	603.0	401.0	829.0	84.0	302.0	147.0	88.0	(BLOB)	Flash point data for this compound is not available, but it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1839	GALLIUM	GALLIUM|GALLIUM ELEMENT|GALLIUM METAL, [SOLID]	7440-55-3	Gallium is a silvery-white liquid at room temperature. Ingestion of this material may be toxic. It is corrosive to aluminum. If exposed to high temperatures, gallium may emit toxic fumes which may form a corrosive alkaline solution with water. It is soluble in most acids and alkalis. It is used as a semiconductor material.	2.5	5.0	2.5	3638.0	356.0	1288.0	609.0	401.0	830.0	84.0	302.0	149.0	88.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
1840	GALLIUM NITRATE	GALLIUM NITRATE/GALLIUM NITRATE (GA(NO3)3)|GALLIUM TRINITRATE|GANITE|NITRIC ACID, GALLIUM SALT|NSC 15200	13494-90-1	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	3641.0	356.0	1288.0	609.0	401.0	831.0	84.0	302.0	149.0	88.0	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1841	GALLIUM TRICHLORIDE	GALLIUM (III) CHLORIDE|GALLIUM CHLORIDE|GALLIUM TRICHLORIDE|GALLIUM(3+) CHLORIDE|TRICHLOROGALLIUM	13450-90-3	Colorless needles. Used as a raw material in the production of metallic gallium and in the processing of mono crystal semiconductor compounds. (EPA, 1998)	1.0	2.5	5.0	3644.0	356.0	1291.0	609.0	401.0	832.0	84.0	303.0	149.0	88.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1836	FUMARYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	N-NITROSOPIPERIDINE may react with strong oxidizing agents, especially peroxyacids. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1837	FURFURYL ACETATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Insoluble in water.	NONANE is incompatible with oxidizing materials. It is also incompatible with oxygen. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		88		(NTP, 1992)		0.8		%	(NTP, 1992)		2.9		%	(USCG, 1999)		401		(NTP, 1992)		-60	
1838	FURFURYLAMINE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-OCTACOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		148.1	
1839	GALLIUM	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	May be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		56		(USCG, 1999)		1		%	(USCG, 1999)		6.5		%	(USCG, 1999)		428		(USCG, 1999)		-70.2	
1840	GALLIUM NITRATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	A routine preparation by interaction of allyl chloride and sodium thiocyanate in an autoclave at 5.5 bar exploded violently at the end of the reaction. Peroxides were not present or involved and no other cause could be found, but extensive decomposition occurred when allyl isothiocyanate was heated to 250Â°C. in glass ampoules [Ind. Eng. Chem. 1941:19 1408].	Highly Flammable; Polymerizable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NTP, 1992)		115																(NTP, 1992)		-112	
1841	GALLIUM TRICHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ALLYL NONANOATE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		84																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1836	FUMARYL CHLORIDE														(NTP, 1992)		1.0631		65.3		(NTP, 1992)		423		721		(NTP, 1992)		114.17						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL		Poison	C5H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	11.0	3.0	3.0
1837	FURFURYL ACETATE	(NTP, 1992)	; 10 mm Hg at 100.4Â° F	3.22		68		mm Hg	(NTP, 1992)		4.41				(USCG, 1999)		0.718		68		(NTP, 1992)		303.4		760		(NTP, 1992)		128.26						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	NAN	Flammable Liquid	C9H20		6.0	0.0	15.0	3.0	3.0
1838	FURFURYLAMINE														(NTP, 1992)		0.8067		68		(NTP, 1992)		808.9		760		(NTP, 1992)		394.78												Flammable Solid	C28H58		6.0	0.0	19.0	3.0	3.0
1839	GALLIUM	(NIOSH, 2003)		10				mm Hg							(USCG, 1999)		0.703		68		(USCG, 1999)		258.1		760		(USCG, 1999)		114.2		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1000	ppm	(NIOSH, 2003)	at 77Â° F	7.00E-05		%	OAN	Flammable Liquid	C8H18		7.0	0.0	24.0	3.0	3.0
1840	GALLIUM NITRATE	(NTP, 1992)	; 10 mm Hg at 100.9Â° F	5		77.5		mm Hg	(NTP, 1992)		3.41				(NTP, 1992)		1.0126		68		(NTP, 1992)		304		760		(NTP, 1992)		99.16						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL		Poison|Flammable Liquid	C4H5NS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	11.0	3.0	3.0
1841	GALLIUM TRICHLORIDE														(NTP, 1992)		0.841		68		(NTP, 1992)			189 to 196	3		(NTP, 1992)		198.31						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid	C12H22O2	Dirt/Earth	5.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1842	GALLIUM TRIOXIDE	DIGALLIUM TRIOXIDE|GALLIA|GALLIUM (3+) TRIOXIDE|GALLIUM OXIDE|GALLIUM OXIDE (2:3)|GALLIUM SESQUIOXIDE|GALLIUM TRIOXIDE|GALLIUM(3+) OXIDE	12024-21-4	PHYSICAL DESCRIPTION: Odorless fine white powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3644.0	356.0	1291.0	609.0	401.0	832.0	84.0	303.0	149.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1843	GLYCIDOL	ALLYL ALCOHOL OXIDE|DL-GLYCIDOL|EPIHYDRIN ALCOHOL|EPIOL OH|(+-)-2,3-EPOXY-1-PROPANOL|2,3-EPOXY-1-PROPANOL|1,2-EPOXY-3-HYDROXYPROPANE|2,3-EPOXYPROPANOL|EPOXYPROPYL ALCOHOL|GLYCIDE|GLYCIDOL|(+-)-GLYCIDOL|GLYCIDYL ALCOHOL|3-HYDROXY-1,2-EPOXYPROPANE|1-HYDROXY-2,3-EPOXYPROPANE|HYDROXYMETHYL ETHYLENE OXIDE|2-HYDROXYMETHYLOXIRAN|2-(HYDROXYMETHYL)OXIRANE|3-HYDROXYPROPYLENE OXIDE|METHANOL, OXIRANYL-|NCI-C55549|OXIRANEMETHANOL|OXIRANYLMETHANOL|1-PROPANOL, 2,3-EPOXY-|RACEMIC GLYCIDOL|(RS)-GLYCIDOL	556-52-5	PHYSICAL DESCRIPTION: Odorless clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3644.0	356.0	1291.0	609.0	401.0	832.0	84.0	303.0	149.0	88.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Avoid alkalies. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
1844	GLYCIDYL METHACRYLATE	ACRYESTER G|BLEMMER G|BLEMMER GMA|BLEMMER GP|CP-105|EPOXYPROPYL METHACRYLATE|2,3-EPOXYPROPYL METHACRYLATE|GLYCIDOL METHACRYLATE|GLYCIDYL ALPHA-METHYL ACRYLATE|GLYCIDYL ALPHA-METHYLACRYLATE|GLYCIDYL METHACRYLATE|(.+-.)-GLYCIDYL METHACRYLATE|LIGHT ESTER G|METHACRYLIC ACID, 2, 3-EPOXYPROPYL ESTER|METHACRYLIC ACID, 2,3-EPOXYPROPYL ESTER|2-[(METHACRYLOYLOXY)METHYL]OXIRANE|1-PROPANOL, 2,3-EPOXY-, METHACRYLATE|SARTOMER 379|SR 379|SY-MONOMER G	106-91-2	Colorless liquid with a fruity odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3644.0	356.0	1291.0	609.0	401.0	832.0	84.0	303.0	149.0	88.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
1845	GRISEOFULVIN	(BLOB)	126-07-8	PHYSICAL DESCRIPTION: White to pale cream-colored crystalline powder. Odorless or almost odorless. Tasteless. Sublimes without decomposition at 410Â°F. (NTP, 1992)	1.0	2.5	5.0	3644.0	356.0	1291.0	609.0	401.0	832.0	84.0	303.0	149.0	88.0	(BLOB)	When heated to decomposition, it emits acrid smoke and irritating fumes. (EPA, 1998)	(Non-Specific -- Drugs or Medicines, Solid, n.o.s.) Avoid breathing dusts and fumes from burning material. Keep upwind. Wear boots, protective gloves, and goggles. (Non-Specific -- Drugs or Medicines, Solid, n.o.s.) Extinguish fire using agent suitable for type of surrounding fire (material itself burns with difficulty.) Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)
1846	GUANIDINE NITRATE	GUANIDINE NITRATE|GUANIDINE NITRATE (1:1)|GUANIDINIUM NITRATE	506-93-4	A white crystalline solid. Soluble in water. Takes some effort to ignite but once ignited it burns with increasing vigor as the fire progresses. If contaminated with combustible materials it accelerates their burning. Prolonged exposure to fire or heat may result in an explosion. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	3647.0	356.0	1291.0	609.0	401.0	833.0	84.0	303.0	149.0	88.0	(BLOB)	(Non-Specific -- Poison, Flammable Liquid, n.o.s.) May be ignited by heat, sparks, or flames. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Avoid strong oxidizers. (EPA, 1998)	(Non-Specific -- Poison, Flammable Liquid, n.o.s.) Move container from fire area if you can do so without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Poison, Flammable Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
1847	HC RED 3	2-(4-AMINO-2-NITROANILINO)-ETHANOL|2-((4-AMINO-2-NITROPHENYL)AMINO)ETHANOL|ETHANOL, 2-(4-AMINO-2-NITROANILINO)-|H.C. RED 3|H.C. RED NO. 3|HC RED 3|HC RED NO. 3|HC RED NUMBER 3|4-(2-HYDROXYETHYL)AMINO-3-NITROANILINE|N-(2-HYDROXYETHYL)-2-NITRO-P-PHENYLENEDIAMINE|N1-(2-HYDROXYETHYL)-2-NITRO-P-PHENYLENEDIAMINE|NCI-C54922	2871-01-4	PHYSICAL DESCRIPTION: Fine dark maroon crystals or dark brown powder. (NTP, 1992)	1.0	2.5	5.0	3650.0	356.0	1294.0	609.0	401.0	834.0	84.0	304.0	149.0	88.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1842	GALLIUM TRIOXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	ALLYL ISOVALERATE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		103.5																			
1843	GLYCIDOL	(Non-Specific -- Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, NORBORMIDE emits toxic fumes of nitrogen oxides. Avoid alkalis. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)				374 to 388
1844	GLYCIDYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-PENTACOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.							0																					
1845	GRISEOFULVIN	(Non-Specific -- Drugs or Medicines, Solids, n.o.s.) Keep upwind. Avoid bodily contact with the material. Wear full protective clothing. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)	when anhydrous		493 to 495
1846	GUANIDINE NITRATE	(Non-Specific -- Poison, Flammable Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Shut off ignition sources; no flares, smoking, or flames in hazard area. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	Epoxides, such as DIGLYCIDYL ETHER, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		147.2																			
1847	HC RED 3	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Ethers, such as 2,3-DIHYDROPYRAN, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for dihydropyran, CAS number 110-87-2	1	3	1	4		(NFPA, 2010)		0																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1842	GALLIUM TRIOXIDE	(NTP, 1992)	; 16.8 mm Hg at 86.0Â° F	13		71.6		mm Hg							(NTP, 1992)		0.882		75		(NTP, 1992)		306.1		729		(NTP, 1992)		142.22						(NTP, 1992)	at 61.7Â° F		less than 0.1	mg/mL		Flammable Liquid|Poison	C8H14O2	Dirt/Earth	5.0	0.0	13.0	3.0	3.0
1843	GLYCIDOL																									(EPA, 1998)		511.55													Poison	C33H25N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	12.0	3.0	3.0
1844	GLYCIDYL METHACRYLATE														(NTP, 1992)		0.8012		68		(NTP, 1992)		755.4		760		(NTP, 1992)		352.69													C25H52		9.0	0.0	17.0	3.0	3.0
1845	GRISEOFULVIN																									(EPA, 1998)		764.92													Poison	C41H64O13	Cellulose-Based Absorbents|Dirt/Earth	8.0	0.0	19.0	3.0	3.0
1846	GUANIDINE NITRATE	(EPA, 1998)		0.09		77		mm Hg	(EPA, 1998)	SUSPECT	3.78		77		(EPA, 1998)		1.262		77		(EPA, 1998)		500		760		(EPA, 1998)		130.16		(NIOSH, 2003)	; A potential human carcinogen.	10	ppm							Corrosive|Poison	C6H10O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	24.0	3.0	3.0
1847	HC RED 3																																								Flammable Liquid	C5H8O	Dirt/Earth	5.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1848	HEPTANOIC ACID	ENANTHIC ACID|ENANTHYLIC ACID|HEPTANOIC ACID|HEPTHLIC ACID|HEPTOIC ACID|HEPTYLIC ACID|5-HEXACID C-7|HEXANE CARBOXYLIC ACID|1-HEXANECARBOXYLIC ACID|N-HEPTANOIC ACID|N-HEPTOIC ACID|N-HEPTYLIC ACID|OENANTHIC ACID|OENANTHYLIC ACID	111-14-8	A colorless liquid with a pungent odor. Less dense than water and poorly soluble in water. Hence floats on water. Very corrosive. Contact may likely burn skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Flash point near 200Â°F.	2.5	5.0	2.5	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	(BLOB)	Behavior in Fire: Containers may explode (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1849	HEPTANOL	ENANTHIC ALCOHOL|HEPTANOL|1-HEPTANOL|HEPTYL ALCOHOL|1-HYDROXYHEPTANE	111-70-6	Watery colorless liquid with a weak alcohol odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1850	HEXACHLOROETHANE	AVLOTHANE|CARBON HEXACHLORIDE|DISTOKAL|DISTOPAN|DISTOPIN|EGITOL|ETHANE HEXACHLORIDE|ETHYLENE HEXACHLORIDE|FALKITOL|FASCIOLIN|FRON 110|HEXACHLORETHANE|HEXACHLOROETHANE|1,1,1,2,2,2-HEXACHLOROETHANE|HEXACHLOROETHYLENE|MOTTENHEXE|NCI-C04604|PERCHLOROETHANE|PHENOHEP	67-72-1	Hexachloroethane is a colorless, crystalline solid with a camphor-like odor. It may cause illness from inhalation or ingestion and may irritate skin, eyes and mucous membranes. When heated to high temperatures it may emit toxic fumes. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to make other chemicals.	1.0	2.5	5.0	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	(BLOB)	Flash point data are not available for this compound, but it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled using dry chemicals, CO2, alcohol foam, and/or Halon extinguishers. (NTP, 1992)
1851	HEXADECANOYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	HEXADECANOYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)|PALMITOYL CHLORIDE	112-67-4	A clear colorless to light yellow liquid with a pungent odor. Freezing point 11-12Â°C. Irritates skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	(BLOB)	Flash point data for this chemical are not available but it is probably nonflammable. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)
1852	HEXADECYLAMINE	ALAMINE 6|ALAMINE 6D|AMINE PB|1-AMINO HEXADECANE|1-AMINOHEXADECANE|ARMEEN 16D|CETYLAMINE|HDA|1-HEXADECANAMINE|1-HEXADECANYLAMINE|HEXADECYLAMINE|1-HEXADECYLAMINE|MONOHEXADECYLAMINE|N-CETYLAMINE|N-HEXADECYLAMINE|NISSAN AMINE PB|PALMITAMINE|PALMITYLAMINE	143-27-1	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	Call for medical aid. INGESTION: If victim is conscious have him drink water or milk. SKIN: Flush immediately with plenty of water. EYES: Flush with water for at least 15 mins., lifting lids occasionally. (USCG, 1999)	Special Hazards of Combustion Products: At elevated temperatures, the material will decompose, producing hydrogen chloride. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1853	HEXAFLUOROACETONE	BIS(TRIFLUOROMETHYL) KETONE|GC 7887|1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL|HEXAFLUORO-2-PROPANONE|HEXAFLUOROACETONE|PERFLUORO-2-PROPANONE|PERFLUOROACETONE|2-PROPANONE, HEXAFLUORO-	684-16-2	Hexafluoroacetone is a colorless, toxic, and highly reactive gas. At ambient temperatures, it is likely to generate a considerable amount of vapor. It is an irritant to skin, eyes and mucous membranes and is toxic by ingestion, skin absorption, and inhalation. When heated to high temperatures it emits toxic fluoride fumes. Prolonged exposure of the container to fire or intense heat may cause it to violently rupture and rocket. It is used in the production of other chemicals.	5.0	1.0	1.0	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1848	HEPTANOIC ACID	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	N-PENTANE is incompatible with strong oxidizers. It is also incompatible with strong acids, alkalis, and oxygen. Mixtures with chlorine gas have produced explosions. It will attack some forms of plastics, rubber, and coatings. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NTP, 1992)		-57		(NTP, 1992)		1.5		%	(NTP, 1992)		7.8		%	(USCG, 1999)		500		(NTP, 1992)		-202	
1849	HEPTANOL	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Face splash shield, goggles, protective clothing, and cartridge respirator. (USCG, 1999)	Highly flammable. Soluble in water.	Moderately toxic, flammable if exposed to powerful oxidizers. Incompatible with oxidizing materials, hydrogen trisulfide [Sax, 9th ed., 1996, p. 224].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		91		(NTP, 1992)		1.2		%	(NTP, 1992)		10		%	(USCG, 1999)		680		(NTP, 1992)		-110	
1850	HEXACHLOROETHANE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	DIHYDROUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																					(NTP, 1992)	Decomposes with partial melting at 216-223Â° F		
1851	HEXADECANOYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Soluble in hot water.	N-PHENYLHYDROXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		181 to 183
1852	HEXADECYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear impervious protective clothing and gloves to prevent skin contact. Wear splashproof chemical safety goggles and approved respirator. (USCG, 1999)	Fumes in air.	ALUMINUM CHLORIDE, SOLUTION is an aqueous solution of an acidic salt. Reacts exothermically with bases. May cause ethylene (also other alkenes) to polymerize violently [J. Inst. Pet. 33:254 1947].	Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																			(USCG, 1999)		-30	
1853	HEXAFLUOROACETONE			No rapid reaction with air. No rapid reaction with water.	A piperazine, trichloromethylformamide derivative. Decomposed in strong acid to trichloroacetaldehyde and piperazine salts, and in strongly alkaline media to chloroform and piperazine.					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1848	HEPTANOIC ACID	(NTP, 1992)	; 426 mm Hg at 68Â° F	400		65.3		mm Hg	(NTP, 1992)		2.48				(USCG, 1999)		0.626		68		(NTP, 1992)		97		760		(NTP, 1992)		72.15		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1500	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	PTA	Flammable Liquid	C5H12		8.0	0.0	20.0	3.0	3.0
1849	HEPTANOL	(NTP, 1992)	; 2.8 mm Hg at 68Â° F	1		56.5		mm Hg	(NTP, 1992)		3.04				(USCG, 1999)		0.818		59		(NTP, 1992)		280		760		(NTP, 1992)		88.15						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL	AAN	Flammable Liquid	C5H12O	Cellulose-Based Absorbents	7.0	0.0	12.0	3.0	3.0
1850	HEXACHLOROETHANE																				(NTP, 1992)		92																				CH4N2O3		5.0	0.0	15.0	3.0	3.0
1851	HEXADECANOYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)																				(NTP, 1992)		109.14												(NTP, 1992)	Soluble in hot water					Poison	C6H7NO	Cellulose-Based Absorbents	Mineral-Based & Clay-Based Absorbents	9.0	0.0	18.0	3.0	3.0
1852	HEXADECYLAMINE														(USCG, 1999)		1.28				(USCG, 1999)		230		760		(USCG, 1999)		133.34										ACO	Corrosive	AlCl3 (aqueous)		7.0	0.0	11.0	3.0	3.0
1853	HEXAFLUOROACETONE																																									C10H14Cl6N4O2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	21.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1854	HEXAFLUOROPHOSPHORIC ACID	HEXAFLUOROPHOSPHORIC ACID|HYDROGEN HEXAFLUOROPHOSPHATE|HYDROGEN HEXAFLUOROPHOSPHATE(1-)	16940-81-1	A clear colorless aqueous solution containing 60 percent hydrogen hexafluorophosphate (HPF6) by mass. Density 1.65 g / cm3. Corrosive to metals and tissue.	2.5	5.0	2.5	3650.0	356.0	1294.0	615.0	401.0	834.0	84.0	304.0	151.0	88.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)
1855	HEXAFLUOROPROPYLENE	F 1216|HEXAFLUORO-1-PROPENE|1,1,2,3,3,3-HEXAFLUORO-1-PROPENE|HEXAFLUOROPROPENE|1,1,2,3,3,3-HEXAFLUOROPROPENE|HEXAFLUOROPROPYLENE|PERFLUORO-1-PROPENE|PERFLUOROPROPENE|PERFLUOROPROPYLENE|PROPENE, HEXAFLUORO-|PROPYLENE HEXAFLUORIDE|R 1216|REFRIGERANT GAS R-1216	116-15-4	Hexafluoropropylene is an odorless, colorless gas. It is noncombustible. It can asphyxiate by the displacement of air. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	3653.0	356.0	1294.0	615.0	401.0	835.0	84.0	304.0	151.0	88.0	INHALATION: only fumes from fire need be considered; metal-fume fever lasts less than 36 hrs. and is not critical. EYES: flush gently with copious quantities of water for 15 min. with lids open; treat burns, if fire occurred; get medical attention. SKIN: wash with water; treat burns caused by fire; get medical attention. INGESTION: (USCG, 1999)	Special Hazards of Combustion Products: Dense smoke may cause metal-fume fever. Behavior in Fire: Dense smoke of aluminum oxide forms. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water, foam, halogenated extinguishing agents Fire Extinguishing Agents: Inert powder (e.g., sand, limestone), dry chemical (USCG, 1999)
1856	HEXAFLUOROPROPYLENE OXIDE	ACETONE, HEXAFLUORO|HEXAFLUORO-1,2-EPOXYPROPANE|HEXAFLUOROEPOXYPROPANE|HEXAFLUOROPROPENE EPOXIDE|HEXAFLUOROPROPENE OXIDE|HEXAFLUOROPROPENE-1,2-OXIDE|HEXAFLUOROPROPYLENE EPOXIDE|HEXAFLUOROPROPYLENE OXIDE|OXIRANE, TRIFLUORO(TRIFLUOROMETHYL)-|PERFLUORO(METHYLOXIRANE)|PERFLUOROPROPENE OXIDE|PERFLUOROPROPYLENE OXIDE|PROPANE, 1,2-EPOXY-1,1,2,3,3,3-HEXAFLUORO-|PROPYLENE OXIDE HEXAFLUORIDE|TRIFLUORO(TRIFLUOROMETHYL)OXIRANE|2,2,3-TRIFLUORO-3-(TRIFLUOROMETHYL)OXIRANE|TRIFLUOROMETHYL)TRIFLUOROOXIRANE	428-59-1	Hexafluoropropylene oxide is a colorless odorless gas. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. Its vapors are heavier than air. It can cause asphyxiation by the displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	3653.0	356.0	1294.0	615.0	401.0	835.0	84.0	304.0	151.0	88.0	(BLOB)	Contact with strong oxidizers may cause fires and explosions. Toxic gases and vapors (e.g., carbon monoxide) may be released in heating to decomposition. Avoid strong oxidizers. (EPA, 1998)	(Non-Specific -- Poison B Solid) Wear full protective clothing and self-contained breathing apparatus. (Non-Specific -- Poison B Solid) Extinguish fire using agent suitable for type of surrounding fire. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
1857	HEXAMETHYL DISILAZANE	BIS(TRIMETHYLSILYL)AMINE|DI(TRIMETHYLSILYL)AMINE|DISILAZANE, 1,1,1,3,3,3-HEXAMETHYL-|HEXAMETHYL DISILAZANE|HEXAMETHYLDISILAZANE|1,1,1,3,3,3-HEXAMETHYLDISILAZANE|HEXAMETHYLDISILYLAMINE|HMDS|HMDS (SILAZANE)|HMDS 3|LS 7150|OAP|SZ 6079|TSL 8802	999-97-3	A liquid. May be toxic by ingestion. Irritates skin and eyes. Vapors are heavier than air. May emit highly toxic nitrogen oxide fumes when heated to decomposition. Used to make other chemicals.	2.5	5.0	2.5	3656.0	356.0	1294.0	615.0	401.0	836.0	84.0	304.0	151.0	88.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1858	HEXAMETHYLENE DIISOCYANATE	DESMODUR H|DESMODUR N|1,6-DIISOCYANATOHEXANE|HDI|HEXAMETHYLENE DIISOCYANATE|1,6-HEXAMETHYLENE DIISOCYANATE|HEXAMETHYLENE-1,6-DIISOCYANATE|HEXAMETHYLENEDIISOCYANATE|HEXANE 1,6-DIISOCYANATE|HEXANE, 1,6-DIISOCYANATO-|1,6-HEXANEDIOL DIISOCYANATE|1,6-HEXYLENE DIISOCYANATE|HMDI|ISOCYANIC ACID, DIESTER WITH 1,6-HEXANEDIOL|ISOCYANIC ACID, HEXAMETHYLENE ESTER|TL 78	822-06-0	A colorless crystalline solid. Toxic by ingestion and is strongly irritating to skin and eyes. It is used to make nylon.	1.0	2.5	5.0	3656.0	356.0	1294.0	615.0	401.0	836.0	84.0	304.0	151.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam amy cause frothing. Fire Extinguishing Agents: Dry powder, carbon dioxide, foam (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1854	HEXAFLUOROPHOSPHORIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,4-NAPHTHOQUINONE may react with many acids and bases liberating heat and flammable gases (e.g., H2). The heat may be sufficient to start a fire in the unreacted portion of the ketone. May react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. May react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		277	
1855	HEXAFLUOROPROPYLENE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full protective clothing, preferably of aluminized glass cloth; goggles; face shield; gloves. In case of fire, all-purpose canister or self-contained breathing apparatus. (USCG, 1999)	Pyrophoric. Reacts violently with water producing flammable gas [Rose 1961].	TRIISOBUTYL ALUMINUM reacts violently with alcohols, phenols, amines, carbon dioxide, sulfur oxides, nitrogen oxides, halogens, and halogenated hydrocarbons, causing fire and explosion hazards [Handling Chemicals Safely 1980. p. 937].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7	No Water																(USCG, 1999)	Ignites spontaneously under ambient conditions			(USCG, 1999)		33.8	
1856	HEXAFLUOROPROPYLENE OXIDE	Do not touch spilled material. Eating and smoking should not be permitted in areas where it is handled, processed or stored. For small spills: sweep onto paper or other suitable material. Place in an appropriate container and burn in a safe place. Large quantities may be destroyed by dissolving in a flammable solvent (e.g., alcohol) and atomizing in a combustion chamber. (EPA, 1998)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	WARFARIN is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		322	
1857	HEXAMETHYL DISILAZANE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. May react with water slowly to produce a toxic cyanide vapor. Insoluble in water.	Isocyanates and thioisocyanates, such as PROPYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2482 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1858	HEXAMETHYLENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from oxidizers, mineral acids and bases. (NTP, 1992)	Eye protection. (USCG, 1999)	Insoluble in water.	DI-ISOBUTYL PHTHALATE reacts with acids to liberate heat along with isobutyl alcohol and phthalic acid. May react sufficiently exothermically with strong oxidizing acids to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges in handling [Handling Chemicals Safely, 1980. p. 250].			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		385								(USCG, 1999)		0.4		%	(USCG, 1999)		810		(NTP, 1992)		-83	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1854	HEXAFLUOROPHOSPHORIC ACID								(NTP, 1992)		5.46				(NTP, 1992)		1.422				(NTP, 1992)	Sublimes below 212Â° F					(NTP, 1992)		158.16						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C10H6O2		6.0	0.0	13.0	3.0	3.0
1855	HEXAFLUOROPROPYLENE														(USCG, 1999)		0.788		68		(USCG, 1999)		414		760		(USCG, 1999)		198.3											TIA	Spontaneously Combustible|Dangerous When Wet	C12H27A1		6.0	0.0	14.0	3.0	3.0
1856	HEXAFLUOROPROPYLENE OXIDE	(NIOSH, 2003)		0.09		71		mm Hg													(NIOSH, 2003)	Decomposes					(EPA, 1998)		308.32		(NIOSH, 2003)	(as warfarin)	100	mg/m3	(NIOSH, 2003)		0.002		%		Poison	C19H16O4	Cellulose-Based Absorbents	6.0	0.0	15.0	3.0	3.0
1857	HEXAMETHYL DISILAZANE																																							Poison Inhalation Hazard|Flammable Liquid	C4H7NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	45.0	3.0	3.0
1858	HEXAMETHYLENE DIISOCYANATE								(NTP, 1992)		9.59				(USCG, 1999)		1.047		68		(NTP, 1992)			563 to 568	760		(NTP, 1992)		278.38						(NTP, 1992)	Insoluble				DIT		C16H22O4		6.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1859	HEXAMETHYLENEIMINE	AZACYCLOHEPTANE|1-AZACYCLOHEPTANE|G 0|G 0 (AMINE)|HEXAHYDRO-1H-AZEPINE|HEXAHYDROAZEPINE|HEXAMETHYLENEIMINE|HEXAMETHYLENIMINE|HOMOPIPERIDINE|PERHYDROAZEPINE	111-49-9	A colorless liquid with an ammonia-like odor. Flash point 65Â°F. Toxic by ingestion. Corrosive to metals and tissue. Combustion produces toxic oxides of nitrogen.	2.5	5.0	2.5	3659.0	356.0	1297.0	615.0	401.0	837.0	84.0	305.0	151.0	88.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1860	HEXAMETHYLPHOSPHORAMIDE	EASTMAN INHIBITOR HPT|ENT 50,882|ENT 50882|HEMPA|HEXAMETAPOL|HEXAMETHYL PHOSPHORAMIDE|HEXAMETHYLORTHOPHOSPHORIC TRIAMIDE|HEXAMETHYLPHOSPHORAMIDE|HEXAMETHYLPHOSPHORIC ACID TRIAMIDE|HEXAMETHYLPHOSPHORIC TRIAMIDE|HEXAMETHYLPHOSPHOROTRIAMIDE|HEXAMETHYLPHOSPHOTRIAMIDE|HEXAMETHYLTRIAMIDOPHOSPHATE|HMPA|HMPT|HMPTA|HPT|N,N,N',N'-HEXAMETHYLPHOSPHORAMIDE|N,N,N,N,N,N-HEXAMETHYLPHOSPHORIC TRIAMIDE|PHOSPHORIC ACID HEXAMETHYLTRIAMIDE|PHOSPHORIC HEXAMETHYLTRIAMIDE|PHOSPHORIC TRIS(DIMETHYLAMIDE)|PHOSPHORYL HEXAMETHYLTRIAMIDE|TR	680-31-9	PHYSICAL DESCRIPTION: Clear colorless to light amber liquid with a spicy odor. (NTP, 1992)	2.5	5.0	2.5	3659.0	356.0	1297.0	615.0	401.0	837.0	84.0	305.0	151.0	88.0	(BLOB)	Flash point data for this compound is not available,but it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1861	HEXAZINONE	ELINONE|HEW|HEXAZINONE|SENTA|VELPAR	51235-04-2	White crystalline solid. Corrosive eye irritant. Used as an herbicide.	1.0	2.5	5.0	3659.0	356.0	1297.0	615.0	401.0	837.0	84.0	305.0	151.0	88.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
1862	HYDRAZINE, ANHYDROUS	DIAMINE|HYDRAZINE|HYDRAZINE (ANHYDROUS)|HYDRAZINE ANHYDROUS|HYDRAZINE AQUEOUS SOLUTION|HYDRAZINE BASE|HYDRAZINE, (ANHYDROUS)|HYDRAZINE, ANHYDROUS|HYDRAZINE, [ANHYDROUS]|LEVOXINE|NITROGEN HYDRIDE (N2H4)|OXYTREAT 35	302-01-2	A colorless, fuming oily liquid with an ammonia-like odor. Flash point 99Â°F. Explodes during distillation if traces of air are present. Toxic by inhalation and by skin absorption. Corrosive to tissue. Produces toxic oxides of nitrogen during combustion. Used as a rocket propellant and in fuel cells.	2.5	5.0	2.5	3659.0	356.0	1297.0	615.0	401.0	837.0	84.0	305.0	151.0	88.0	(BLOB)	Flash point data for this material are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a foam, carbon dioxide or Halon extinguisher. (NTP, 1992)
1863	HYDRAZINE, AQUEOUS SOLUTION, WITH MORE THAN 37% HYDRAZINE	HYDRAZINE, AQUEOUS SOLUTION, WITH MORE THAN 37% HYDRAZINE	302-01-2	A colorless aqueous solution. May have an ammonia-like odor. Corrosive. Irritates skin and eyes; irritation to the eyes is delayed. Toxic by ingestion and skin absorption.	2.5	5.0	2.5	3659.0	356.0	1300.0	615.0	401.0	837.0	84.0	306.0	151.0	88.0	INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush immediately with running water for at least 15 minutes. Remove and isolate contaminated clothing and shoes at the site. (USCG, 1999)	Special Hazards of Combustion Products: Fire may produce irritating and poisonous gases. Behavior in Fire: Flammable vapor may spread away from spill. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or sewers. Runoff to sewer may create fire or explosion hazard. Fire may generate toxic and irritating gases. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective since this material floats. Fire Extinguishing Agents: Small fires: dry chemical, CO_2, water spray, fog or foam; large fires: water spray, for or foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1859	HEXAMETHYLENEIMINE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as CYMENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1860	HEXAMETHYLPHOSPHORAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-TETRACOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.						0																						(NTP, 1992)		126	
1861	HEXAZINONE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Most of the isolated diacyl(including sulfonyl) peroxides are solids with relatively low decomposition temperatures, and are explosive, and sensitive to shock, heat, or friction. Several, particularly the lower members, will detonate on the slightest disturbance. Autocatalytic, self-accelerating decomposition, which is promoted by tertiary amines, is involved. A sample of ISOBUTYRYL PEROXIDE in ether was being evaporated to dryness with a stream of air when it exploded violently, [MCA Case History No. 579]. Can generate electrostatic charges. REF [Handling Chemicals Safely, 1980. p. 250].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1862	HYDRAZINE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Oxidation of O-AMINOPHTHALYL HYDRAZIDE is accompanied by a striking emission of light. (NTP, 1992). It is incompatible with strong oxidizing agents, strong reducing agents, strong acids, and strong bases [Sigma-Aldrich MSDS].						0																						(NTP, 1992)		606 to 608	
1863	HYDRAZINE, AQUEOUS SOLUTION, WITH MORE THAN 37% HYDRAZINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	1,4-PENTADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen. Can undergo exothermic polymerization reactions in the presence of various catalysts (such as acids) or initiators. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions have occurred at low temperatures in ammonia synthesis gas units. These explosions have been traced to the decomposition of addition products between dienes such as this one and oxides of nitrogen [Bretherick, 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		40																	(USCG, 1999)		-234.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1859	HEXAMETHYLENEIMINE																																								Flammable Liquid	C10H14		7.0	0.0	13.0	3.0	3.0
1860	HEXAMETHYLPHOSPHORAMIDE														(NTP, 1992)		0.7991		68		(NTP, 1992)		736.3		760		(NTP, 1992)		338.67													C24H50		6.0	0.0	12.0	3.0	3.0
1861	HEXAZINONE																																								Organic Peroxide	C8H14O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	11.0	3.0	3.0
1862	HYDRAZINE, ANHYDROUS																										(NTP, 1992)		177.16						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C8H7N3O2		9.0	0.0	45.0	3.0	3.0
1863	HYDRAZINE, AQUEOUS SOLUTION, WITH MORE THAN 37% HYDRAZINE														(USCG, 1999)		0.6608		68		(USCG, 1999)		78.8		760		(USCG, 1999)		68.13											PDN	Flammable Liquid	C5H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	45.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1864	HYDRAZINE, AQUEOUS SOLUTION, WITH NOT MORE THAN 37% HYDRAZINE	HYDRAZINE, AQUEOUS SOLUTION, WITH NOT MORE THAN 37% HYDRAZINE	302-01-2	A colorless aqueous solution containing a maximum of 37% hydrazine by mass. Has an ammonia-like odor. Corrosive. Contact may irritate skin and eyes. Toxic by ingestion and skin absorption.	2.5	5.0	2.5	3662.0	356.0	1300.0	615.0	401.0	838.0	84.0	306.0	151.0	88.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1865	HYDRAZINE, AQUEOUS SOLUTIONS, WITH MORE THAN 64% HYDRAZINE	HYDRAZINE|HYDRAZINE, AQUEOUS SOLUTIONS, WITH MORE THAN 64% HYDRAZINE|HYDRAZINE, [AQUEOUS SOLUTION, WITH >= 64% HYDRAZINE BY WEIGHT]	302-01-2	Colorless liquid with an ammonia-like odor. A violent poison. Causes delayed eye irritation. Very corrosive, attacks glass, rubber, and cork. Corrodes molybdenum steels such as Allegheny stainless 316.	2.5	5.0	2.5	3665.0	359.0	1303.0	615.0	404.0	839.0	85.0	307.0	151.0	89.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1866	HYDROXYETHYLACRYLATE	ACRYLIC ACID, 2-HYDROXYETHYL ESTER|2-(ACRYLOYLOXY)ETHANOL|BETA-HYDROXYETHYL ACRYLATE|BISOMER 2HEA|ETHYLENE GLYCOL MONOACRYLATE|HEA|2-HYDROXYETHYL 2-PROPENOATE|2-HYDROXYETHYL ACRYLATE|HYDROXYETHYLACRYLATE|LIGHT ESTER HOA|ROCRYL 420|VISCOAT 220	818-61-1	A clear colorless liquid. Less dense than water. Vapors heavier than air. Corrosive to tissue. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Used to make plastics.	2.5	5.0	2.5	3665.0	359.0	1303.0	615.0	404.0	839.0	85.0	307.0	151.0	89.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1867	HYDROXYLAMINE	HYDROXYLAMINE|OXAMMONIUM	7803-49-8	Odorless white crystalline solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3665.0	359.0	1303.0	615.0	404.0	839.0	85.0	307.0	151.0	89.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
1868	HYDROXYPROPYL ACRYLATE	ACRYLIC ACID, MONOESTER WITH 1,2-PROPANEDIOL,BETA-HYDROXYPROPYL ACRYLATE|HPA|HYDROXYPROPYL ACRYLATE|2-HYDROXYPROPYL ACRYLATE|1,2-PROPANEDIOL, MONOACRYLATE|1,2-PROPANEDIOL-1-ACRYLATE|PROPYLENE GLYCOL ACRYLATE|PROPYLENE GLYCOL MONOACRYLATE	25584-83-2	A clear colorless liquid. Toxic by inhalation and skin absorption. Corrosive to tissue. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Vapors heavier than air. Used to make plastics.	2.5	5.0	2.5	3665.0	359.0	1303.0	615.0	407.0	839.0	85.0	307.0	151.0	90.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1869	HYDROXYPROPYL METHACRYLATE	HYDROXYPROPYL METHACRYLATE|1,2-PROPANEDIOL 1-METHACRYLATE|PROPYLENE GLYCOL MONOMETHACRYLATE	27813-02-1	White liquid with a light unpleasant odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	3668.0	359.0	1303.0	615.0	410.0	840.0	85.0	307.0	151.0	91.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1870	HYPOPHOSPHOROUS ACID (CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.)	DIHYDROXYPHOSPHINE|HYDROXYPHOSPHINE OXIDE|HYPOPHOSPHOROUS ACID|HYPOPHOSPHOROUS ACID (CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.)|PHOSPHINE OXIDE, HYDROXY-|PHOSPHONOUS ACID	6303-21-5	Colorless oily liquid or deliquescent crystals with a sour odor. Density 1.439 g / cm3. Melting point 26.5Â°C. Inhalation of vapors irritates or burns the respiratory tract. Liquid and vapors may irritate or burn eyes and skin.	2.5	5.0	2.5	3671.0	362.0	1303.0	621.0	413.0	841.0	86.0	307.0	153.0	92.0	(BLOB)	Spontaneous chemical reaction may produce fire. Material is a strong oxidizer. The potential for explosion is severe, especially when exposed to heat or to powerful oxidizing or reducing agents; or when shocked or heated. It is more easily detonated than TNT. Impurities can also cause explosion. The material is highly sensitive; hydrocarbons exposed to it form exceedingly sensitive explosives. When heated to decomposition, it emits highly toxic fumes of oxides of nitrogen. Shock will explode it. Avoid hydrocarbons, aluminum, toluene, cotton, aromatic nitro compounds, alkalis, metals and rubber. Avoid impurities, shock, heat, and reducing agents. (EPA, 1998)	Do not move cargo or vehicle if cargo has been exposed to heat. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Extinguish small fires with water only, no dry chemicals or carbon dioxide. For large fires, flood the fire area with water. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1864	HYDRAZINE, AQUEOUS SOLUTION, WITH NOT MORE THAN 37% HYDRAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Reacts slowly with water to form CO2	1,4-PHENYLENE DIISOCYANATE is sensitive to moisture. This chemical is incompatible with water, strong acids, strong alkalis, strong oxidizers, alcohol, amines and other hydrogen compounds. (NTP, 1992)	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 210															(NTP, 1992)		201	
1865	HYDRAZINE, AQUEOUS SOLUTIONS, WITH MORE THAN 64% HYDRAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	This chemical darkens on exposure to air. Insoluble in water.	O-ANISIDINE is sensitive to heat. It is also sensitive to exposure to light. This chemical is incompatible with strong oxidizers. It is also incompatible with acids, acid chlorides, acid anhydrides and chloroformates. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		210															(NTP, 1992)		41	
1866	HYDROXYETHYLACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-CRESYL GLYCIDYL ETHER may attack some forms of plastics. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		200																		
1867	HYDROXYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Full face mask or amine vapor mask only if required; clean, body-covering clothing, rubber gloves, apron, boots and face shield. (USCG, 1999)	Water soluble.	DIISOPROPANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound may be sensitive to light and air. This compound will react with oxidizing materials. (NTP, 1992)			(NFPA, 2010)		3	1	0	1		(NTP, 1992)		259		(USCG, 1999)		1.1		%	(USCG, 1999)		5.4		%	(USCG, 1999)		580		(NTP, 1992)		107.6	
1868	HYDROXYPROPYL ACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as OCTACHLORODIBENZO-P-DIOXIN, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NTP, 1992)		626	
1869	HYDROXYPROPYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	Contact with strong oxidizing agents may cause fire and explosion (NTP, 1992).							0																	(NTP, 1992)		387 to 388	
1870	HYPOPHOSPHOROUS ACID (CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly Flammable. Insoluble in water.	Self-reactive. TETRANITROMETHANE is a weak, but highly sensitive explosive [Van Dolah 1967]. May decompose explosively if contaminated with combustible material. A propellant. Ignites upon contact with alcohols, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979 p.174].	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1510 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235	(EPA, 1998)	Non-combustible.				(EPA, 1998)	Non-combustible.								(EPA, 1998)		57.6	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1864	HYDRAZINE, AQUEOUS SOLUTION, WITH NOT MORE THAN 37% HYDRAZINE	(NTP, 1992)			less than 0.006	68		mm Hg							(NTP, 1992)		1.17		212		(NTP, 1992)		500		760		(NTP, 1992)		160.13						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H4N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	45.0	3.0	3.0
1865	HYDRAZINE, AQUEOUS SOLUTIONS, WITH MORE THAN 64% HYDRAZINE	(NTP, 1992)	: 1 mm Hg at 141.8Â° F		less than 0.1	68		mm Hg	(NTP, 1992)		4.25				(NTP, 1992)		1.0923		68		(NTP, 1992)		437		760		(NTP, 1992)		123.15		(NIOSH, 2003)	: A potential human carcinogen.	50	mg/m3	(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL		Poison	C7H9NO		9.0	0.0	45.0	3.0	3.0
1866	HYDROXYETHYLACRYLATE														(NTP, 1992)		1.09		68		(NTP, 1992)		498		760		(NTP, 1992)		164.21						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C10H12O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	25.0	3.0	3.0
1867	HYDROXYLAMINE	(NTP, 1992)		0.02		108		mm Hg	(NTP, 1992)		4.59				(USCG, 1999)		0.99		107.6		(NTP, 1992)		480.2		760		(NTP, 1992)		133.22						(NTP, 1992)	Soluble (>=10 mg/ml)				DIP		C6H15NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	16.0	3.0	3.0
1868	HYDROXYPROPYL ACRYLATE																				(NTP, 1992)		459.72												(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C12Cl8O2		8.0	0.0	21.0	3.0	3.0
1869	HYDROXYPROPYL METHACRYLATE	(NTP, 1992)			less than 1	68		mm Hg	(NTP, 1992)	(air=1 at boiling point of octachloronaphthalene)	13.9				(NTP, 1992)		2				(NTP, 1992)		824		760		(NTP, 1992)		403.7						(NTP, 1992)	Insoluble						C10Cl8		7.0	0.0	11.0	3.0	3.0
1870	HYPOPHOSPHOROUS ACID (CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.)	(EPA, 1998)		13		77		mm Hg	(EPA, 1998)		6.8				(EPA, 1998)		1.638		68		(EPA, 1998)		259		760		(EPA, 1998)		196.04		(NIOSH, 2003)		4	ppm	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	TNM	Poison Inhalation Hazard|Oxidizer	CN4O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	33.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1871	IMAZALIL	1-(2-(2,4-DICHLOROPHENYL)-2-(2-PROPENYLOXY)ETHYL)-1H-IMIDAZOLE|ENILCONAZOLE|IMAZALIL	35554-44-0	Slightly yellow to brown solidified oil. Non-corrosive. Used as a fungicide.	1.0	2.5	5.0	3674.0	362.0	1303.0	621.0	413.0	842.0	86.0	307.0	153.0	92.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
1872	IODINE MONOCHLORIDE	CHLORINE IODIDE|CHLORINE IODIDE (CLI)|CHLORINE MONOIODIDE|IODINE CHLORIDE|IODINE MONOCHLORIDE|IODINE(I) CHLORIDE|IODOCHLORINE|IODOMONOCHLORIDE|IODONIUM CHLORIDE|WIJS' CHLORIDE	7790-99-0	Black crystals or a reddish brown oily liquid with a pungent odor. Melting point 27Â°C (alpha form) or 14Â°C (beta form). Corrosive to metals and tissue.	1.0	2.5	5.0	3677.0	362.0	1306.0	621.0	413.0	843.0	86.0	308.0	153.0	92.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1873	IODINE PENTAFLUORIDE	IODINE PENTAFLUORIDE|PENTAFLUOROIODINE	7783-66-6	A toxic colorless fuming liquid (m.p. 9Â° C). Decomposed by water to iodine and hydrofluoric acid. Contact with organic materials may cause their ignition. Corrosive to metals and tissue. Prolonged exposure of the container to fire or heat may result in their violent rupturing and rocketing. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects.	2.5	5.0	2.5	3680.0	362.0	1309.0	621.0	413.0	844.0	86.0	309.0	153.0	92.0	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1874	IODOACETIC ACID	IA|IODOACETATE|IODOACETIC ACID|2-IODOACETIC ACID|IODOETHANOIC ACID|MIA|MONOIODOACETATE|MONOIODOACETIC ACID	64-69-7	PHYSICAL DESCRIPTION: Colorless or white crystals. (NTP, 1992)	1.0	2.5	5.0	3680.0	362.0	1309.0	621.0	413.0	844.0	86.0	309.0	153.0	92.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1875	IODOCHLOROHYDROXYQUINOLINE	ALCHLOQUIN|AMEBIL|AMOENOL|BACTOL|BARQUINOL|BUDOFORM|CHINOFORM|5-CHLORO-7-IODO-8-HYDROXYQUINOLINE|5-CHLORO-7-IODO-8-QUINOLINOL|5-CHLORO-8-HYDROXY-7-IODOQUINOLINE|CHLOROIODOQUIN|CHLOROIODOQUINE|CHLOROJODOCHIN|CIFOFORM|CLIOQUINOL|CLIQUINOL|DIOQUINOL|DIZENTERO|ECZECIDIN|EMAFORM|ENTERO-BIO FORM|ENTERO-VIOFORM|ENTEROQUINOL|ENTEROSEPTOL|ENTEROZOL|ENTERUM LOCORTEN|ENTROKIN|HI-ENTEROL|HYDRIODIDE-ENTEROL|IODENTEROL|7-IODO-5-CHLORO-8-HYDROXYQUINOLINE|7-IODO-5-CHLOROXINE|IODOCHLORHYDROXYQUIN|IODOCHLORHYDROXYQUINOL|IODOCHLORHYDROXYQUINOLINE|IODOCHLOROHYDROXYQUI	130-26-7	PHYSICAL DESCRIPTION: Cream-colored to brownish-yellow powder. Practically odorless. Decomposes at 178-179Â°C. Used as a topical anti-infective.	1.0	2.5	5.0	3680.0	362.0	1309.0	621.0	413.0	844.0	86.0	309.0	153.0	92.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1871	IMAZALIL	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Produces flammable gases and heat on contact with water. May ignite on contact with water or moist air.	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	1	4																					(NIOSH, 2003)		1220	
1872	IODINE MONOCHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	TETRA-N-PROPYL ZIRCONATE is an metal alkoxide, which is a strong base.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1873	IODINE PENTAFLUORIDE	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	OCTADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions at low temperatures in ammonia synthesis units have been traced to the addition products of dienes and nitrogen dioxide [Bretherick, 5th Ed., 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1874	IODOACETIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Can be explosive as an airborne dust at certain concentrations. Moderately soluble in water.	AMARANTH may form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																							(NTP, 1992)		greater than 572	
1875	IODOCHLOROHYDROXYQUINOLINE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Ammonium nitrate is water soluble, whereas trinitrotoluene is not.	AMATOL is an explosive mixture of AMMONIUM NITRATE and TRINITROTOLUENE. Both components react with oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, may begin a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1871	IMAZALIL	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.7				(NIOSH, 2003)		4221		760		(NIOSH, 2003)		27						(NIOSH, 2003)	Insoluble					Dangerous When Wet	AI		6.0	0.0	13.0	3.0	3.0
1872	IODINE MONOCHLORIDE																															(NIOSH, 2003)	(as Zr)	50	mg/m3							Flammable Liquid	C3H8O.I4 Zr	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	26.0	3.0	3.0
1873	IODINE PENTAFLUORIDE																																									Flammable Liquid	C8H14	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	11.0	3.0	3.0
1874	IODOACETIC ACID														(NTP, 1992)		1.5										(NTP, 1992)		604.49						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL			C20H11N2O10S3.3Na		7.0	0.0	14.0	3.0	3.0
1875	IODOCHLOROHYDROXYQUINOLINE																																									Explosive 1.1D	C7H5N3O6 (trinitrotoluene)(NH4NO3 (ammonium nitrate)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1876	IRON DEXTRAN	A 100|A 100 (PHARMACEUTICAL)|B 75|B 75 (PHARMACEUTICAL)|CHINOFER|DEXFER|DEXFERRUM|DEXTRAN IRON COMPLEX|DEXTRAN MAGNETITE|DEXTRAN-IRON OXIDE|DEXTROFER 100|DEXTROFER 75|ENDOREM|FE-DEXTRAN|FERDEX 100|FERRIC DEXTRAN|FERRIDEXTRAN|FERRODEXTRAN|FERROGLUCIN|FERROGLUCIN 75|FERROGLUKIN|FERROGLUKIN 75|IMFERON|IMPOSIL|IROJEX|IRON DEXTRAN|IRON-DEXTRAN INJECTION|IRON-DEXTRAN COMPLEX|IRONORM INJECTION|MYOFER 100|NONEMIC|POLYFER|PROFEREDEX|PROLONGAL|SHU 555|URSOFERRAN	9004-66-4	PHYSICAL DESCRIPTION: Dark reddish-brown liquid. Colloidal suspension of an iron-dextran complex in water. pH 5.2-6.5.	2.5	5.0	2.5	3680.0	362.0	1312.0	621.0	413.0	844.0	86.0	310.0	153.0	92.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
1877	ISOAMYL NITRITE	AMYL NITRITE|ASPIRAL|ISOAMYL NITRITE|ISOPENTYL ALCOHOL, NITRITE|ISOPENTYL NITRITE|3-METHYLBUTANOL NITRITE|3-METHYLBUTYL NITRITE|NITRAMYL|NITROUS ACID, 3-METHYLBUTYL ESTER|NITROUS ACID, ISOPENTYL ESTER|VAPOROLE	110-46-3	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	3683.0	362.0	1312.0	621.0	413.0	845.0	86.0	310.0	153.0	92.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1878	ISOBUTYL ACRYLATE	ACRYLIC ACID, ISOBUTYL ESTER|ISO-BUTYL ACRYLATE|ISOBUTYL 2-PROPENOATE|ISOBUTYL ACRYLATE|ISOBUTYL ACRYLATE, INHIBITED|ISOBUTYL PROPENATE|ISOBUTYL-2-PROPENOATE|2-PROPENOIC ACID, 2-METHYLPROPYL ESTER|Z-METHYLPROPYL ACRYLATE	106-63-8	A clear colorless liquid with an acrid odor. Flash point 86Â°F. Less dense than water. Vapors irritate eyes and respiratory system. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a container, the container may rupture violently.	2.5	5.0	2.5	3686.0	362.0	1315.0	621.0	413.0	846.0	86.0	311.0	153.0	92.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1879	ISOBUTYL ALDEHYDE	ALPHA-METHYLPROPIONALDEHYDE|BUTYRALDEHYDE (NORMAL AND ISO)|DIMETHYLACETALDEHYDE|2-FORMYLPROPANE|ISO-BUTYRALDEHYDE|ISOBUTALDEHYDE|ISOBUTANAL|ISOBUTYL ALDEHYDE|ISOBUTYLALDEHYDE|ISOBUTYRAL|ISOBUTYRALDEHYDE|ISOBUTYRIC ALDEHYDE|ISOBUTYRYL ALDEHYDE|ISOPROPYL ALDEHYDE|ISOPROPYL FORMALDEHYDE|ISOPROPYLCARBOXALDEHYDE|ISOPROPYLFORMALDEHYDE|2-METHYL-1-PROPANAL|2-METHYLPROPANAL|2-METHYLPROPIONALDEHYDE|NCI-C60968|PROPANAL, 2-METHYL-|PROPIONALDEHYDE, 2-METHYL-|VALINE ALDEHYDE	78-84-2	A clear colorless liquid with a pungent odor. Flash point of -40Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. Used to make other chemicals.	2.5	5.0	2.5	3689.0	362.0	1315.0	621.0	413.0	847.0	86.0	311.0	153.0	92.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1880	ISOBUTYL CHLOROFORMATE	CHLOROCARBONIC ACID ISOBUTYL ESTER|CHLOROFORMIC ACID ISOBUTYL ESTER|FORMIC ACID, CHLORO-, ISOBUTYL ESTER|ISOBUTOXYCARBONYL CHLORIDE|ISOBUTYL CHLOROCARBONATE|ISOBUTYL CHLOROFORMATE|ISOBUTYLOXYCARBONYL CHLORIDE|2-METHYLPROPYL CARBONOCHLORIDATE|2-METHYLPROPYL CHLOROFORMATE	543-27-1	A colorless to light-colored liquid. Insoluble in water and denser than water. Very corrosive to skin, eyes, and mucous membranes. Very toxic by ingestion, inhalation and skin absorption. Combustible.	2.5	5.0	2.5	3692.0	365.0	1315.0	621.0	416.0	848.0	87.0	311.0	153.0	93.0	(BLOB)	Special Hazards of Combustion Products: Poisonous vapors including hydrogen chloride gas, chlorocarbons, chlorine (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1876	IRON DEXTRAN	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	OCTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1877	ISOAMYL NITRITE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	OCTYL ACID PHOSPHATE are organophosphates. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1878	ISOBUTYL ACRYLATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water and slightly more dense than water.	Nitroalkanes, such as OCTYL NITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames.	Strong Oxidizing Agent	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1879	ISOBUTYL ALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as OCTYL PHENYL ACID PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1880	ISOBUTYL CHLOROFORMATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	O-DICHLOROBENZENE is sensitive to prolonged exposure to light. This chemical can react vigorously with oxidizers. It is incompatible with aluminum and aluminum alloys. It attacks some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		151		(NTP, 1992)		2.2		%	(NTP, 1992)		9.2		%	(USCG, 1999)		1198		(NTP, 1992)		1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1876	IRON DEXTRAN																																								Non-Flammable Gas	C3F8		8.0	0.0	17.0	3.0	3.0
1877	ISOAMYL NITRITE																																								Corrosive	C8H18O.xH3O4P		7.0	0.0	20.0	3.0	3.0
1878	ISOBUTYL ACRYLATE																																								Flammable Liquid	C8H17NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1879	ISOBUTYL ALDEHYDE																																								Corrosive	C20H27O4P		9.0	0.0	22.0	3.0	3.0
1880	ISOBUTYL CHLOROFORMATE	(NTP, 1992)	; 1.5 mm Hg at 77Â° F	1		68		mm Hg	(NTP, 1992)		5.05				(USCG, 1999)		1.306		68		(NTP, 1992)		356.9		760		(NTP, 1992)		147		(NIOSH, 2003)		200	ppm	(NTP, 1992)	at 76.1Â° F		less than 1	mg/mL	DBO	Poison	C6H4Cl2		8.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1881	ISOBUTYL ISOBUTYRATE	ISOBUTYL ISOBUTANOATE|ISOBUTYL ISOBUTYRATE|ISOBUTYL ISOBUTYRATE, [FLAMMABLE LIQUID]|ISOBUTYRIC ACID, ISOBUTYL ESTER|2-METHYLPROPIONIC ACID ISOBUTYL ESTER|2-METHYLPROPYL 2-METHYLPROPANOATE|2-METHYLPROPYL 2-METHYLPROPIONATE|2-METHYLPROPYL ISOBUTYRATE	97-85-8	A colorless liquid with a pleasant fruity odor. Moderately toxic by inhalation. Insoluble in water and floats on water, but soluble in alcohol and ethers. It is used as a flavoring and in the manufacture of insecticides.	2.5	5.0	2.5	3692.0	365.0	1315.0	627.0	416.0	848.0	87.0	311.0	155.0	93.0	(BLOB)	Component 1 is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1882	ISOBUTYL PROPIONATE	ISOBUTYL PROPANOATE|ISOBUTYL PROPIONATE|2-METHYLPROPYL PROPANOATE|2-METHYLPROPYL PROPIONATE|PROPIONIC ACID, ISOBUTYL ESTER	540-42-1	A colorless liquid. Less dense than water. Vapors heavier than air. May be mildly toxic by ingestion, inhalation and skin absorption. Used to make plastics.	2.5	5.0	2.5	3692.0	368.0	1315.0	633.0	419.0	848.0	88.0	311.0	157.0	94.0	INGESTION: do NOT induce vomiting. ASPIRATION: enforce bed rest; administer oxygen; seek medical attention. EYES: wash with copious quantity of water. SKIN: remove solvent by wiping and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
1883	ISOBUTYLAMINE	1-AMINO-2-METHYLPROPANE|ISO-BUTYLAMINE|ISOBUTYLAMINE|2-METHYL-1-AMINOPROPANE|2-METHYL-1-PROPANAMINE|3-METHYL-2-PROPYLAMINE|2-METHYLPROPANAMINE|2-METHYLPROPYLAMINE|MONOISOBUTYLAMINE|VALAMINE	78-81-9	A clear colorless liquid with a fishlike odor. Flash point 15Â°F. Less dense (6.1 lb / gal) than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3692.0	368.0	1315.0	639.0	419.0	848.0	88.0	311.0	159.0	94.0	ASPIRATION: enforced bed rest; administer oxygen; call a doctor. INGESTION: do NOT induce vomiting; have victim drink water or milk. EYES: wash with copious amounts of water. SKIN: wipe off, wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
1884	ISOBUTYRIC ACID	ALPHA-METHYLPROPANOIC ACID|ALPHA-METHYLPROPIONIC ACID|DIMETHYLACETIC ACID|I-BUTYRIC ACID|ISO-BUTYRIC ACID|ISOBUTANOIC ACID|ISOBUTYRIC ACID|ISOPROPYLFORMIC ACID|2-METHYLPROPANOIC ACID|2-METHYLPROPIONIC ACID|PROPANE-2-CARBOXYLIC ACID	79-31-2	A colorless liquid with a light odor of rancid butter. Corrosive to metals and tissue.	2.5	5.0	2.5	3692.0	368.0	1315.0	639.0	419.0	848.0	88.0	311.0	159.0	94.0			Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
1885	ISOBUTYRIC ANHYDRIDE	ISOBUTANOIC ANHYDRIDE|ISOBUTYRIC ACID ANHYDRIDE|ISOBUTYRIC ANHYDRIDE|ISOBUTYRYL ANHYDRIDE|2-METHYLPROPANOIC ANHYDRIDE|2-METHYLPROPIONIC ANHYDRIDE	97-72-3	A colorless liquid. Burns skin and eyes. Vapors are heavier than air.	2.5	5.0	2.5	3692.0	368.0	1315.0	642.0	419.0	848.0	88.0	311.0	160.0	94.0	ASPIRATION: enforce bed rest; administer oxygen; call a doctor. INGESTION: do NOT induce vomiting; call a doctor. EYES: wash with copious amounts of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
1886	ISOBUTYRONITRILE	ALPHA-METHYLPROPANENITRILE|ALPHA-METHYLPROPIONITRILE|1-CYANO-1-METHYLETHANE|2-CYANOPROPANE|DIMETHYLACETONITRILE|IBN|ISOBUTANENITRILE|ISOBUTYRONITRILE|ISOPROPYL CYANIDE|ISOPROPYL NITRILE|ISOPROPYLCYANIDE|2-METHYLPROPANE NITRILE|2-METHYLPROPANENITRILE|2-METHYLPROPIONITRILE|PROPANENITRILE, 2-METHYL-|PROPANOIC ACID, 2-METHYL-, NITRILE	78-82-0	A clear colorless liquid. Flash point 47Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	INGESTION: do NOT induce vomiting. ASPIRATION: check for delayed irritation by serial X-rays. EYES: wash with copious amounts of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
1887	ISOBUTYRYL CHLORIDE	ALPHA-METHYLPROPIONYL CHLORIDE|CHLORO ISOPROPYL KETONE|DIMETHYLACETYL CHLORIDE|ISOBUTANOYL CHLORIDE|ISOBUTYRIC ACID CHLORIDE|ISOBUTYROYL CHLORIDE|ISOBUTYRYL CHLORIDE|2-METHYLPROPANOYL CHLORIDE|2-METHYLPROPIONYL CHLORIDE	79-30-1	A colorless liquid. Irritates skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	EYES: flush with water for at least 15 min. INGESTION: do NOT induce vomiting. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing; water may be ineffective. Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1881	ISOBUTYL ISOBUTYRATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in OFFSET NEWS BLACK NEWSPRINT INK, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.							0		(NTP, 1992)	Component 1 (52-65%: MINERAL OIL)	380	(NTP, 1992)	Component 1 (52-65%: MINERAL OIL)	5		%	(NTP, 1992)	Component 1 (52-65%: MINERAL OIL)	0.8		%	(NTP, 1992)	Component 1 (52-65%: MINERAL OIL)	540					
1882	ISOBUTYL PROPIONATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	May be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		125	(USCG, 1999)		1.3		%	(USCG, 1999)		6		%				(USCG, 1999)		0	
1883	ISOBUTYLAMINE		Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	OIL, [MINERAL SEAL] may be ignited by with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of the oil and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Burns exothermically when heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents.							0		(USCG, 1999)		170 to 275												(USCG, 1999)		10	
1884	ISOBUTYRIC ACID			Insoluble in water.	OIL, [ROSIN] contains unsaturated aliphatic hydrocarbons. May react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		255 to 390										(USCG, 1999)		648				
1885	ISOBUTYRIC ANHYDRIDE		Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in OIL, [SPRAY], may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.							0		(USCG, 1999)	(min.)	140	(USCG, 1999)		0.6		%	(USCG, 1999)		4.6		%	(USCG, 1999)		475				
1886	ISOBUTYRONITRILE		Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in OIL, [TRANSFORMER], may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.							0		(USCG, 1999)		295												(USCG, 1999)		-75	
1887	ISOBUTYRYL CHLORIDE		Goggles or face shield; rubber gloves. (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: COCONUT react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Reacts slowly with air to become rancid.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)	(crude) 580Â° F (cc); (refined) 420Â° F (cc)													(USCG, 1999)		76	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1881	ISOBUTYL ISOBUTYRATE																										(NTP, 1992)	(Component 2, 16-18%: CARBON BLACK)	12.011						(NTP, 1992)	at 66Â° F		less than 1	mg/mL					7.0	0.0	17.0	3.0	3.0
1882	ISOBUTYL PROPIONATE														(USCG, 1999)			0.87 to 0.90	68		(USCG, 1999)			540 to 640	760														OTD	Flammable Liquid			8.0	0.0	13.0	3.0	3.0
1883	ISOBUTYLAMINE														(USCG, 1999)			0.811 to 0.825	59		(USCG, 1999)			greater than 500	760														OMS				7.0	0.0	15.0	3.0	3.0
1884	ISOBUTYRIC ACID														(USCG, 1999)			0.96 to 1.02	59		(USCG, 1999)			572 to 750	760														ORN			Dirt/Earth	7.0	0.0	18.0	3.0	3.0
1885	ISOBUTYRIC ANHYDRIDE														(USCG, 1999)		0.82		59		(USCG, 1999)			590 to 700	760														OSY				7.0	0.0	11.0	3.0	3.0
1886	ISOBUTYRONITRILE														(USCG, 1999)		0.891		59		(USCG, 1999)	Very high																OTF				7.0	0.0	11.0	3.0	3.0
1887	ISOBUTYRYL CHLORIDE														(USCG, 1999)		0.922		77																					OCC			Dirt/Earth	9.0	0.0	26.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1888	ISOCYANIC ACID, 3,4-DICHLOROPHENYL ESTER	BENZENE, 1,2-DICHLORO-4-ISOCYANATO-|1,2-DICHLORO-4-ISOCYANATOBENZENE|3,4-DICHLOROPHENYL ISOCYANATE|ISOCYANIC ACID, 3,4-DICHLOROPHENYL ESTER	102-36-3	White to yellow solid. Used as a chemical intermediate and in organic synthesis. (EPA, 1998)	1.0	2.5	5.0	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1889	ISODECYL ACRYLATE	ISODECYL ACRYLATE	1330-61-6	Colorless liquid with a weak odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	EYES: flush with water for at least 15 min. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
1890	ISODECYL METHACRYLATE	AGEFLEX FM-10|ISODECYL METHACRYLATE|METHACRYLIC ACID, ISODECYL ESTER	29964-84-9	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
1891	ISOEUGENOL	1-HYDROXY-2-METHOXY-4-PROPENYL-(CIS)BENZENE|4-HYDROXY-3-METHOXY-1-PROPENYLBENZENE|ISO-EUGENOL|ISOEUGENOL|2-METHOXY-4-(1-PROPENYL)PHENOL|1-(3-METHOXY-4-HYDROXYPHENYL)-1-PROPENE|2-METHOXY-4-PROPENYLPHENOL|NCI-C60979|PHENOL, 2-METHOXY-4-PROPENYL-|4-PROPENYLGUAIACOL	97-54-1	PHYSICAL DESCRIPTION: Pale yellow oily liquid with a spice-clove odor. Freezes at 14Â°F. Density 1.08 g / cm3. Occurs in ylang-ylang oil and other essential oils.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing; water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
1892	ISOPENTANOIC ACID	ACETIC ACID, ISOPROPYL-|BETA-METHYLBUTYRIC ACID|DELPHINIC ACID|ISOPENTANOIC ACID|ISOPROPYLACETIC ACID|ISOVALERIANIC ACID|ISOVALERIC ACID|3-METHYL-N-BUTYRIC ACID|3-METHYLBUTANOIC ACID|3-METHYLBUTYRATE|3-METHYLBUTYRIC ACID	503-74-2	Isopentanoic acid is a colorless liquid with a penetrating odor. It is slightly soluble in water. It is corrosive to metals and to tissue.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	INGESTION: have victim drink water or milk; do NOT induce vomiting. EYES: flush with plenty of water for at least 15 min.; call a doctor. SKIN: flush with plenty of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating vapors are generated. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1893	ISOPHORONE DIISOCYANATE	CYCLOHEXANE, 5-ISOCYANATO- 1-(ISOCYANATOMETHYL)-1,3,3-TRIMETHYL-|IPDI|5-ISOCYANATO-1-(ISOCYANATOMETHYL)-1,3,3-TRIMETHYL CYCLOHEXANE|5-ISOCYANATO-1-(ISOCYANATOMETHYL)-1,3,3-TRIMETHYLCYCLOHEXANE|1-ISOCYANATO-3,3,5-TRIMETHYL-5-(ISOCYANATOMETHYL)CYCLOHEXANE|1-ISOCYANATO-3-(ISOCYANATOMETHYL)-3,5,5-TRIMETHYLCYCLOHEXANE|1-ISOCYANATO-5-(ISOCYANATOMETHYL)-3,3,5-TRIMETHYLCYCLOHEXANE|3-(ISOCYANATOMETHYL)-3,5,5-TRIMETHYLCYCLOHEXYL ISOCYANATE|1-(ISOCYANATOMETHYL)-5-ISOCYANATO-1,3,3-	4098-71-9	A clear to light-yellow liquid. Slightly denser than water and insoluble in water. Toxic by inhalation and skin absorption. Very irritating to skin. Used to make polyurethane coatings.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	(BLOB)	This compound is flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1888	ISOCYANIC ACID, 3,4-DICHLOROPHENYL ESTER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield, protective clothing (USCG, 1999)	Water soluble. Hygroscopic.	AMINOETHYLETHANOLAMINE is an amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This chemical is hygroscopic.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		216		(USCG, 1999)	(calc.)	1		%	(USCG, 1999)	(calc.)	8		%	(USCG, 1999)		695					
1889	ISODECYL ACRYLATE		Goggles or face shield. (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: PEANUT react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.						0		(USCG, 1999)		540										(USCG, 1999)		833		(USCG, 1999)		28	
1890	ISODECYL METHACRYLATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	OILS, EDIBLE: VEGETABLE react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.						0		(USCG, 1999)		610																	
1891	ISOEUGENOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at ambient temperatures. (NTP, 1992)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	OILS, MISCELLANEOUS: LINSEED react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React with oxygen in the air to harden. Can react with air fast enough to cause ignition of near-by combustible material if the heat builds up in an unventilated space (called "spontaneous combustion" in oily rags).			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		432										(USCG, 1999)		650		(NTP, 1992)		-2	
1892	ISOPENTANOIC ACID	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Respirator approved for acid mists; rubber gloves; splashproof goggles; eyewash fountain and safety shower; rubber footwear; face shield. (USCG, 1999)	Fumes in air. Soluble in water; dissolution generates dangerous amounts of heat that can cause localized boiling and spattering of the acidic mixture and generate heavy fumes, mists. During sulfonation of mononitrobenzene with fuming sulfuric acid, a leak from an internal cooling coil permitted water to enter the reaction tank. A violent eruption occurred due to the heat of solution [MCA Case History 944(1963)].	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																(USCG, 1999)	Not flammable						
1893	ISOPHORONE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Aldehydes, such as O-METHOXYCINNAMALDEHYDE, are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.						0		(NTP, 1992)		greater than 200														(NTP, 1992)		111 to 115	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1888	ISOCYANIC ACID, 3,4-DICHLOROPHENYL ESTER	(NTP, 1992)			less than 0.01	68		mm Hg	(NTP, 1992)		3.59				(USCG, 1999)		1.028		77		(NTP, 1992)			460 to 464	760		(NTP, 1992)		104.18						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	AEE	Corrosive	C4H12N2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	16.0	3.0	3.0
1889	ISODECYL ACRYLATE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.919		68		(USCG, 1999)	Very high																	OPN			Dirt/Earth	5.0	0.0	11.0	3.0	3.0
1890	ISODECYL METHACRYLATE														(USCG, 1999)		0.923		77		(USCG, 1999)	Very high					(NIOSH, 2003)	varies							(NIOSH, 2003)	Insoluble				OVG			Dirt/Earth	6.0	0.0	13.0	3.0	3.0
1891	ISOEUGENOL														(USCG, 1999)		0.932		68		(NTP, 1992)		649		760										(NTP, 1992)	at 68Â° F		less than 1	mg/mL	OLS			Dirt/Earth	9.0	0.0	16.0	3.0	3.0
1892	ISOPENTANOIC ACID														(USCG, 1999)		1.91 to 1.97		59																				OLM	Corrosive	H2SO4.SO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	17.0	3.0	3.0
1893	ISOPHORONE DIISOCYANATE																										(NTP, 1992)		162.2						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C10H10O2	Cellulose-Based Absorbents|Dirt/Earth	7.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1894	ISOPHORONEDIAMINE	5-AMINO-1,3,3-TRIMETHYLCYCLOHEXANEMETHANAMINE|5-AMINO-1,3,3-TRIMETHYLCYCLOHEXANEMETHYLAMINE|1-AMINO-3,3,5-TRIMETHYL-5-AMINOMETHYLCYCLOHEXANE|1-AMINO-3-(AMINOMETHYL)-3,5,5-TRIMETHYLCYCLOHEXANE|3-AMINOMETHYL-3,5,5-TRIMETHYLCYCLOHEXYLAMINE|ARALDITE HY 5083|CHEMAMMINA CA 17|CYCLOHEXANEMETHYLAMINE, 5-AMINO-1,3,3-TRIMETHYL-|IPD|ISOPHORONE DIAMINE|ISOPHORONEDIAMINE|LUXAM IPD|1,3,3-TRIMETHYL-1-AMINOMETHYL-5-AMINOCYCLOHEXANE|3,3,5-TRIMETHYL-5-AMINOMETHYLCYCLOHEXYLAMINE|VESTAMIN IPD	2855-13-2	A clear to light-yellow liquid. Highly soluble though slightly denser than water. May be toxic by inhalation and skin absorption. Corrosive to skin. Used to make other chemicals.	2.5	5.0	2.5	3692.0	368.0	1315.0	645.0	419.0	848.0	88.0	311.0	161.0	94.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1895	ISOPROPYL CHLOROFORMATE	CARBONOCHLORIDE ACID, 1-METHYLETHYL ESTER|CARBONOCHLORIDIC ACID, 1-METHYLETHYL ESTER|CHLOROFORMIC ACID ISOPROPYL ESTER|FORMIC ACID, CHLORO-, ISOPROPYL ESTER|ISOPROPYL CHLOROCARBONATE|ISOPROPOYL CHLOROFORMATE|ISOPROPYL CHLOROMETHANOATE|1-METHYLETHYL CHLOROFORMATE|2-PROPYL CHLOROFORMATE	108-23-6	A clear colorless volatile liquid with a pungent irritating odor. About the same density as water and insoluble in water. Floats on water Very irritating to skin and eyes and very toxic by inhalation, ingestion and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3695.0	368.0	1318.0	645.0	419.0	849.0	88.0	312.0	161.0	94.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes may be generated. Behavior in Fire: Generates toxic fumes. (USCG, 1999)	Fire Extinguishing Agents: Water, CO 2 , and dry chemical (USCG, 1999)
1896	ISOPROPYL ISOCYANATE	2-ISOCYANATOPROPANE|ISOCYANIC ACID, ISOPROPYL ESTER|ISOPROPYL ISOCYANATE|1-METHYLETHYL ISOCYANATE|N-ISOPROPYL ISOCYANATE	1795-48-8	A colorless liquid with a pungent odor. Insoluble in water. Very toxic by ingestion and inhalation. Vapors are heavier than air. Used to make other chemicals.	2.5	5.0	2.5	3695.0	368.0	1318.0	645.0	419.0	849.0	88.0	312.0	161.0	94.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1897	ISOPROTERENOL HYDROCHLORIDE	(BLOB)	51-30-9	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Slightly bitter taste. Aqueous solutions turn brownish-pink upon prolonged exposure to air. (NTP, 1992)	1.0	2.5	5.0	3698.0	368.0	1318.0	645.0	419.0	850.0	88.0	312.0	161.0	94.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1898	ISOVALERALDEHYDE	ISOVALERAL|ISOVALERALDEHYDE|ISOVALERIC ALDEHYDE|3-METHYLBUTANAL|3-METHYLBUTYRALDEHYDE	590-86-3	Colorless liquid with a weak suffocating odor. Floats on water. Produces an irritating vapor. (USCG, 1999)	2.5	5.0	2.5	3701.0	368.0	1318.0	645.0	419.0	851.0	88.0	312.0	161.0	94.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1899	L-5-HYDROXYTRYPTOPHAN	5-HTP|5-HYDROXY-L-TRYPTOPHAN|5-HYDROXYL-L-TRYPTOPHAN|HYDROXYTRYPTOPHAN|5-HYDROXYTRYPTOPHANE|L-5-HYDROXYTRYPTOPHAN|NC1-C56644|OXITRIPTAN|PRETONINE|QUIETIM|TRYPTOPHAN, 5-HYDROXY-, L-|USAF CB-96	4350-09-8	PHYSICAL DESCRIPTION: Colorless to pale pink crystals. (NTP, 1992)	1.0	2.5	5.0	3704.0	368.0	1318.0	645.0	419.0	852.0	88.0	312.0	161.0	94.0	(BLOB)	Literature sources indicate that this compound is non-combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1894	ISOPHORONEDIAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and air, and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air and light (darkens). Slightly water soluble.	O-METHOXYPHENOL may react with oxidizing materials. It forms salts readily with bases. (NTP, 1992)							0		(NTP, 1992)		180															(NTP, 1992)	SOLIDIFIES at 82.4Â° F		
1895	ISOPROPYL CHLOROFORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	O-NITROTOLUENE is toxic by inhalation, ingestion and skin aborption, targeting the blood, central nervous system, skin, and gastrointestinal tract. Symptoms include, anoxia, weakness or dizziness, nausea and vomiting. If it contacts the eye, the eye should be irrigated immediately. If it contacts the skin, the area should be washed with soap. If inhaled, respiratory support should be administered. Finally, if ingested, medical attention should be sought. It also reacts with sulfuric acid, sodium hydroxide, hydrogen, sodium, tetranitromethane, reducing agents and strong oxidizers. It is very heat sensitive.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(NTP, 1992)		223		(NTP, 1992)		2.1		%						(NTP, 1992)		581		(NTP, 1992)		14.9	
1896	ISOPROPYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	(BLOB)					0																	(NTP, 1992)			653 to 655
1897	ISOPROTERENOL HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in water.	DIMETHIPIN slowly decomposes in water to form toxic or flammable products. The decomposition is accelerated by acids. May react with aldehydes, nitrides, and hydrides to generate flammable gases. Reacts with aldehydes, nitrides, and hydrides. Incompatible with acids, peroxides, and acid halides.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1898	ISOVALERALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as O-TOLUNITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		184																	(NTP, 1992)		7.7	
1899	L-5-HYDROXYTRYPTOPHAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	(BLOB)	Water soluble. Aqueous solutions are neutral. Dust may form an explosive mixture in air.	AMITROLE is a triazole derivative. The triazoles are a group that contain several derivatives that are highly explosive materials. They are sensitive to heat, friction, and impact. Sensitivity varies with the type substitution to the triazole ring. Metal chelated and halogen substitution of the triazole ring make for a particularly heat sensitive material. Azido and nitro derivatives have been employed as high explosives. No matter the derivative these materials should be treated as explosives. AMITROLE forms chelates with some metals. It is corrosive to iron, copper and aluminum. Forms salts with most acids and alkalis. This compound is incompatible with strong oxidizers, strong acids, acid chlorides and acid anhydrides (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		318	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1894	ISOPHORONEDIAMINE	(NTP, 1992)		5		174		mm Hg	(NTP, 1992)		4.27				(NTP, 1992)		1.13		70.5		(NTP, 1992)			399 to 403	760		(NTP, 1992)		124.15						(NTP, 1992)	Slightly soluble						C7H8O2		8.0	0.0	12.0	3.0	3.0
1895	ISOPROPYL CHLOROFORMATE	(NTP, 1992)	; 0.25 mm Hg at 86Â° F; 1.6 mm Hg at 140Â° F	0.1		68		mm Hg	(NTP, 1992)		4.72				(USCG, 1999)		1.1622		66.2		(NTP, 1992)		431.1		760		(NTP, 1992)		137.15		(NIOSH, 2003)		200	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	NIE	Poison	C7H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	20.0	3.0	3.0
1896	ISOPROPYL ISOCYANATE																									(NTP, 1992)		156.1						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C5H4N2O4	Dirt/Earth	8.0	0.0	18.0	3.0	3.0
1897	ISOPROTERENOL HYDROCHLORIDE																																							Poison	C6H10O4S2	Dirt/Earth	5.0	0.0	12.0	3.0	3.0
1898	ISOVALERALDEHYDE														(NTP, 1992)		0.9955		68		(NTP, 1992)		401		760		(NTP, 1992)		117.16						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Corrosive	C8H7N		7.0	0.0	22.0	3.0	3.0
1899	L-5-HYDROXYTRYPTOPHAN	(NTP, 1992)		4.41E-07		68		mm Hg							(NTP, 1992)		1.138		68								(NTP, 1992)		84.08		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 63.5Â° F		greater than or equal to 100	mg/mL		Class 9	C2H4N4		8.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1900	L-ARGINYL-L-GLUTAMATE	ARGIMATE|ARGININE GLUTAMATE|ARGININE, GLUTAMATE, L-|ARGININE, L-, L-GLUTAMATE (1:1)|ARGININE, L-, SALT WITH L-GLUTAMIC ACID (1:1)|GINAMATE|GLUTAMIC ACID COMPD WITH L-ARGININE|GLUTAMIC ACID COMPOUND WITH ARGININE|GLUTAMIC ACID, L-, COMPOUND WITH L-ARGININE|GLUTAMIC ACID, L-, COMPOUND WITH L-ARGININE (1:1)|GLUTARGIN|GLUTEPAR|L-ARGININE, L-GLUTAMATE (1:1)|L-ARGINYL-L-GLUTAMATE|L-GLUTAMATE, L-ARGINYL-|L-GLUTAMIC ACID, COMPOUND WITH L-ARGININE|MODUMATE|NCI-C02120	4320-30-3	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	3704.0	368.0	1318.0	645.0	419.0	852.0	88.0	312.0	161.0	94.0	(BLOB)	Mixing of ammonia with several chemicals can cause severe fire hazards and/or explosions. Ammonia in container may explode in heat of fire. Incompatible with many materials including silver and gold salts, halogens, alkali metals, nitrogen trichloride, potassium chlorate, chromyl chloride, oxygen halides, acid vapors, azides, ethylene oxide, picric acid and many other chemicals. Mixing with other chemicals and water. Hazardous polymerization may not occur. (EPA, 1998)	Wear positive pressure breathing apparatus and full protective clothing. Small fires: dry chemical or carbon dioxide. Large fires: water spray, fog or foam. Apply water gently to the surface. Do not get water inside container. Move container from fire area if you can do it without risk. Stay away from ends of tanks. Cool containers that are exposed to flames with water from the side until well after fire is out. Isolate area until gas has dispersed. (EPA, 1998)
1901	LAURYL CHLORIDE	1-CHLORODOCECANE|1-CHLORODODECANE|DODECYL CHLORIDE|1-DODECYL CHLORIDE|LAURYL CHLORIDE|N-DODECYL CHLORIDE|N-LAURYL CHLORIDE|PRIM-N-DODECYLCHLORIDE	112-52-7	PHYSICAL DESCRIPTION: Clear colorless oily liquid. (NTP, 1992)	2.5	5.0	2.5	3704.0	368.0	1318.0	645.0	419.0	852.0	88.0	312.0	161.0	94.0	(BLOB)		
1902	LAURYL ETHANOLAMIDE	ALKAMIDE L 203|AMISOL LME|COMPERLAN LMC|OPRAMYL|CRILLON LME|CYCLOMIDE LM|2-DODECANAMIDOETHANOL|LAURAMIDE MEA|LAURIC ACID ETHANOLAMIDE|LAURIC ACID MONOETHANOLAMIDE|LAURIC ACID MONOETHANOLAMINE|LAURIC ETHYLOLAMIDE|LAURIC MONOETHANOLAMIDE|LAURIC N-(2-HYDROXYETHYL)AMIDE|LAURIDIT LM|LAUROYL MONOETHANOLAMIDE|LAUROYLETHANOLAMIDE|LAURYL ETHANOLAMIDE|LAURYL MONOETHANOLAMIDE|LAURYLAMIDOETHANOL|LAURYLETHANOLAMIDE|N-(2-HYDROXYETHYL)DODECANAMIDE|N-(2-HYDROXYETHYL)DODECANEAMIDE|N-(2-	142-78-9	PHYSICAL DESCRIPTION: Cream-colored flakes. (NTP, 1992)	1.0	2.5	5.0	3707.0	368.0	1321.0	645.0	419.0	853.0	88.0	313.0	161.0	94.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1903	LAURYL MERCAPTAN	1-DODECANETHIOL|DODECYL MERCAPTAN|1-DODECYL MERCAPTAN|LAURYL MERCAPTAN|1-MERCAPTODODECANE|N-DODECANETHIOL|N-DODECYL MERCAPTAN|N-DODECYLTHIOL|N-LAURYL MERCAPTAN|NCI-C60935	112-55-0	Oily colorless liquid with a mild skunk odor. Freezing point 19Â°F. (USCG, 1999)	2.5	5.0	2.5	3707.0	368.0	1321.0	651.0	419.0	853.0	88.0	313.0	163.0	94.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1904	LEAD DIOXIDE	C.I. 77580|LEAD BROWN|LEAD DIOXIDE|LEAD OXIDE|LEAD OXIDE BROWN|LEAD PEROXIDE|LEAD PEROXIDE (PBO2)|LEAD SUPEREROXIDE|LEAD SUPEROXIDE|LEAD(IV) OXIDE|PLUMBIC ACID|PLUMBIC OXIDE	1309-60-0	Brown, hexagonal crystals. Insoluble in water. Used in matches, explosives, electrodes.	1.0	2.5	5.0	3710.0	368.0	1321.0	651.0	419.0	854.0	88.0	313.0	163.0	94.0	Call a physician. INHALATION: Remove to fresh air. (USCG, 1999)	Behavior in Fire: Moderate fire and explosion hazards when exposed to heat or flame (USCG, 1999)	
1905	LEAD FLUORIDE	LEAD DIFLUORIDE|LEAD DIFLUORIDE (PBF2)|LEAD FLUORIDE|LEAD(2+) FLUORIDE|PLUMBOUS FLUORIDE	7783-46-2	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	3713.0	368.0	1321.0	651.0	419.0	855.0	88.0	313.0	163.0	94.0	INHALATION: leave contaminated area. INGESTION: give large amount of water. EYES: flush with copious amounts of water. SKIN: (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia gas will form in fires. Behavior in Fire: Decomposes, but reaction is not explosive. Ammonia gas is formed. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1900	L-ARGINYL-L-GLUTAMATE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water with evolution of heat. The amount of heat generated may be large.	(BLOB)	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1005 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1						(EPA, 1998)		16		%	(EPA, 1998)		25		%	(USCG, 1999)		1204		(EPA, 1998)		-107.9	
1901	LAURYL CHLORIDE		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	3,3-BIS(CHLOROMETHYL)OXETANE is a chlorinated ether.								0																			(EPA, 1998)		66	
1902	LAURYL ETHANOLAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Insoluble in water.	1,6-HEXANEDIOL DIACRYLATE is temperature sensitive (NTP, 1992). May react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen. Can undergo very exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides.	Polymerizable	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200																		
1903	LAURYL MERCAPTAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. This material may be rapidly hydrolyzed by alkali (NTP, 1992).	Organophosphates such as OXYDEMETON METHYL are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			less than 71																	(NTP, 1992)		less than 14	
1904	LEAD DIOXIDE		Self-contained breathing apparatus, rubber gloves, safety glasses, normal protective gear. (USCG, 1999)	Water soluble.	AMMONIUM CARBAMATE is a carbamate salt. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This compound is unstable in an alkaline media (NTP, 1992). This compound is incompatible with the following: Strong oxidizers, strongly alkaline pesticides (NIOSH, 1997). Moderate fire and explosion hazards when exposed to heat or flame (USCG, 1999).						0																								
1905	LEAD FLUORIDE		Dust respirator; protection against ammonia vapors (USCG, 1999)	Water soluble.	AMMONIUM CARBONATE decomposes when heated to give gaseous ammonia and gaseous carbon dioxide. Reaction is non-explosive. Causes decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Decomposes at Elevated Temperatures (<120 deg. C)							0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	sol_note	sol_value	sol_range	sol_temp	sol_unit	idlh_source	idlh_note	idlh_value	idlh_unit	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	chris_codes	dot_labels	formulas	incompatible_abbr	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1900	L-ARGINYL-L-GLUTAMATE	(EPA, 1998)		400		-49.72		mm Hg	(EPA, 1998)		0.6				(EPA, 1998)		0.6818		-28.03		(EPA, 1998)		-28.03		760		17.03		226.28		(EPA, 1998)																																							
1901	LAURYL CHLORIDE																				(EPA, 1998)		217		30		155		(EPA, 1998)																								C5H8Cl2O		7.0	0.0	14.0	3.0	3.0
1902	LAURYL ETHANOLAMIDE																										226.28		(NTP, 1992)																								C12H18O4	Cellulose-Based Absorbents(Mineral-Based & Clay-Based Absorbents(Dirt/ Earth	8.0	0.0	11.0	3.0	3.0
1903	LAURYL MERCAPTAN	(NTP, 1992)		3.80E-05		68		millibar							(NTP, 1992)		1.289		68		(NTP, 1992)		223		0.01		246.3		(NTP, 1992)																								C6H15O4PS2		6.0	0.0	14.0	3.0	3.0
1904	LEAD DIOXIDE																				(USCG, 1999)	Sublimes (464° F					78.07		(USCG, 1999)																								CHEWO2-HSN		9.0	0.0	22.0	3.0	3.0
1905	LEAD FLUORIDE														(USCG, 1999)		1.5		68								157.1		(USCG, 1999)																								(NH4)3CO3		6.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1906	LEAD SUBACETATE	BASIC LEAD ACETATE|BIS(ACETATO)DIHYDROXYTRILEAD|BIS(ACETATO)TETRAHYDROXYTRILEAD|BIS(ACETO)DIHYDROXYTRILEAD|BIS(ACETO)TETRAHYDROXYTRILEAD|BLA|LEAD ACETATE (PB3(ACO)2(OH)4)|LEAD ACETATE HYDROXIDE (PB3(OAC)2(OH)4)|LEAD ACETATE, BASIC|LEAD SUBACETATE|LEAD, BIS(ACETATO)TETRAHYDROXYTRI-|LEAD, BIS(ACETATO-O)TETRAHYDROXYTRI-|LEAD, SUBACETATE|MONOBASIC LEAD ACETATE|SUBACETATE LEAD	1335-32-6	PHYSICAL DESCRIPTION: White dense powder . (NTP, 1992)	1.0	2.5	5.0	3716.0	368.0	1321.0	651.0	419.0	856.0	88.0	313.0	163.0	94.0	INHALATION: remove to clean air and summon medical attention EYES: immediately flush with water for at least 15 min. and consult a physician. SKIN: flush with water; if skin irritation develops, get medical attention. INGESTION: vomiting should occur; follow with an emetic of soapy water; give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Greenish chromic oxide smoke may cause irritation of lungs and mucous membranes. Behavior in Fire: Decomposes at about 180Â°C. Decomposition self-sustaining at about 225Â°C with spectacular swelling and evolution of heat and nitrogen, leaving chromic oxide residue. Pressure of confined gases can burst closed containers explosively. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1907	LEAD SULFIDE	GALENA|LEAD SULFIDE|PLUMBOUS SULFIDE	1314-87-0	Black to silvery powdery or crystalline solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	3716.0	368.0	1321.0	651.0	419.0	856.0	88.0	313.0	163.0	94.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1908	LIGNOSULFONIC ACID, SODIUM SALT	(BLOB)	8061-51-6	PHYSICAL DESCRIPTION: Light tan powder. (NTP, 1992)	1.0	2.5	5.0	3719.0	368.0	1321.0	654.0	419.0	857.0	88.0	313.0	164.0	94.0	INHALATION: remove patient to fresh air. INGESTION: cause vomiting by giving soapy water or mustard water; have patient drink large quantities of lime water; if necessary, give stimulant such as strong coffee; keep patient warm. EYES: flush with water for 20 min., holding eyelids open. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating hydrogen fluoride, silicon tetrafluoride, and oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1909	LINOLENIC ACID	ALL-CIS-9,12,15-OCTADECATRIENOIC ACID|9,12,15-ALL-CIS-OCTADECATRIENOIC ACID|ALPHA-LINOLENIC ACID|9-CIS,12-CIS,15-CIS-OCTADECATRIENOIC ACID|CIS,CIS,CIS-9,12,15-OCTADECATRIENOIC ACID|CIS-9,12,15-OCTADECATRIENOIC ACID|CIS-9,CIS-12,CIS-15-OCTADECATRIENOIC ACID|CIS-DELTA-9,12,15-OCTADECATRIENOIC ACID|CIS-DELTA9,12,15-OCTADECATRIENOIC ACID|LINOLENIC ACID|9,12,15-OCTADECATRIENOIC ACID, (Z,Z,Z)-|9,12,15-OCTADECATRIENOIC ACID|(Z,Z,Z)-OCTADECA-9,12,15-TRIENOIC ACID	463-40-1	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3722.0	368.0	1324.0	660.0	419.0	858.0	88.0	314.0	166.0	94.0	INHALATION: in all but the most severe cases (pneumonia), recovery is rapid after reduction of oxygen pressure; supportive treatment should include immediate sedation, anticonvulsive therapy if needed, and rest. EYES: treat frostbite burns. SKIN: treat frostbite; soak in lukewarm water. (USCG, 1999)	Behavior in Fire: Increases intensity of any fire. Mixtures of liquid oxygen and any fuel are highly explosive. (USCG, 1999)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1910	LINURON	LINURON	330-55-2	Colorless crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	3725.0	368.0	1324.0	660.0	419.0	859.0	88.0	314.0	166.0	94.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1906	LEAD SUBACETATE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Dust respirator; protective goggles, gloves, clothing. (USCG, 1999)	Water soluble.	It is an oxidizing reagent, it readily reacts with reducing materials, in large quantity it may produce a violent reaction. Direct exposure to heat or shock will explode it. When heated to decomposition it emits toxic fumes of ammonia and nitrogen oxides [Sax, 9th ed., 1996, p. 205].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	1	2	Oxidizer																(USCG, 1999)		437					
1907	LEAD SULFIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)			(NFPA, 2010)		1	1	0	1																				(NTP, 1992)	Sublimes		
1908	LIGNOSULFONIC ACID, SODIUM SALT	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; acid-resistant clothing and hat; rubber gloves; goggles and safety shoes (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM FLUOROSILICATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1909	LINOLENIC ACID	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Safety goggles or face shield; insulated gloves; long sleeves; trousers worn outside boots or over high-top shoes to shed spilled liquid. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Propellant; ignites upon contact with alcohols, alkali metals, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. Heat of water will vigorously vaporize liquid oxygen, pressures may build to dangerous levels if this occurs in a closed container. Liquid oxygen gives a detonable mixture when combined with powdered aluminum [NFPA 491M. 1991].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																					(USCG, 1999)		-361	
1910	LINURON	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Ammonium hydrogen sulfate dissolves in water with the evolution of some heat and hydrolyzes to form some amounts of sulfuric acid. Deliquescent.	Acidic salts, such as AMMONIUM HYDROGEN SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1906	LEAD SUBACETATE														(USCG, 1999)		2.15		77								(USCG, 1999)		252.06		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3							AMD	Oxidizer	(NH4)2Cr2O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	15.0	3.0	3.0
1907	LEAD SULFIDE														(NTP, 1992)		1.51				(NTP, 1992)	(sublimes without melting)		greater than 572	760		(NTP, 1992)		166.14						(NTP, 1992)	Insoluble						C8H6O4		5.0	0.0	11.0	3.0	3.0
1908	LIGNOSULFONIC ACID, SODIUM SALT														(USCG, 1999)		2		68								(USCG, 1999)		178.14											ASL	Poison	F6Si.2H4N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	13.0	3.0	3.0
1909	LINOLENIC ACID														(USCG, 1999)		1.14		-297.4		(USCG, 1999)		-297.3		760		(USCG, 1999)		32											OXY	Non-Flammable Gas(Oxidizer	O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	14.0	3.0	3.0
1910	LINURON																																								Corrosive	H3N.H2O4S		7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1911	LITHIUM ALUMINUM HYDRIDE	ALUMINATE(1-), TETRAHYDRO-, LITHIUM|ALUMINUM LITHIUM HYDRIDE (LIALH4)|ALUMINUM LITHIUM TETRAHYDRIDE|LAH|LITHIUM ALANATE|LITHIUM ALUMINUM HYDRIDE|LITHIUM ALUMINUM HYDRIDE (LIALH4)|LITHIUM ALUMINUM TETRAHYDRIDE|LITHIUM TETRAHYDRIDOALUMINATE|LITHIUM TETRAHYDROALUMINATE|LITHIUM TETRAHYDROALUMINATE (ALLH4)|LITHIUM TETRAHYDROALUMINATE (LITHIUM ALUMINUM HYDRIDE)|LITHIUM TETRAHYDROALUMINATE(1-)	16853-85-3	A white powder that turns gray on standing. If spread out over a large flat combustible surface, friction can cause ignition. Used to make other chemicals, as a polymerization catalyst, as a hydrogen source, and as a propellant.	1.0	2.5	5.0	3728.0	368.0	1324.0	660.0	419.0	860.0	88.0	314.0	166.0	94.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1912	LITHIUM AMIDE	LITHAMIDE|LITHIUM AMIDE|LITHIUM AMIDE, [POWDERED]	7782-89-0	White crystalline powder with an odor of ammonia. Denser than water.	1.0	2.5	5.0	3728.0	368.0	1324.0	660.0	419.0	860.0	88.0	314.0	166.0	94.0	(BLOB)	Special Hazards of Combustion Products: Sulfur dioxide, formaldehyde, and methyl mercaptan can form (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1913	LITHIUM CHROMATE	CHROMIC ACID, DILITHIUM SALT|CHROMIUM LITHIUM OXIDE|CHROMIUM LITHIUM OXIDE (CRLI2O4)|DILITHIUM CHROMATE|DILITHIUM CHROMATE (LI2CRO4)|LITHIUM CHROMATE|LITHIUM CHROMATE (LI2CRO4)|LITHIUM CHROMATE(VI)|LITHIUM CHROMIUM OXIDE (LI2CRO4)	14307-35-8	A yellow crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a corrosion inhibitor and in the manufacture of other chemicals.	1.0	2.5	5.0	3731.0	368.0	1327.0	660.0	419.0	861.0	88.0	315.0	166.0	94.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1914	LITHIUM HYDRIDE	LITHIUM HYDRIDE|LITHIUM HYDRIDE(LIH)|LITHIUM MONOHYDRIDE	7580-67-8	A white or translucent crystalline mass or powder. The commercial product is light bluish-gray lumps due to the presence of minute amounts of colloidally dispersed lithium.	1.0	2.5	5.0	3734.0	368.0	1327.0	660.0	419.0	862.0	88.0	315.0	166.0	94.0	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1915	LITHIUM NITRATE	LITHIUM NITRATE	7790-69-4	A white to light yellow colored crystalline solid. Denser than water. Contact with the material may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. May cause the acceleration of the burning of combustible materials. Prolonged exposure to heat or flames may result in an explosion.	1.0	2.5	5.0	3737.0	368.0	1327.0	660.0	419.0	863.0	88.0	315.0	166.0	94.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1911	LITHIUM ALUMINUM HYDRIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Generates a small amount of heat when diluted with water.	AMMONIUM HYDROXIDE reacts exothermically with acids. Evolves toxic gaseous ammonia with strong bases. Reacts extremely violently with dimethyl sulfate [NFPA 491M 1991]. Reacts with aqueous silver nitrate sodium hydroxide to give a black precipitate of silver nitride. Such a precipitate can explode on stirring [MCA Case History 1554 1968]. Aqueous ammonia and Hg react to form an explosive solid, likely a fulminate. (Thodos, G. Amer. Inst. Chen. Engrs. J., 1964, 10, 274.).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1912	LITHIUM AMIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Butyl rubber gloves, safety goggles. Respiratory filter if airborne sprays or drops are present. (USCG, 1999)	Denser than water and miscible in water.	DIMETHYL SULFOXIDE decomposes violently on contact with many acyl halides, aryl halides and related compounds such as phenyl and tolyl chloride, acetyl chloride, benzenesulfonyl chloride, benzoyl chloride, cyanuric chloride, phosphorus chloride, phosphorus oxychloride, and thionyl chloride [Chem. Eng. News 35(9):87 (1957)]. Reacts, possibly violently, with iodine pentafluoride [Chem. Eng. News 47(12):, 109(1969)]. Vacuum distillation from anhydrous magnesium perchlorate led to an explosion [MCA Case History 1187(1966)]. Violently reactive with fluorinating agents such as silver fluoride [Chem. Eng. News 44(24):7(1956)]. Can explode with sodium hydride [Chem. Eng. News 44(24):7(1966)]. Mixture with methyl bromide resulted in an explosion that shattered the apparatus [NFPA 491M, 1991]. Forms salts with perchloric acid that are explosive when dry [Chem. Abst. 44:p3935d (1950)]. Decomposes when heated above normal boiling point.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		203		(NTP, 1992)		2.6		%	(NTP, 1992)		63		%	(USCG, 1999)		419		(NTP, 1992)		65.3	
1913	LITHIUM CHROMATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	Salt of benzoic acid derivative. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
1914	LITHIUM HYDRIDE	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DIMETHYLAMINOETHYL METHACRYLATE is both an amine and an ester. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NFPA, 2010)		165																			
1915	LITHIUM NITRATE		(BLOB)	No rapid reaction with air No rapid reaction with water	DIMETHYLAMINOPROPIONITRILE is combustible but non-flammable (flash point > 140Â°F), reacts with oxidizing agents (Hazardous Chemicals Desk Reference, p. 426 (1987)). Reacts violently with LIAlH4, a strong reducing agent. Emits toxic oxides of nitrogen and cyanide fumes when heated to decomposition.						0		(NIOSH, 2003)		147																(NIOSH, 2003)		-48	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1911	LITHIUM ALUMINUM HYDRIDE																																								Corrosive	H5NO		9.0	0.0	23.0	3.0	3.0
1912	LITHIUM AMIDE	(NTP, 1992)		0.42		68		mm Hg	(NTP, 1992)		2.71				(USCG, 1999)		1.101		68		(NTP, 1992)		372		760		(NTP, 1992)		78.13						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DMS	Poison	C2H6OS		6.0	0.0	12.0	3.0	3.0
1913	LITHIUM CHROMATE																																								Class 9	C8H6Cl2O3.C2H7N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	15.0	3.0	3.0
1914	LITHIUM HYDRIDE																																								Poison	C8H15NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
1915	LITHIUM NITRATE	(NIOSH, 2003)		10		135		mm Hg							(NIOSH, 2003)		0.86		86		(NIOSH, 2003)		342		760		(NIOSH, 2003)		98.2						(NIOSH, 2003)	Miscible						(CH3)2NCH2CH2CN	Mineral-Based & Clay-Based Absorbents	6.0	0.0	36.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1916	MAGNESIUM FLUOROSILICATE	FLUOSILICIC ACID MAGNESIUM SALT|MAGNESIUM FLUOROSILICATE|MAGNESIUM FLUOSILICATE|MAGNESIUM HEXAFLUOROSILICATE|MAGNESIUM HEXAFLUOROSILICATE (MGSIF6)|MAGNESIUM HEXAFLUOROSILICATE(2-)|MAGNESIUM SILICOFLUORIDE|MAGNESIUM SILICOFLUORIDE (MGSIF6)|MAGNESIUM SILICOFLUORIDE, [SOLID]|SILICATE(2-), HEXAFLUORO-, MAGNESIUM|SILICON FLUORIDE MAGNESIUM SALT	16949-65-8	Crystalline solid. Decomposes at 120Â°C. Contact may cause slight irritation to skin, eyes, and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	3740.0	368.0	1327.0	660.0	419.0	864.0	88.0	315.0	166.0	94.0	(BLOB)	Flash point data for this compound are not available. It is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1917	MAGNESIUM PERCHLORATE	ANHYDRON|ANHYDRONE|ANHYDROUS MAGNESIUM PERCHLORATE|DEHYDRITE|KHKM 300|MAGNESIUM DIPERCHLORATE|MAGNESIUM PERCHLORATE|MAGNESIUM PERCHLORATE (MG(CLO4)2)|MAGNESIUM(II) PERCHLORATE	10034-81-8	A white crystalline solid. Strongly absorbs water from air and dissolves in it. Accordingly, used as a regenerable drying agent. May explode under prolonged exposure to heat or fire.	1.0	2.5	5.0	3743.0	368.0	1327.0	660.0	419.0	865.0	88.0	315.0	166.0	94.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1918	MAGNESIUM PEROXIDE	MAGNESIUM DIOXIDE|MAGNESIUM PEROXIDE|MAGNESIUM PEROXIDE, [SOLID]|MAGNESIUM SUPEROXOL|PEROMAG	14452-57-4	A white powder. Noncombustible but accelerates the burning of combustible material, if the combustible material is finely divided the mixture may be explosive. Mixtures of combustible material and the peroxide can be ignited by friction or contact with moisture. Used in medicine, and as a bleaching agent.	1.0	2.5	5.0	3746.0	368.0	1327.0	660.0	419.0	866.0	88.0	315.0	166.0	94.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1919	MALONIC ACID	CARBOXYACETIC ACID|DICARBOXYMETHANE|MALONIC ACID|METHANEDICARBOXYLIC ACID|PROPANEDIOIC ACID|1,3-PROPANEDIOIC ACID|USAF EK-695	141-82-2	PHYSICAL DESCRIPTION: White crystals or crystalline powder. Sublimes in vacuum. (NTP, 1992)	1.0	2.5	5.0	3749.0	368.0	1327.0	660.0	419.0	867.0	88.0	315.0	166.0	94.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1920	MALONONITRILE	CYANOACETONITRILE|DICYANOMETHANE|DICYANOMETHANE|DIEYANOMETHANE|MALONIC ACID DINITRILE|MALONIC DINITRILE|MALONICDINITRILE|MALONONITRILE|MALONONITRILE|METHANE CYANINE|METHANE, DICYANO|METHANE, DICYANO-|METHYLENE CYANIDE|METHYLENEDINITRILE|PROPANEDINITRILE|USAF A-4600	109-77-3	A white-colored crystalline solid. Denser than water and soluble in water. Toxic by ingestion and may severely irritate skin and eyes. May polymerize violently if exposed to temperatures above 266Â°F. Used to make other chemicals.	1.0	2.5	5.0	3749.0	368.0	1327.0	660.0	419.0	867.0	88.0	315.0	166.0	94.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1921	MALTOL	CORPS PRALINE|3-HYDROXY-2-METHYL-4-PYRANONE|3-HYDROXY-2-METHYL-4-PYRONE|3-HYDROXY-2-METHYL-4H-PYRAN-4-ONE|3-HYDROXY-2-METHYL-GAMMA-PYRONE|LARIXIC ACID|LARIXINIC ACID|MALTOL|2-METHYL PYROMECONIC ACID|2-METHYL-3-HYDROXY-4-PYRONE|2-METHYL-3-HYDROXYPYRAN-4-ONE|2-METHYL-3-HYDROXYPYRONE|2-METHYL-3-OXY-GAMMA-PYRONE|PALATONE|TALMON|VELTOL	118-71-8	PHYSICAL DESCRIPTION: White crystalline powder with a fragrant caramel-butterscotch odor. pH (5% aqueous solution) 5.3. (NTP, 1992)	1.0	2.5	5.0	3752.0	371.0	1327.0	660.0	422.0	868.0	89.0	315.0	166.0	95.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1916	MAGNESIUM FLUOROSILICATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic (NTP, 1992).	DIMETHYLDODECYLAMINE-N-OXIDE is less basic than the tertiary amine from which it is derived, but still reacts with strong acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		266 to 268
1917	MAGNESIUM PERCHLORATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DIMETHYLNAPHTHALENE is incompatible with oxidizers. (NTP, 1992)					0		(NTP, 1992)		214																			
1918	MAGNESIUM PEROXIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	AMMONIUM NITRATE FERTILIZER is an oxidizing agent. Does not itself readily burn, but accelerates the burning of combustible material with which it may be contaminated. The solid produces toxic oxides of nitrogen during such reactions. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Mixtures with aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony) can be used as explosives. A number of explosions in which ammonium nitrate and aluminum were mixed with carbon or hydrocarbons, with or without oxidizing agents have occurred [Mellor 5:219 1946-47]. Mixtures with acetic acid ignite when warmed, especially if concentrated [Von Schwartz p. 322 1918]. Causes the decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																					
1919	MALONIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DIMETHYLTETRADECANAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
1920	MALONONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An organometallic. Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)	approximately	680	
1921	MALTOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Viton North F-091 0.36 mm 70 min (NTP, 1992)	Highly flammable. May be sensitive to prolonged exposure to air and light. Slightly soluble in water.	DIMETHYLVINYL CHLORIDE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		30																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1916	MAGNESIUM FLUOROSILICATE																										(NTP, 1992)		229.46													Poison	C14H31NO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	22.0	3.0	3.0
1917	MAGNESIUM PERCHLORATE	(NTP, 1992)	; 89 mm Hg at 167Â° F; 147 mm Hg at 199Â° F	48		124		mm Hg							(NTP, 1992)		1.01										(NTP, 1992)		156.23						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C12H12		7.0	0.0	13.0	3.0	3.0
1918	MAGNESIUM PEROXIDE																																								Oxidizer	NH4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	15.0	3.0	3.0
1919	MALONIC ACID																																								Corrosive	C16H35N	Mineral-Based & Clay-Based Absorbents	9.0	0.0	29.0	3.0	3.0
1920	MALONONITRILE																				(NTP, 1992)	Decomposes <680Â° F					(NTP, 1992)		186.77						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C2H6F2Sn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	8.0	0.0	22.0	3.0	3.0
1921	MALTOL	(NTP, 1992)	; 265.3 mm Hg at 97Â° F	172.4		77.9		mm Hg							(NTP, 1992)		0.9186		68		(NTP, 1992)		154		760		(NTP, 1992)		90.55						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL		Flammable Liquid	C4H7Cl	Dirt/Earth	8.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1922	M-AMINOACETANILIDE	3-ACETAMIDOANILINE|ACETANILIDE, 3'-AMINO-|3-(ACETYLAMINO)ANILINE|1-ACETYLAMINO-3-AMINOBENZENE|3-ACETYLAMINOANILINE|1-AMINO-3-(ACETYLAMINO)BENZENE|3-AMINO-N-ACETYLANILINE|3'-AMINOACETANILIDE|3-AMINOACETANILIDE|M-(ACETYLAMINO)ANILINE|M-ACETAMIDOANILINE|M-ACETAMINOANILINE|M-AMINOACETANILIDE|N-(3-AMINOPHENYL)ACETAMIDE|N-ACETYL-1,3-DIAMINOBENZENE|N-ACETYL-M-PHENYLENEDIAMINE	102-28-3	PHYSICAL DESCRIPTION: Gray solid. (NTP, 1992)	1.0	2.5	5.0	3755.0	371.0	1327.0	660.0	422.0	869.0	89.0	315.0	166.0	95.0	INHALATION: move to fresh air. EYES: flush with water for 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating oxides of nitrogen may form in fires. Behavior in Fire: Will increase intensity of fire when in contact with combustible material. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1923	M-AMINOPHENOL	3-AMINO-1-HYDROXYBENZENE|1-AMINO-3-HYDROXYBENZENE|3-AMINOPHENOL|BASF URSOL BG|C.I. 76545|C.I. OXIDATION BASE 7|FOURAMINE EG|FOURRINE 65|FOURRINE EG|FURRO EG|FUTRAMINE EG|3-HYDROXYANILINE|3-HYDROXYBENZENAMINE|M-AMINOPHENOL|M-HYDROXYAMINOBENZENE|M-HYDROXYANILINE|M-HYDROXYPHENYLAMINE|META-AMINOPHENOL|NAKO TEG|PELAGAL EG|PELAGOL EG|PHENOL, M-AMINO-|RENAL EG|TERTRAL EG|TETRAL EG|URSOL EG|ZOBA EG	591-27-5	PHYSICAL DESCRIPTION: White crystals or off-white flakes. (NTP, 1992)	1.0	2.5	5.0	3758.0	371.0	1327.0	660.0	422.0	870.0	89.0	315.0	166.0	95.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1924	MANEB	AAMANGAN|AGROX FLOWABLE|AGROX N-M|CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, MANGANESE COMPLEX|CARBAMODITHIOIC ACID, 1,2-ETHANEDIYLBIS-, MANGANESE(2+) SALT (1:1)|DITHANE M 22|ETHYLENEBIS[DITHIOCARBAMIC ACID] MANGANOUS SALT|1,2-ETHYLENEDIYLBIS(CARBAMODITHIOATO)MANGANESE|F 10|F 10 (PESTICIDE)|MANEB|MANEB 80|MANEB PREPARATION, STABILIZED|MANEB PREPARATION, WITH NOT LESS THAN 60% MANEB|MANEB, STABILIZED|MANEB, [STABILIZED AGAINST SELF-HEATING]|MANEB, [WITH >= 60% MANEB]|MANEBGAN|MANESAN|MANEX|MANGANESE, [ETHYLENEBIS[DITHIOCAR	12427-38-2	Maneb is a yellow powder or crystalline solid. It is denser than water. Contact may irritate skin, eyes and mucous membranes. It may be toxic by ingestion. Likely to generate heat spontaneously upon exposure to air or water. May be sufficient to ignite the material. Maneb is used as a fungicide. Formulations of Maneb include mixing it with many other chemicals such as sulfur, zinc oxide and others to desensitize it. This is done to make it easer for application.	1.0	2.5	5.0	3761.0	374.0	1327.0	660.0	425.0	871.0	90.0	315.0	166.0	96.0	Call a physician. INHALATION: Remove from exposure. Administer oxygen if needed. EYES: Flush with water for at least 15 min. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. Subsequent treatment is symptomatic and supportive in nature. (USCG, 1999)	Special Hazards of Combustion Products: When heated emits acrid fumes. Behavior in Fire: When exposed to flames can react vigorously with oxidizing material. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water fog in conjuction with alcohol foam, dry chemical or carbon dioxide. (USCG, 1999)
1925	M-ANISIDINE	1-AMINO-3-METHOXYBENZENE|3-AMINOANISOLE|3-AMINOPHENOL METHYL ETHER|M-AMINOANISOLE|M-AMINOMETHOXYBENZENE|M-ANISIDINE|M-ANISYLAMINE|M-METHOXYANILINE|3-METHOXYANILINE|2-METHOXYBENZENAMINE|3-METHOXYBENZENEAMINE|3-METHOXYPHENYLAMINE	536-90-3	PHYSICAL DESCRIPTION: Pale yellow oily liquid or dark red liquid. (NTP, 1992)	2.5	5.0	2.5	3761.0	374.0	1327.0	663.0	428.0	871.0	90.0	315.0	167.0	97.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1926	M-BROMOTOLUENE	BENZENE, 1-BROMO-3-METHYL|3-BROMO-1-METHYLBENZENE|1-BROMO-3-METHYLBENZENE|3-BROMOTOLUENE|5-BROMOTOLUENE|M-BROMOTOLUENE|M-METHYLBROMOBENZENE|M METHYLPHENYL BROMIDE|M-TOLYL BROMIDE|3-METHYL-1-BROMOBENZENE|3-METHYLBROMOBENZENE|3-METHYLPHENYL BROMIDE|TOLUENE, M-BROMO-	591-17-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3764.0	374.0	1327.0	669.0	428.0	872.0	90.0	315.0	169.0	97.0	(BLOB)	Severe explosion hazard when shocked, exposed to heat or flame, or by chemical reaction with organic substances, especially reducing agents. Ozone is a powerful oxidizing agent. Incompatible with alkenes; aromatic compounds; benzene, rubber; bromine; dicyanogen; diethyl ether; dinitrogen tetroxide; hydrogen bromide; 4-hydroxy-4-methyl-1,6-heptadiene; nitrogen trichloride; stibine; tetrafluorohydrazine. Avoid contact with organic materials. (EPA, 1998)	In case of fire: keep cylinder cool by spraying water. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1922	M-AMINOACETANILIDE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Self-contained breathing apparatus must be used when fighting fires. At other times a dust mask is adequate. (USCG, 1999)	Water soluble.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ammonium nitrate, CAS number 6484-52-2.	0	0	3	3	Oxidizer																							
1923	M-AMINOPHENOL	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Hot aqueous solutions of the nitrate above 50% conc., under confinement may decompose explosively. This process is aided catalytically with such substances as nitric acid and chloride ion, [Chem. Abs., 1982, 97, 78074].	The hazards of AMMONIUM NITRATE have been well studied because of several extremely severe explosions [Chem. Eng., 1962, 70, 91; Bretherick, 5th Ed., 1995]. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture with aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony) can be used as an explosive. A number of explosions in which ammonium nitrate and aluminum were mixed with carbon or hydrocarbons, with or without oxidizing agents have occurred [Mellor 5:219 1946-47]. A mixture with acetic acid ignites when warmed, especially if concentrated [Von Schwartz p. 322 1918]. Causes the decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																							
1924	MANEB	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves, chemical goggles or face shield, and lab coat. Organic vapor chemical cartridge respirator for less than 1000 ppm; self-contained breathing apparatus for greater than 1000 ppm. (USCG, 1999)	Highly flammable.	TERT-AMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(est)	79		(USCG, 1999)		1		%	(USCG, 1999)		7.5		%	(USCG, 1999)		715		(USCG, 1999)		greater than -148
1925	M-ANISIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	OXYMETHOLONE may be sensitive to light.						0																					(NTP, 1992)		352 to 356
1926	M-BROMOTOLUENE	Isolate area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Workers handling liquid ozone should wear protective equipment designed for exposure to cryogenic liquid. (EPA, 1998)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1955 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(EPA, 1998)		-314	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1922	M-AMINOACETANILIDE														(USCG, 1999)		1.8		68																					ANP	Oxidizer		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	20.0	3.0	3.0
1923	M-AMINOPHENOL																																								Oxidizer	NH4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	36.0	3.0	3.0
1924	MANEB														(USCG, 1999)		0.874		66.2		(USCG, 1999)		256.5		760		(USCG, 1999)		130.18											AYA	Flammable Liquid	C7H14O2		6.0	0.0	11.0	3.0	3.0
1925	M-ANISIDINE																										(NTP, 1992)		332.53						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C21H32O3	Cellulose-Based Absorbents|Dirt/Earth	7.0	0.0	11.0	3.0	3.0
1926	M-BROMOTOLUENE	(EPA, 1998)		41257		10.4		mm Hg	(EPA, 1998)		1.7				(NTP, 1992)		1.614		-319.7		(EPA, 1998)		-169.6		760		(EPA, 1998)		48		(NIOSH, 2003)		5	ppm	(NTP, 1992)	at 68Â° F	3.00E-05		g/100 g		Poison Gas	O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1927	M-CHLOROANILINE	3-AMINO-1-CHLOROBENZENE|1-AMINO-3-CHLOROBENZENE|ANILINE, M-CHLORO-|3-CHLORO-1-AMINOBENZENE|3-CHLOROANILINE|3-CHLOROBENZENAMINE|3-CHLOROPHENYLAMINE|FAST ORANGE GC BASE|M-AMINOCHLOROBENZENE|M-CHLORANILINE|M-CHLOROANILINE|M-CHLOROPHENYLAMINE|META-CHLOROANILINE|META-CHLOROPHENYLAMINE|ORANGE GC BASE	108-42-9	PHYSICAL DESCRIPTION: Colorless to light amber liquid with a sweet odor. (NTP, 1992)	2.5	5.0	2.5	3764.0	374.0	1327.0	669.0	428.0	872.0	90.0	315.0	169.0	97.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1928	M-CHLOROBENZOTRIFLUORIDE	3-CHLORO(TRIFLUOROMETHYL)BENZENE|1-CHLORO-3-(TRIFLUOROMETHYL)BENZENE|3-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|CHLOROBENZOTRIFLUORIDE|3-CHLOROBENZOTRIFLUORIDE|M-(TRIFLUOROMETHYL)CHLOROBENZENE|M-(TRIFLUOROMETHYL)PHENYL CHLORIDE|M-CHLORO(TRIFLUOROMETHYL)BENZENE|M-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|M-CHLOROBENZOTRIFLUORIDE|TOLUENE, M-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-	98-15-7	A water-white liquid with an odor like moth balls. Insoluble in water and denser than water. Toxic by inhalation. Liquid contact may irritate skin and eyes.	2.5	5.0	2.5	3764.0	377.0	1327.0	669.0	428.0	872.0	91.0	315.0	169.0	97.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1929	M-CHLOROPHENOL	3-CHLOROPHENOL|3-HYDROXYCHLOROBENZENE|M-CHLOROPHENIC ACID|M-CHLOROPHENOL|META-CHLOROPHENOL|PHENOL, M-CHLORO-	108-43-0	PHYSICAL DESCRIPTION: White crystals with an odor of phenol. Sinks in and slowly dissolves in water. (NTP, 1992)	1.0	2.5	5.0	3764.0	377.0	1327.0	669.0	428.0	872.0	91.0	315.0	169.0	97.0	EYES OR SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical (USCG, 1999)
1930	M-CHLOROTOLUENE	3-CHLORO-1-METHYLBENZENE|1-CHLORO-3-METHYLBENZENE|3-CHLOROTOLUENE|M-CHLOROTOLUENE|M-METHYLCHLOROBENZENE|M-TOLYL CHLORIDE|META-CHLOROTOLUENE|META-TOLYL CHLORIDE|1-METHYL-3-CHLOROBENZENE|3-METHYLCHLOROBENZENE|TOLUENE, M-CHLORO-	108-41-8	Colorless liquid. Specific gravity 1.072. Denser than water, thus sinks in water. Flash point less than 141Â°F. Vapors irritating and narcotic in high concentrations. Used as solvents and as an intermediate for making other chemicals and dyes.	2.5	5.0	2.5	3764.0	377.0	1327.0	669.0	428.0	872.0	91.0	315.0	169.0	97.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1931	M-CRESIDINE	2-AMINO-5-METHOXYTOLUENE|M-CRESIDINE|4-METHOXY-2-METHYLANILINE|4-METHOXY-2-METHYLBENZENAMINE|2-METHYL-4-ANISIDINE|2-METHYL-4-METHOXYANILINE|2-METHYL-P-ANISIDINE|NCI-C02993|P-ANISIDINE, 2-METHYL-	102-50-1	PHYSICAL DESCRIPTION: Crystals or brick red liquid. (NTP, 1992)	1.0	2.5	5.0	3764.0	377.0	1327.0	669.0	428.0	872.0	91.0	315.0	169.0	97.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1932	M-DICHLOROBENZENE	BENZENE, M-DICHLORO-|1,3-DICHLOROBENZENE|2,6-DICHLOROBENZENE|M-DICHLOROBENZENE|M-DICHLOROBENZOL|M-PHENYLENE DICHLORIDE|M-PHENYLENEDICHLORIDE|META-DICHLOROBENZENE	541-73-1	Colorless liquid. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	3764.0	377.0	1327.0	669.0	428.0	872.0	91.0	315.0	169.0	97.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1927	M-CHLOROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	P,P'-DDE is sensitive to exposure to light. This compound is incompatible with strong oxidizing agents and strong bases. Oxidation is catalyzed by UV radiation. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)			190 to 194
1928	M-CHLOROBENZOTRIFLUORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from alkalies. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P,P'-ETHYL DDD is sensitive to heat. This compound is incompatible with alkalis. It is readily dehydrochlorinated. It is slightly corrosive to iron, zinc, and aluminum. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(pure)		140 to 142
1929	M-CHLOROPHENOL		Goggles or face shield; rubber gloves (USCG, 1999)	Water soluble. Gives basic solution	Salts, basic, such as AMMONIUM OLEATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																											
1930	M-CHLOROTOLUENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	Simultaneously an amide and a carboxylic acid.						0																								(NTP, 1992)		493.7	
1931	M-CRESIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TETRAPHENOXYSILANE is incompatible with strong oxidizers and mineral acids. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 230																	(NTP, 1992)			118 to 120
1932	M-DICHLOROBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)			329 to 334

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1927	M-CHLOROANILINE																				(NTP, 1992)		601.7		760		(NTP, 1992)		318.03						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Class 9	C14H8Cl4	Dirt/Earth	6.0	0.0	32.0	3.0	3.0
1928	M-CHLOROBENZOTRIFLUORIDE																				(NTP, 1992)	Decomposes					(NTP, 1992)		307.28						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C18H20Cl2		5.0	0.0	21.0	3.0	3.0
1929	M-CHLOROPHENOL														(USCG, 1999)	(liquid or solid)		greater than 1	68								(USCG, 1999)	(solute)	299.5											AOL		C18H37NO2		8.0	0.0	17.0	3.0	3.0
1930	M-CHLOROTOLUENE																										(NTP, 1992)		179.18						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C9H9NO3		7.0	0.0	20.0	3.0	3.0
1931	M-CRESIDINE	(NTP, 1992)		0.975				mm Hg	(NTP, 1992)			greater than 1			(NTP, 1992)		1.141		68		(NTP, 1992)		784		760		(NTP, 1992)		400.51						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Corrosive	C24H20O4Si		8.0	0.0	15.0	3.0	3.0
1932	M-DICHLOROBENZENE																				(NTP, 1992)		513		760		(NTP, 1992)		150.2						(NTP, 1992)	at 77Â° F		1 to 10	mg/mL			C8H10N2O		9.0	0.0	22.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1933	MELPHALAN	ALANINE, 3-(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)-, L-|ALANINE, 3-[P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]-, L-|ALKERAN|AT-290|4-(BIS(2-CHLOROETHYL)AMINO)-L-PHENYLALANINE|3025 C.B.|3025 C.B.|CB 3025|D-PHENYLALANINE MUSTARD|L-3-(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ALANINE|L-PAM|L-PHENYLALANINE MUSTARD|L-PHENYLALANINE,4-(BIS(2-CHLOROETHYL)AMINO)-|L-SARCOLYSIN|L-SARCOLYSINE|L-SARKOLYSIN|LEVOFALAN|LEVOFOLAN|LEVOPHOLAN|MELFALAN|MELPHALAN|MEPHALAN|NCI-C04853|NSC 8806|NSC-8806|3-(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)-L-ALANINE|3-P-(DI(2-CHLOROETHYL)AMINO)-PHENYL-L-ALANINE|P-DI-(2-	148-82-3	PHYSICAL DESCRIPTION: White to buff-colored powder. Odorless or with a faint odor. An antineoplastic medicine.	1.0	2.5	5.0	3767.0	377.0	1327.0	669.0	428.0	873.0	91.0	315.0	169.0	97.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1934	MEPROBAMATE	(BLOB)	57-53-4	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Bitter taste. Solutions in water are neutral or slightly acidic. (NTP, 1992)	1.0	2.5	5.0	3767.0	377.0	1327.0	669.0	428.0	873.0	91.0	315.0	169.0	97.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
1935	MERCURIC BROMIDE	DIBROMOMERCURY|MERCURIC BROMIDE|MERCURIC BROMIDE, [SOLID]|MERCURIC DIBROMIDE|MERCURY DIBROMIDE|MERCURY(II) BROMIDE	7789-47-1	White rhombic crystals. Sensitive to light. Slightly soluble in water and denser than water. Severely toxic by inhalation and ingestion.	1.0	2.5	5.0	3770.0	377.0	1327.0	675.0	428.0	874.0	91.0	315.0	171.0	97.0	INHALATION: if exposed to ammonia fumes from diammonium phosphate, give artificial respiration and oxygen if needed; enforce rest. EYES: flush with water for at least 15 min.; if irritation persists, get medical attention. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating fumes of ammonia and oxides of nitrogen may form in fires. (USCG, 1999)	
1936	MERCURIC NITRATE	CITRINE OINTMENT|MERCURIC NITRATE|MERCURY (II) NITRATE|MERCURY DINITRATE|MERCURY NITRATE|MERCURY NITRATE (HG(NO3)2)|MERCURY NITRATE MONOHYDRATE|MERCURY PERNITRATE|MERCURY(2+) NITRATE|MERCURY(II) NITRATE|MERCURY(II) NITRATE (HG(NO3)2)|MILLON'S REAGENT|NAMED REAGENTS AND SOLUTIONS, MILLON'S	10045-94-0	A white crystalline solid. Toxic by inhalation, ingestion and/or skin contact. Prolonged exposure to fire or heat may result in an explosion. Produces toxic oxides of nitrogen when heated to decomposition. Used to make other chemicals and in medicine.	1.0	2.5	5.0	3773.0	377.0	1327.0	675.0	428.0	875.0	91.0	315.0	171.0	97.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1937	MERCURIC SULFATE	MERCURIC SULFATE|MERCURIC SULFATE, [SOLID]|MERCURIC SULPHATE|MERCURY (II) SULFATE (1:1)|MERCURY BISULFATE|MERCURY BISULPHATE|MERCURY PERSULFATE|MERCURY SULFATE|MERCURY SULFATE (HGSO4)|MERCURY SULPHATE|MERCURY(II) SULFATE	7783-35-9	Odorless white granules or crystalline powder. Denser than water. It is toxic by inhalation and by ingestion. It is used in medicine, for gold and silver extraction, and to make other mercury compounds.	1.0	2.5	5.0	3773.0	377.0	1327.0	675.0	428.0	875.0	91.0	315.0	171.0	97.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1938	MERCUROUS NITRATE	MERCUROUS NITRATE|MERCUROUS NITRATE MONOHYDRATE|MERCUROUS NITRATE, [SOLID]|MERCURY NITRATE (HG(NO3))|MERCURY NITRATE MONOHYDRATE|MERCURY NITRATE (HG2(NO3)2)|MERCURY NITRATE (HGNO3)|MERCURY PROTONITRATE|MERCURY(I) NITRATE|MONOMERCURY NITRATE	10415-75-5	A white solid. Usually exists as the dihydrate. Toxic by ingestion.	1.0	2.5	5.0	3776.0	377.0	1330.0	675.0	428.0	876.0	91.0	316.0	171.0	97.0	Get medical attention following all overexposures to this compound. INHALATION: move victim to fresh air; give artificial respiration, oxygen; consult physician. INGESTION: give large amount of water. EYES OR SKIN: wash with large quantities of water for 15 min.; consult physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen sulfide gas is released when solution is heated. If ignited, this will form irritating sulfur dioxide gas. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1933	MELPHALAN	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water	Dry AMMONIUM PERMANGANATE may explode on shock, friction or heating [Hawley]. Mixtures with acetic acid or acetic anhydride may explode if not kept cold [Von Schwartz p 34 1918]. Explosions can occur when permanganates that have been treated with sulfuric acid come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																						
1934	MEPROBAMATE		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	DI-N-HEXYL ADIPATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(USCG, 1999)		325																		
1935	MERCURIC BROMIDE		Dust mask, protective gloves, and goggles. When diammonium phosphate is stored in closed area, self-contained breathing apparatus is required to protect against ammonia fumes. (USCG, 1999)	Water soluble.	Decomposition of sodium hypochlorite takes place within a few seconds with the following salts: ammonium acetate, ammonium carbonate, ammonium nitrate, ammonium oxalate, and ammonium phosphate [Mellor 2 Supp. 1:550 1956]. Several liquid ammonium phosphate fertilizer tanks have ruptured due to inadequate tank design and maintenance. The failure of these tanks were not considered hazardous, except that the failure of these tanks caused failure of nearby tanks of chemicals such as ammonia (anhydrous) and phosphoric acid. (EPA Chemical Safety Alert)						0																						
1936	MERCURIC NITRATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DINITROBENZENE SOLUTION may react vigorously with oxidizing materials. Reaction with nitric acid (nitration) leads to a mixture of trinitrobenzenes possessing high-explosive properties [Urbanski, 1967, vol. 3, p. 290]. If heat and reaction conditions of the nitration are not controlled, detonation comparable to that of TNT may occur [Anon., J. R. Inst. Chem., 1960, 84, p. 451]. A mixture of 1,3-dinitrobenzene with tetranitromethane can be highly explosive [Urbanski, 1964, vol. 1, 592]. 1,2-dinitrobenzene is a severe explosion hazard when shocked or exposed to heat or flame.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1,2-dinitrobenzene, CAS number 528-29-0.	3	1	4	5																						
1937	MERCURIC SULFATE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
1938	MERCUROUS NITRATE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; rubber or plastic gloves; splash goggles; rubber shoes (USCG, 1999)	Readily oxidized to be pyrophoric in air [Bretherick 1979 p. 120]. Ammonium sulfide is slowly decomposed by moisture giving off hydrogen sulfide, a flammable gas. Heat is generated when the pure compound is first dissolved in water.	AMMONIUM SULFIDE SOLUTION is a strongly alkaline aqueous solution. Reacts with acids to generate toxic gaseous hydrogen sulfide. Reacts with bases to release gaseous ammonia. May react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Special Hazards of Combustion Products: Toxic hydrogen sulfide gas is released when solution is heated. If ignited, this will form irritating sulfur dioxide gas (USCG, 1999).	Strong Reducing Agent	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		72		(USCG, 1999)	(hydrogen sulfide)	4		%	(USCG, 1999)	(hydrogen sulfide)	46		%								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1933	MELPHALAN																																								Oxidizer|Corrosive	H3N.HMnO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	19.0	3.0	3.0
1934	MEPROBAMATE														(USCG, 1999)		0.939		68								(USCG, 1999)		155.07											DHA		C18H34O4		9.0	0.0	13.0	3.0	3.0
1935	MERCURIC BROMIDE														(USCG, 1999)	Diammonium: 1.8 at 68.0Â° F Monoammonium: 1.6 at 20Â°C											(USCG, 1999)	Monoammonium: 115 Diammonium: 132												APP		H6NO4P, monobasic|H9N2O4P, dibasic		6.0	0.0	12.0	3.0	3.0
1936	MERCURIC NITRATE																																								Poison	C6H4(NO2)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	22.0	3.0	3.0
1937	MERCURIC SULFATE																																								Flammable Solid|Poison	C6H4N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	23.0	3.0	3.0
1938	MERCUROUS NITRATE														(USCG, 1999)			0.99 to 1.01	68		(USCG, 1999)		104		760		(USCG, 1999)	(solute)	68.14											ASF	Corrosive|Poison|Flammable Liquid	(NH4)2S (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1939	MERCURY ACETATE	ACETIC ACID, MERCURIDI-|ACETIC ACID, MERCURY(2+) SALT|BIS(ACETYLOXY)MERCURY|DIACETOXYMERCURY|MERCURIACETATE|MERCURIC ACETATE|MERCURIC DIACETATE|MERCURIC(II) ACETATE|MERCURY ACETATE|MERCURY ACETATE (HG(O2C2H3)2)|MERCURY DIACETATE|MERCURY(2+) ACETATE|MERCURY(II) ACETATE|MERCURY(II) DIACETATE|MERCURYL ACETATE	1600-27-7	White crystalline solid with an odor of vinegar. Sensitive to light. Density 3.25 g / cm3. Toxic by inhalation (dust, etc.) and by ingestion.	1.0	2.5	5.0	3776.0	377.0	1330.0	675.0	428.0	876.0	91.0	316.0	171.0	97.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1940	MERCURY BROMIDES	MERCURY BROMIDES	7789-47-1	Mercury forms two compounds with bromine: mercury(I) bromide and mercury(II) bromide. Mercury(I) bromide (mercurous bromide) is a white-yellow powder that darkens on exposure to the light and is quite insoluble in water. Mercury(II) bromide (mercuric bromide) is a white crystalline powder that is also sensitive to light, and is somewhat soluble in water (6.1 mg / mL at 25Â°C (Handbook of Chemistry and Physics)). Mercury(II) bromide is extremely poisonous.	1.0	2.5	5.0	3779.0	377.0	1333.0	675.0	428.0	877.0	91.0	317.0	171.0	97.0	(BLOB)	Special Hazards of Combustion Products: Nitrogen oxides and dense black smoke are produced in a fire. Behavior in Fire: Decomposition is self- sustaining at 280Â°C. Containers may explode in a fire. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1941	MERCURY THIOCYANATE	MERCURIC |SOTHIOCYANATE|MERCURIC SULFOCYANATE|MERCURIC SULFOCYANIDE|MERCURIC THIOCYANATE|MERCURIC THIOCYANATE, [SOLID]|MERCURY DI(THIOCYANATE)|MERCURY RHODANIDE|MERCURY THIOCYANATE|MERCURY THIOCYANATE (HG(SCN)2)|MERCURY(II) THIOCYANATE	592-85-8	An odorless white crystalline powder. Insoluble in water and denser than water. Hence sinks in water. Very toxic by inhalation and ingestion.	1.0	2.5	5.0	3782.0	377.0	1336.0	675.0	428.0	878.0	91.0	318.0	171.0	97.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1942	MERCURY((O-CARBOXYPHENYL)THIO)ETHYL, SODIUM SALT	(BLOB)	54-64-8	PHYSICAL DESCRIPTION: Light cream-colored crystalline powder with a slight odor: pH (1% aqueous solution) 6.7. Slight odor. (NTP, 1992)	1.0	2.5	5.0	3782.0	377.0	1336.0	675.0	428.0	878.0	91.0	318.0	171.0	97.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1943	MESITYL OXIDE	2,2-DIMETHYLVINYL METHYL KETONE|ISOBUTENYL METHYL KETONE|1-ISOBUTENYL METHYL KETONE {MESITYL OXIDE}|ISOPROPYLIDENEACETONE|MESITYL OXIDE|METHYL 2,2-DIMETHYLVINYL KETONE|METHYL 2-METHYL-1-PROPENYL KETONE|METHYL ISOBUTENYL KETONE|4-METHYL-3-PENTEN-2-ONE|4-METHYL-3-PENTENE-2-ONE|2-METHYL-4-OXO-2-PENTENE	141-79-7	A colorless, oily liquid with a pungent honey-like odor. Flash point 87Â°F. Less dense than water and slightly soluble in water. Vapors heavier than air. Used in paint removers, as a solvent for plastics, and as an insect repellent.	2.5	5.0	2.5	3785.0	380.0	1339.0	675.0	431.0	879.0	92.0	319.0	171.0	98.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1944	METALDEHYDE	ACETALDEHYDE POLYMER|ACETALDEHYDE, POLYMERS|AGRIMORT|ARIOTOX|HELARION|LIMAX|LIMOVET|LUMACRUSKS|META|METALDEHYDE|POLYACETALDEHYDE|POLYETHANAL|PUZOMOR|SLUGIT|SNAIL-KIL|SUPRASNAIL	9002-91-9	Metaldehyde is a white-colored crystalline solid. It is insoluble in water. It is highly flammable and when ignited will give off irritating fumes. It may be toxic by ingestion and is very irritating to skin and eyes. It is used to make other chemicals.	1.0	2.5	5.0	3785.0	380.0	1339.0	675.0	431.0	879.0	92.0	319.0	171.0	98.0	(BLOB)	Special Hazards of Combustion Products: None (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1939	MERCURY ACETATE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	DINITRORESORCINOL is an oxidizing agent. May begin a vigorous reaction if mixed with reducing agents, including hydrides, sulfides and nitrides. May react if treated with bases such as sodium hydroxide or potassium hydroxide. Dry material can explode when shocked or heated [Hawley]. A weak acid. May form metal salts that detonate when shocked.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1940	MERCURY BROMIDES	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Air-line mask or self-contained breathing apparatus; safety goggles and face shield; rubber gloves and boots; protective clothing. (USCG, 1999)	Insoluble in water.	DINITROTOLUENE is incompatible with strong oxidizing agents, caustics, active metals, tin and zinc (NTP, 1992). Decomposition occurs at 250Â°C. Prolonged heating below 250Â°C causes some decomposition, and the presence of impurities may decrease the decomposition temperatures. Decomposition is self-sustaining at 280Â°C. Containers may explode in a fire (USCG, 1999). May react violently in the presence of a base or when heated to the boiling point. Attacks some forms of plastics, rubbers and coatings (NTP, 1992).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	3	4		(NTP, 1992)		405															(NTP, 1992)			153 to 158
1941	MERCURY THIOCYANATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Nearly insoluble in water. Hydrolysis of the ester group occurs with alkaline pHs.	A dinitrophenyl derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
1942	MERCURY((O-CARBOXYPHENYL)THIO)ETHYL, SODIUM SALT	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	DI-N-OCTYL ETHER, an ether, can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound						0		(NTP, 1992)			greater than 212																	
1943	MESITYL OXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	(BLOB)	Insoluble in water.	P-ANISIDINE may be sensitive to heat, light and moisture. Reacts with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. Incompatible with alkaline materials. Incompatible with aldehydes, ketones and nitrates. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		41															(NTP, 1992)		135	
1944	METALDEHYDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Not required (USCG, 1999)	Insoluble in water.	DI-N-OCTYL PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen may be generated by mixing with alkali metals and hydrides. Can generate electrostatic charges by swirling or pouring [Handling Chemicals Safely, 1980. p. 250].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		219															(NTP, 1992)		-13	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1939	MERCURY ACETATE																																								Flammable Solid	C6H4N2O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	22.0	3.0	3.0
1940	MERCURY BROMIDES	(NTP, 1992)		1		68		mm Hg	(NTP, 1992)		6.27				(USCG, 1999)		1.379		68		(NTP, 1992)	(Decomposes)	572		760		(NTP, 1992)		182.14						(NTP, 1992)	at 63Â° F		less than 0.1	mg/mL	DTT	Poison	C7H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	12.0	3.0	3.0
1941	MERCURY THIOCYANATE																																							Class 9	C18H24N2O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
1942	MERCURY((O-CARBOXYPHENYL)THIO)ETHYL, SODIUM SALT								(NTP, 1992)		8.36				(NTP, 1992)		0.82				(NTP, 1992)		572		760		(NTP, 1992)		242.5													C16H34O		8.0	0.0	13.0	3.0	3.0
1943	MESITYL OXIDE	(NTP, 1992)			less than 0.1	68		mm Hg	(NTP, 1992)		4.25				(NTP, 1992)		1.071		135		(NTP, 1992)		469		760		(NTP, 1992)		123.16		(NIOSH, 2003)		50	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C7H9NO		8.0	0.0	13.0	3.0	3.0
1944	METALDEHYDE	(NTP, 1992)			less than 0.2	302		mm Hg							(USCG, 1999)		0.98		77		(NTP, 1992)		428		760		(NTP, 1992)		390.62						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	DOP	Class 9	C24H38O4		9.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1945	METAM SODIUM (COMPOUNDS, WEED, KILLING, LIQUID)	BAY 5590|CARBAM|CARBAMIC ACID, METHYLDITHIO-, MONOSODIUM SALT|DICID|GEORT|KARBATION|MAPOSOL|METAM SODIUM (COMPOUNDS, WEED, KILLING, LIQUID)|METAM-SODIUM|METHAM SODIUM|MONAM|NCS|NEMATIN|SEPIVAM|SISTAN|SMDC|SODIUM METAM|SODIUM METHAM|SODIUM METHYLCARBAMODITHIOATE|SODIUM METHYLDITHIOCARBAMATE|SODIUM MONOMETHYLDITHIOCARBAMATE|SODIUM N-METHYLDITHIOCARBAMATE|VAPAM|VPM|WOODFUME	137-42-8	A yellow to light yellow-green solution with an odor of amine and sulfur that varies in intensity.	2.5	5.0	2.5	3785.0	380.0	1339.0	675.0	431.0	879.0	92.0	319.0	171.0	98.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1946	METHACRYLIC ANHYDRIDE	METHACRYLIC ACID ANHYDRIDE|METHACRYLIC ANHYDRIDE|METHACRYLOYL ANHYDRIDE|2-PROPENOIC ACID, 2-METHYL-, ANHYDRIDE	760-93-0	Liquid. (EPA, 1998)	2.5	5.0	2.5	3788.0	380.0	1339.0	681.0	431.0	880.0	92.0	319.0	173.0	98.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes on heating. Behavior in Fire: Can react vigorously when exposed to heat or flame. Vapor is heavier than air and may travel a considerable distance to source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1947	METHAMIDOPHOS	ACEPHATE-MET|BAY 71628|BAYER 5546|BAYER 71628|CHEVRON 9006|CHEVRON ORTHO 9006|CKB 1220|ENT 27,396|FILITOX|HAMIDOP|METAMIDOPHOS|METHAMIDOPHOS|METHYL PHOSPHORAMIDOTHIOATE ((MEO)(MES)P(O)(NH2))|MONITOR|MONITOR (INSECTICIDE)|MONITOR|(INSECTICIDE)O,S-DIMETHYL ESTER AMIDE OF AMIDOTHIOATE|O,S-DIMETHYL PHOSPHORAMIDOTHIOATE|O,S-DIMETHYL PHOSPHORAMIDOTHIOLATE|O,S-DIMETHYL THIOPHOSPHORAMIDE|ORTHO 9006|ORTHO MONITOR|PHOSPHORAMIDOTHIOIC ACID, O,S-DIMETHYL ESTER|RE 9006|SRA 5172|TAMARON	10265-92-6	Crystalline solid, technical product is off-white with a pungent odor. Used as an insecticide on a number of vegetables and on cotton. (EPA, 1998)	1.0	2.5	5.0	3788.0	380.0	1339.0	681.0	431.0	880.0	92.0	319.0	173.0	98.0	INHALATION: Move to fresh air. INGESTION: Have victim drink 1-2 glasses of water. EYES: Flush with water. SKIN: Wipe off. Flush with water. Wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Alcohol foam, dry chemical, carbon dioxide. (USCG, 1999)
1948	METHOMYL	(BLOB)	16752-77-5	White crystalline solid with slight sulfurous smell. Used as a nematocide, and an insecticide on vegetables, tobacco, cotton, alfalfa, soy beans, and corn. (EPA, 1998)	1.0	2.5	5.0	3791.0	380.0	1339.0	681.0	431.0	881.0	92.0	319.0	173.0	98.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide (USCG, 1999)
1949	METHOXYACETIC ACID	GLYCOLLIC ACID, METHYL ETHER|METHOXYACETIC ACID|2-METHOXYACETIC ACID|METHOXYETHANOIC ACID|METHYL GLYCOLIC ACID	625-45-6	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3791.0	383.0	1342.0	681.0	431.0	881.0	93.0	320.0	173.0	98.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_sour ce	nfpa_note	nfpa_healt h	nfpa_flam	nfpa_react	nfpa_spec ial	fp_source	fp_note	fp_value	fp_range	fp_note	fp_source	nel_range	nel_value	nel_unit	nel_range	nel_value	nel_note	nel_source	al_note	al_source	al_range	al_value	mp_source	mp_note	mp_value	mp_range
1945	METAM SODIUM (COMPOUNDS, WEED, KILLING, LIQUID)	STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992) REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned.	MINIMUM PROTECTIVE CLOTHING: If vapor-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas, $SO2$) with a dust/mist filter. (NTP, 1992) Wear goggles or face shield; rubber gloves. (USCG, 1999)	Practically water insoluble.	1,2-O-TETRADECANOYLPHORBOL-13-ACETATE is sensitive to acids and alkalis. (NTP, 1992).																												
1946	METHACRYLIC ANHYDRIDE	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (EHC, 2012)	Highly flammable. Slightly soluble in water. Decomposed by light and air; on prolonged storage, to acetaldehyde and acetic acid.	PARALDEHYDE is an ether derivative. This compound is decomposed by light and air, on prolonged storage, to acetaldehyde and acetic acid. Incompatible with alkalis, hydrocyanic acid iodides and oxidizers. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area in all directions (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet).	2010)	NFPA,	2	3	1	4	0	NTP, 1992)	96	%	1.3	USCG, 1999)	460	NTP, 1992)	USCG, 1999)	NTP, 1992)	54.7	less than - 67
1947	METHAMIDOPHOS	Goggles or face shield; rubber gloves. (USCG, 1999)		Flammable. Hydrolyzed by strong mineral acids and strong alkalis.	DINONYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges [Handling Chemicals Safely, 1980, p. 250].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							420	(USCG, 1999)	0													
1949	METHOXYACETIC ACID	SMALL SPILLS AND LEAKAGE: If a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then you should dampen the solid spill material with 60-70% ethanol and transfer to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. All contaminated surfaces with 60-70% ethanol should be washed by washing with a soap and water solution followed by rinsing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and $SO2$) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water. Insoluble in water.	This material is sensitive to prolonged exposure to air. Vapor may form highly reactive mixtures in air. (NTP, 1992)	Vapor may form highly reactive mixtures in air.	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1945	METAM SODIUM (COMPOUNDS, WEED, KILLING, LIQUID)																										(NTP, 1992)		616.92						(NTP, 1992)	Practically insoluble					Poison	C36H56O8	Cellulose-Based Absorbents(Dirt/ Earth	5.0	0.0	13.0	3.0	3.0
1946	METHACRYLIC ANHYDRIDE														(USCG, 1999)		0.9943		68		(NTP, 1992)		262		760		(NTP, 1992)		132.16						(NTP, 1992)	Sparingly soluble				PDH	Flammable Liquid	C6H12O3		7.0	0.0	11.0	3.0	3.0
1947	METHAMIDOPHOS														(USCG, 1999)		0.97				(USCG, 1999)		775		760		(USCG, 1999)		418.68											DIF		C26H42O4		8.0	0.0	27.0	3.0	3.0
1948	METHOMYL														(NTP, 1992)		1.022		68		(NTP, 1992)		648		760		(NTP, 1992)		306.44						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	DAP	Class 9	C18H26O4		8.0	0.0	32.0	3.0	3.0
1949	METHOXYACETIC ACID														(NTP, 1992)		1.497		212		(NTP, 1992)	Decomposes					(NTP, 1992)		172.03						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C6H6BrN		5.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1950	METHYL 2-CHLOROPROPIONATE	ALPHA-CHLOROPROPIONIC ACID METHYL ESTER|2-CHLOROPROPANOIC ACID METHYL ESTER|2-CHLOROPROPIONIC ACID METHYL ESTER|METHYL (.+-.)-2-CHLOROPROPIONATE|METHYL 2-CHLOROPROPANOATE|METHYL 2-CHLOROPROPIONATE|METHYL ALPHA-CHLOROPROPANOATE|METHYL ALPHA-CHLOROPROPIONATE|(.+-.)-METHYL ALPHA-CHLOROPROPIONATE|METHYL CHLOROPROPIONATE|METHYL DL-ALPHA-CHLOROPROPIONATE|PROPIONIC ACID, 2-CHLORO-, METHYL ESTER	17639-93-9	A colorless liquid. Insoluble in water. Irritating and narcotic in high concentrations. Used as a solvent and for making other chemicals and dyes.	2.5	5.0	2.5	3794.0	383.0	1342.0	681.0	434.0	882.0	93.0	320.0	173.0	99.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1951	METHYL ACETOACETATE	ACETOACETIC ACID, METHYL ESTER|ACETOACETIC METHYL ESTER|BUTANOIC ACID, 3-OXO-METHYL ESTER (9CI)|1-METHOXYBUTANE-1,3-DIONE|METHYL 3-OXOBUTANOATE|METHYL 3-OXOBUTYRATE|METHYL ACETOACETATE|METHYL ACETYLACETATE|METHYL ACETYLACETONATE|METHYL-3-OXO-BUTYRATE|3-OXOBUTANOIC ACID METHYL ESTER	105-45-3	A clear colorless liquid. Flash point 158Â°F. Denser than water and slightly soluble in water. Vapors heavier than air.	2.5	5.0	2.5	3794.0	383.0	1342.0	681.0	437.0	882.0	93.0	320.0	173.0	100.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
1952	METHYL BUTYL KETONE	BUTYL METHYL KETONE|HEXANONE-2|2-HEXANONE|KETONE, BUTYL METHYL|MBK|METHYL BUTYL KETONE|METHYL N-BUTYL KETONE|MNBK|N-BUTYL METHYL KETONE|2-OXOHEXANE|PROPYLACETONE	591-78-6	A clear colorless liquid. Flash point 95Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	3794.0	383.0	1342.0	681.0	437.0	882.0	93.0	320.0	173.0	100.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1953	METHYL BUTYRATE	BUTANOIC ACID METHYL ESTER|BUTANOIC ACID, METHYL ESTER|BUTYRIC ACID, METHYL ESTER|ETHYL ACETIC ACID|METHYL BUTANOATE|METHYL BUTYRATE|METHYL N-BUTANOATE|METHYL N-BUTYRATE|METHYL-N-BUTANOATE|METHYL-N-BUTYRATE|N-BUTYRIC ACID, METHYL ESTER|PROPYLFORMIC ACID	623-42-7	A clear colorless liquid. Flash point 57Â°F. Less dense than water and slightly soluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	3794.0	383.0	1342.0	681.0	437.0	882.0	93.0	320.0	173.0	100.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1954	METHYL CAPROATE	CAPROIC ACID METHYL ESTER|HEXANOIC ACID METHYL ESTER|METHYL CAPROATE|METHYL CAPRONATE|METHYL HEXANOATE|METHYL HEXOATE|METHYL HEXYLATE|METHYL N-HEXANOATE	106-70-7	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3797.0	383.0	1345.0	681.0	437.0	883.0	93.0	321.0	173.0	100.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating hydrogen chloride and chlorine gases may form in fires. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1950	METHYL 2-CHLOROPROPIONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store at or below ambient; protect from light. (NTP, 1992)	(BLOB)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		286														(NIOSH, 2003)		-2	
1951	METHYL ACETOACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		383																								
1952	METHYL BUTYL KETONE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	In pure crystalline form there is danger of explosion upon heating, shock, or friction.	Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1953	METHYL BUTYRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P-CHLORO-O-CRESOL can react vigorously with concentrated sodium hydroxide solutions. Also reacts with other bases, acid chlorides, acid anhydrides, and oxidizing agents. Corrodes steel, brass, copper and copper alloys [NTP, 1992]. A large quantity left in contact with concentrated sodium hydroxide solution for 3 days reacted violently, attaining red heat and evolving fumes that ignited explosively. The heat of reaction dissipated poorly because of the high viscosity of the mixture [Quart. Safety Summ,, 1957, 28, 39].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235																(NTP, 1992)		118 to 124
1954	METHYL CAPROATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; face shield; boots and apron; respiratory protection (USCG, 1999)	Slightly soluble to soluble in water.	CHLOROPHENOLS, SOLID are incompatible with acid chlorides, acid anhydrides and oxidizing agents. Also incompatible with iron (NTP, 1992). Liquefy and darken in color at temperatures above 108Â°F.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	1	0	1		(NTP, 1992)		250																(NTP, 1992)		109.8 to 110.7

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1950	METHYL 2-CHLOROPROPIONATE	(NIOSH, 2003)		0.001				mm Hg							(NTP, 1992)		1.4				(NTP, 1992)			617 to 691	760		(NIOSH, 2003)	(approx)	258		(NIOSH, 2003)	; A potential human carcinogen.	5	mg/m3	(NIOSH, 2003)	Insoluble					Class 9			6.0	0.0	18.0	3.0	3.0
1951	METHYL ACETOACETATE														(NTP, 1992)		1.44		86		(NTP, 1992)			644 to 707	760																Class 9			9.0	0.0	20.0	3.0	3.0
1952	METHYL BUTYL KETONE																																									Organic Peroxide	C14H8Cl2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	11.0	3.0	3.0
1953	METHYL BUTYRATE																				(NTP, 1992)			432 to 437	760		(NTP, 1992)		142.59						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Poison	C7H7ClO		6.0	0.0	14.0	3.0	3.0
1954	METHYL CAPROATE	(NTP, 1992)		0.1		68		mm Hg	(NTP, 1992)		4.4				(USCG, 1999)		1.31		68		(NTP, 1992)			428	760		(NTP, 1992)		128.56						(NTP, 1992)	at 59Â° F		10 to 50	mg/mL	CPN	Poison	C6H5ClO		8.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1955	METHYL CARBAMATE	BENDIOCARB|CARBAMIC ACID, METHYL ESTER|METHYL CARBAMATE|METHYLURETHAN|METHYLURETHANE|NCI-C55594|URETHYLAN|URETHYLANE	598-55-0	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	3800.0	383.0	1348.0	681.0	437.0	884.0	93.0	322.0	173.0	100.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1956	METHYL CHLOROACETATE	CHLOROACETIC ACID METHYL ESTER|CHLOROACETIC ACID, METHYL ESTER|METHYL 2-CHLOROACETATE|METHYL ALPHA-CHLOROACETATE|METHYL CHLOROACETATE|METHYL MONOCHLORACETATE|METHYL MONOCHLOROACETATE|MONOCHLOROACETIC ACID METHYL ESTER|MONOCHLOROACETIC ACID, METHYL ESTER	96-34-4	A crystalline solid or a solid dissolved in a liquid. Insoluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	3800.0	383.0	1348.0	684.0	437.0	884.0	93.0	322.0	174.0	100.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1957	METHYL CHLOROFORMATE	CARBONOCHLORIDIC ACID, METHYL ESTER|CARBONOCHLORIDIC ACID, METHYLESTER|CHLOROCARBONIC ACID METHYL ESTER|CHLOROCARBONIC ACID, METHYL ESTER|CHLOROFORMIC ACID METHYL ESTER|CHLOROFORMIC ACID, METHYL ESTER|FORMIC ACID, CHLORO-, METHYL ESTER|K-STOFF|METHOXYCARBONYL CHLORIDE|METHYL CARBONOCHLORIDATE|METHYL CHLOROCARBONATE|METHYL CHLOROFORMATE|TL 438	79-22-1	A colorless liquid with a pungent odor. Flash point 54Â°F. Corrosive to metals and tissue. Vapors heavier than air. Very toxic by inhalation. Used to make other chemicals and insecticides.	2.5	5.0	2.5	3803.0	383.0	1348.0	684.0	437.0	885.0	93.0	322.0	174.0	100.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1958	METHYL CHLOROMETHYL ETHER	ALPHA,ALPHA-DICHLORODIMETHYL ETHER|CHLORODIMETHYL ETHER|CHLOROMETHOXYMETHANE|CHLOROMETHYL METHYL ETHER|CHLOROMETHYL METHYL ETHER, [ANHYDROUS]|CMME|DIMETHYL-CHLOROETHER|DIMETHYLCHLOROETHER|ETHER DIMETHYL CHLORO|ETHER, CHLOROMETHYL METHYL|METHANE, CHLOROMETHOXY-|METHOXYCHLOROMETHANE|METHOXYMETHYL CHLORIDE|METHYL CHLOROMETHYL ETHER|METHYL CHLOROMETHYL ETHER, ANHYDROUS|METHYLCHLOROMETHYL ETHER|METHYLCHLOROMETHYL ETHER, ANHYDROUS|MONOCHLORODIMETHYL ETHER|MONOCHLOROMETH	107-30-2	A clear colorless liquid. Flash point -4Â°F. Irritates the eyes and respiratory system. Very toxic by inhalation and may be toxic by ingestion or skin absorption. Vapors are heavier than air.	2.5	5.0	2.5	3806.0	383.0	1348.0	684.0	440.0	886.0	93.0	322.0	174.0	101.0	(BLOB)	This chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
1959	METHYL CYCLOHEXYLAMINE	CYCLOHEXYLAMINE, N-METHYL-|CYCLOHEXYLMETHYLAMINE|METHYL CYCLOHEXYLAMINE|(METHYLAMINO)CYCLOHEXANE|METHYLCYCLOHEXYLAMINE|N-CYCLOHEXYL-N-METHYLAMINE|N-CYCLOHEXYLMETHYLAMINE|N-METHYL-N-CYCLOHEXYLAMINE|N-METHYLCYCLOHEXANAMINE|N-METHYLCYCLOHEXYLAMINE	100-60-7	A water-white liquid. Slightly soluble in water and floats on water. A strong irritant to skin and eyes. Corrosive. Used as a solvent.	2.5	5.0	2.5	3809.0	383.0	1348.0	687.0	440.0	887.0	93.0	322.0	175.0	101.0	(BLOB)	Special Hazards of Combustion Products: Emits highly toxic fumes. Behavior in Fire: Flammable toxic vapors may be given off. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may cause frothing. Fire Extinguishing Agents: CO 2 , dry chemical, foam, water spray or fog. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1955	METHYL CARBAMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	AMSCO SOLVENT F may be incompatible with strong oxidizing agents, strong acids or bases and selected amines. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		120																			
1956	METHYL CHLOROACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TOLYLTRIAZOLE is incompatible with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0		(NTP, 1992)		360																(NTP, 1992)			169 to 189
1957	METHYL CHLOROFORMATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			
1958	METHYL CHLOROMETHYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	P-CRESIDINE is sensitive to moisture and temperatures greater than 104Â°F. Incompatible with strong oxidizing agents (NTP, 1992).					0		(NTP, 1992)		greater than 230														(NTP, 1992)			126 to 129
1959	METHYL CYCLOHEXYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Insoluble in water.	P-CRESOL is sensitive to heat. It is also sensitive to light. This chemical is incompatible with strong oxidizers and strong alkalis. It will attack some forms of plastics, coatings and rubber. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		187		(NTP, 1992)		1.06		%	(NTP, 1992)		1.4		%	(USCG, 1999)		1038		(NTP, 1992)		94.6	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1955	METHYL CARBAMATE	(NTP, 1992)		1.3		68		mm Hg							(NTP, 1992)		0.876				(NTP, 1992)		340		760										(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Liquid			6.0	0.0	13.0	3.0	3.0
1956	METHYL CHLOROACETATE	(NTP, 1992)		0.03		122		mm Hg	(NTP, 1992)		4.6				(NTP, 1992)		1.13		212		(NTP, 1992)		320		2		(NTP, 1992)		133.16						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C7H7N3	Mineral-Based & Clay-Based Absorbents	9.0	0.0	27.0	3.0	3.0
1957	METHYL CHLOROFORMATE																																								Poison	C7H4ClNO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	23.0	3.0	3.0
1958	METHYL CHLOROMETHYL ETHER								(NTP, 1992)	(calculated)	4.7				(NTP, 1992)		1				(NTP, 1992)		455		760		(NTP, 1992)		137.2						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C8H11NO		9.0	0.0	15.0	3.0	3.0
1959	METHYL CYCLOHEXYLAMINE	(NTP, 1992)	; 0.11 mm Hg at 77Â° F	0.04		68		mm Hg	(NTP, 1992)		3.72				(USCG, 1999)		1.034		68		(NTP, 1992)		395.2		760		(NTP, 1992)		108.14		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	CSO	Poison|Corrosive	C7H8O		8.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1960	METHYL HEPTYL KETONE	KETONE, HEPTYL METHYL|METHYL HEPTYL KETONE|NONAN-2-ONE|2-NONANONE	821-55-6	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3809.0	383.0	1348.0	687.0	440.0	887.0	93.0	322.0	175.0	101.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1961	METHYL HEXANOATE	METHYL HEXANOATE AND METHYL OCTANOATE|METHYL HEXANOATE AND METHYL OCTANOATE (METHYL CAPRYLATE)	106-70-7	A colorless liquid with a faint odor. Vapors are slightly heavier than air. Used to make detergents, lubricants, and plastics.	2.5	5.0	2.5	3809.0	383.0	1348.0	690.0	440.0	887.0	93.0	322.0	176.0	101.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1962	METHYL ISOBUTYL KETONE	HEXONE|ISOBUTYL METHYL KETONE|ISOBUTYL METHYL KETONE (METHYL ISOBUTYL KETONE)|ISOPROPYL ACETONE|ISOPROPYLACETONE|KETONE, ISOBUTYL METHYL|METHYL 2-METHYLPROPYL KETONE|4-METHYL 2-PENTANONE|METHYL ISO-BUTYL KETONE|METHYL ISOBUTYL KETONE|4-METHYL-2-OXOPENTANE|4-METHYL-2-PENTANONE|2-METHYL-4-PENTANONE|2-METHYLPROPYL METHYL KETONE|MIBK|MIK|2-PENTANONE, 4-METHYL-|SHELL MIBK	108-10-1	A clear colorless liquid with a pleasant odor. Flash point 73Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	3812.0	383.0	1348.0	690.0	440.0	888.0	93.0	322.0	176.0	101.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably nonflammable. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1963	METHYL ISOVALERATE	ISOVALERIC ACID, METHYL ESTER|METHYL 3-METHYLBUTANOATE|METHYL 3-METHYLBUTYRATE|METHYL ISO-VALERATE|METHYL ISOPENTANOATE|METHYL ISOVALERATE	556-24-1	A colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air. May be slightly toxic by ingestion and inhalation. Used to make other chemicals.	2.5	5.0	2.5	3815.0	383.0	1348.0	690.0	440.0	889.0	93.0	322.0	176.0	101.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1964	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER|METHYL MAGNESIUM BROMIDE IN ETHYL ETHER, [<= 40% CONCENTRATION]	75-16-1	A colorless cloudy solution in diethyl ether. Vapors heavier than air.	2.5	5.0	2.5	3818.0	383.0	1348.0	690.0	440.0	890.0	93.0	322.0	176.0	101.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1965	METHYL ORTHOSILICATE	KBM 04|METHYL ORTHOSILICATE|METHYL SILICATE|METHYL SILICATE ((CH3)4SiO4)|METHYL SILICATE ((MEO)4SI)|METHYL SILICATE 39|MSP 150|SILANE, TETRAMETHOXY-|SILICON METHOXIDE (SI(OME)4)|SILICON TETRAMETHOXIDE|TETRAMETHOXYSILANE|TETRAMETHYL ESTER OF SILICIC ACID|TETRAMETHYL ORTHOSILICATE|TETRAMETHYL SILICATE|TMOS	681-84-5	A clear colorless liquid. Flash point below 125Â°F. Less dense than water and insoluble in water. Very toxic by ingestion and inhalation and very irritating to skin and eyes. Used to make paints and lacquers.	2.5	5.0	2.5	3818.0	383.0	1348.0	690.0	440.0	890.0	93.0	322.0	176.0	101.0	INHALATION: if necessary, support respiration. INGESTION: induce vomiting and call a doctor. SKIN OR EYES: wash with copious amounts of water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Foam, dry chemical or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1960	METHYL HEPTYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and protect it from moisture. Keep it away from oxidizing agents and acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PENICILLIN G, SODIUM SALT is hygroscopic. This compound is incompatible with acids, oxidizing agents (especially in the presence of trace metals), heavy metal ions such as copper, lead, zinc and mercury; glycerol, sympathomimetic amines, thiomersal, wood alcohols, cetostearyl alcohol, hard paraffins, macrogols, cocoa butter and many ionic an nonionic surface-active agents. It is also incompatible with alkalis, compounds leached from vulcanized rubber, hydrochlorides of tetracyclines and organic peroxides. Other incompatibilities include reducing agents, alcohols, other hydroxy compounds, self-emulsifying stearyl alcohol, emulsifying wax, lanolin, crude cholinesterated bases, glycol, sugars, amines, aminacrine hydrochloride, ephedrine, procaine, rubber tubing, thiamine hydrochloride, zinc oxide, oxidized cellulose, iodine, iodides, thiols, chlorocresol and resorcinol. It may also be incompatible with naphthalene oils and vitamin B. (NTP, 1992)						0																							(NTP, 1992)	(decomposes)		408 to 414
1961	METHYL HEXANOATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with ethanol, and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Stable in air up to 37%; relatively stable to acid. This compound is incompatible with acids, oxidizing agents (especially in the presence of trace metals), heavy metal ions such as copper, lead, zinc and mercury; glycerol, sympathomimetic amines, thiomersal, wood alcohols, cetostearyl alcohol, hard paraffins, macrogols, cocoa butter and many ionic an nonionic surface-active agents. It is also incompatible with alkalis, compounds leached from vulcanized rubber, hydrochlorides of tetracyclines and organic peroxides. Other incompatibilities include reducing agents, alcohols, other hydroxy compounds, self-emulsifying stearyl alcohol, emulsifying wax, lanolin, crude cholinesterated bases, glycol, sugars, amines, aminacrine hydrochloride, ephedrine, procaine, rubber tubing, thiamine hydrochloride, zinc oxide, oxidized cellulose, iodine, iodides, thiols, chlorocresol and resorcinol. It may also be incompatible with naphthalene oils and vitamin B. (NTP, 1992)						0																							(NTP, 1992)	(Decomposes)		248 to 262
1962	METHYL ISOBUTYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as PENTABROMOCHLOROCYCLOHEXANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			374 to 388
1963	METHYL ISOVALERATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated ether derivative. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert. Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			226 to 228
1964	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Slightly soluble in water, soluble in hot water. Hydrolysis occurs rapidly with strong acid/base media.	1-ACETYL-2-THIOUREA is incompatible with strong oxidizing agents, strong acids and strong bases. Decomposes when heated to give toxic oxides of sulfur and nitrogen.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			329 to 336
1965	METHYL ORTHOSILICATE		Goggles or face shield. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	PENTADECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																							(USCG, 1999)		111	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1960	METHYL HEPTYL KETONE														(NTP, 1992)		1.41										(NTP, 1992)		356.4						(NTP, 1992)	at 77Â° F		50 to 100	mg/mL			C16H18N2O4S.Na		8.0	0.0	15.0	3.0	3.0
1961	METHYL HEXANOATE																											(NTP, 1992)		350.42						(NTP, 1992)	at 55Â° F		less than 1	mg/mL			C16H18N2O5S		8.0	0.0	16.0	3.0	3.0
1962	METHYL ISOBUTYL KETONE																											(NTP, 1992)		513.12						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C6H6Br5Cl		8.0	0.0	13.0	3.0	3.0
1963	METHYL ISOVALERATE																											(NTP, 1992)		280.35						(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Poison	C7H3Cl5O		6.0	0.0	13.0	3.0	3.0
1964	METHYL MAGNESIUM BROMIDE IN ETHYL ETHER																											(NTP, 1992)		118.16												Poison	C3H6N2OS		6.0	0.0	20.0	3.0	3.0
1965	METHYL ORTHOSILICATE														(USCG, 1999)		0.829		122		(USCG, 1999)		572		760	(USCG, 1999)		228.42											PDC		C15H32O	Cellulose-Based Absorbents	5.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1966	METHYL PARATHION MIXTURE, [LIQUID, WITH < 25% METHYL PARATHION]	AZOFOS|AZOPHOS|BAY 11405|DALF|DEMETHYLFENITROTHION|DIMETHYL 4-NITROPHENYL PHOSPHOROTHIOATE|DIMETHYL P-NITROPHENYL PHOSPHOROTHIONATE|DIMETHYL P-NITROPHENYL THIOPHOSPHATE|DIMETHYL PARATHION|FOLIDOL 600|FOLIDOL M|FOLIDOL M 40|FOLIDOL M 50|8056H|C,M-PARATHION|ME 1605|ME 605|ME 605SP|MEPTOX|METACIDE|METACIDE (INSECTICIDE)|METAFOS|METAFOS (PESTICIDE)|METAPHOS|METHYL 1605|METHYL E 605|METHYL PARATHION|METHYL PARATHION MIXTURE, [LIQUID, WITH < 25% METHYL PARATHION]|METHYL PARATHION, LIQUID|METHYLTHIOPHOS|METRON|METRON	298-00-0	Methyl parathion is a white crystalline solid. It is slightly soluble to insoluble in water. It is toxic by skin absorption and inhalation.	1.0	2.5	5.0	3818.0	383.0	1348.0	690.0	440.0	890.0	93.0	322.0	176.0	101.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1967	METHYL PARATHION, [LIQUID]	(BLOB)	298-00-0	Methyl parathion is a white crystalline solid dissolved in a liquid solvent carrier. The commercial product is a tan liquid (xylene solution) with a pungent odor. It is slightly soluble to insoluble in water. Usually with the liquid solvent it is a combustible liquid. It is toxic by inhalation, ingestion and skin absorption. It is used as an insecticide.	1.0	2.5	5.0	3818.0	383.0	1348.0	690.0	440.0	890.0	93.0	322.0	176.0	101.0	(BLOB)	Container may explode in heat of fire. Toxic vapors are generated when heated. Releases hydrochloric acid in the presence of alkali, on prolonged exposure to sunlight, and at temperatures above 311F. Avoid strong oxidizers, corrosive to iron. (EPA, 1998)	Move container from fire area if this can be done without risk. Fight fire from a maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Water may be ineffective on fire. (EPA, 1998)
1968	METHYL PARATHION, MIXTURE, DRY	AZOFOS|AZOPHOS|BAY 11405|DALF|DEMETHYLFENITROTHION|DIMETHYL 4-NITROPHENYL PHOSPHOROTHIOATE|DIMETHYL P-NITROPHENYL PHOSPHOROTHIONATE|DIMETHYL P-NITROPHENYL THIOPHOSPHATE|DIMETHYL PARATHION|FOLIDOL 600|FOLIDOL M|FOLIDOL M 40|FOLIDOL M 50|8056H|C,M-PARATHION|ME 1605|ME 605|ME 605SP|MEPTOX|METACIDE|METACIDE (INSECTICIDE)|METAFOS|METAFOS (PESTICIDE)|METAPHOS|METHYL 1605|METHYL E 605|METHYL PARATHION|METHYL PARATHION MIXTURE, [DRY]|METHYL PARATHION, MIXTURE, DRY|METHYL PARATHION, SOLID|METHYLTHIOPHOS|METRON|METRON (PESTICIDE)|NITROX|NITRO	298-00-0	A white crystalline solid. Toxic by skin absorption and inhalation.	1.0	2.5	5.0	3821.0	383.0	1348.0	690.0	440.0	891.0	93.0	322.0	176.0	101.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1969	METHYL PROPIONATE	METHYL PROPANOATE|METHYL PROPIONATE|METHYL PROPYLATE|PROPANOIC ACID, METHYL ESTER|PROPIONIC ACID, METHYL ESTER	554-12-1	A clear colorless liquid. Flash point 28Â°F. Density about the same as water. Vapors heavier than air. May irritate skin, eyes, and mucous membranes. Used for flavoring and as a solvent.	2.5	5.0	2.5	3821.0	383.0	1348.0	690.0	440.0	891.0	93.0	322.0	176.0	101.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		Fire Extinguishing Agents: Water, dry chemical, carbon dioxide (USCG, 1999)
1970	METHYL PROPYL KETONE	ETHYL ACETONE|ETHYLACETONE|METHYL N-PROPYL KETONE|METHYL PROPYL KETONE|4-METHYL-2-BUTANONE|METHYL-N-PROPYL KETONE|METHYL PROPYL KETONE|MPK|2-PENTANONE|PROPYL METHYL KETONE	107-87-9	A clear colorless liquid with the odor of fingernail polish. Flash point 45Â°F. Less dense than water and soluble in water. Hence floats on water. Density 0.809 g / cm3. Vapors heavier than air.	2.5	5.0	2.5	3821.0	383.0	1348.0	693.0	440.0	891.0	93.0	322.0	177.0	101.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as amine vapors, nitrogen oxides, and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Containers may rupture when overheated. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Do not use water. Fire Extinguishing Agents: Alcohol foam, sand, dry chemical, or CO 2 . (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1966	METHYL PARATHION MIXTURE, [LIQUID, WITH < 25% METHYL PARATHION]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	DI-N-PROPYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0																							
1967	METHYL PARATHION, [LIQUID]	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wash away any material which may have contacted the body with copious amounts of water or soap and water. In case of land spill, dig a pit, pond, lagoon, or holding area to contain the liquid or solid material. Cover solids with a plastic sheet to prevent dissolving in rain or firefighting water. In case of water spill, if camphechlor is dissolved, apply activated carbon at ten times the spilled amount in region of 10 ppm or greater concentration. Remove trapped material with suction hoses. Use mechanical dredges or lifts to remove immobilized masses of pollutants and precipitates. (EPA, 1998)	(BLOB)	Insoluble in water.	TOXAPHENE is decomposed by sunlight and heat. This chemical is decomposed in the presence of alkali. It is corrosive to iron. It is incompatible with strong oxidizers. It is non corrosive in the absence of moisture. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(EPA, 1998)		84		(EPA, 1998)		1.1		%	(EPA, 1998)		6.4		%	(USCG, 1999)		986		(EPA, 1998)			149 to 194
1968	METHYL PARATHION, MIXTURE, DRY	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	About the same as water and slowly dissolves in water.	Organophosphates, such as DIOCTYL ACID PYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
1969	METHYL PROPIONATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water soluble.	PENTAERYTHRITOL is an alcohol. This compound is incompatible with the following: Organic acids, oxidizers [Note: Explosive compound is formed when a mixture of PE & thiophosphoryl chloride is heated.] (NIOSH, 1997).							0															(USCG, 1999)		842		(USCG, 1999)		502	
1970	METHYL PROPYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper and any clothing which may have been contaminated in a vapor-tight plastic bag for eventual disposal. Wash contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this chemical in a tightly closed container under an inert atmosphere and store it in a freezer. (NTP, 1992)	Wear chemical protective gloves. Wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Water soluble.	PENTAETHYLENEHEXAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		greater than 200											(USCG, 1999)		680					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1966	METHYL PARATHION MIXTURE, [LIQUID, WITH < 25% METHYL PARATHION]														(NTP, 1992)		1.071		77		(NTP, 1992)			579 to 581	760		(NTP, 1992)		250.3													C14H18O4		6.0	0.0	18.0	3.0	3.0
1967	METHYL PARATHION, [LIQUID]	(EPA, 1998)		0.4		77		mm Hg							(EPA, 1998)		1.65				(NTP, 1992)	Decomposes					(NTP, 1992)		413.8		(NIOSH, 2003)	; A potential human carcinogen.	200	mg/m3	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	TXP	Poison	C10H10ClI8	Dirt/Earth	6.0	0.0	18.0	3.0	3.0
1968	METHYL PARATHION, MIXTURE, DRY																																								Corrosive	C16H36O7P2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	18.0	3.0	3.0
1969	METHYL PROPIONATE	(NIOSH, 2003)		8.00E-08				mm Hg							(USCG, 1999)		1.39		77		(NIOSH, 2003)	Sublimes					(USCG, 1999)		136.2						(NIOSH, 2003)	at 59Â° F	6		%	PET		C5H12O4	Cellulose-Based Absorbents	8.0	0.0	18.0	3.0	3.0
1970	METHYL PROPYL KETONE														(USCG, 1999)		1		68		(USCG, 1999)			662 to 734	760		(NTP, 1992)		232.37						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	PEN	Corrosive	C10H28N6	Mineral-Based & Clay-Based Absorbents	7.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1971	METHYL SUCCINIC ACID	(-+-)-ALPHA-METHYLSUCCINIC ACID|DL-ALPHA-METHYLSUCCINIC ACID|DL-METHYLBUTANEDIOIC ACID|DL-METHYLSUCCINIC ACID|METHYL SUCCINIC ACID|METHYLBUTANEDIOIC ACID|2-METHYLBUTANEDIOIC ACID|METHYLSUCCINIC ACID(-+-)-METHYLSUCCINIC ACID|2-METHYLSUCCINIC ACID|PROPANE-1,2-DICARBOXYLIC ACID|1,2-PROPANEDICARBOXYLIC ACID|PYROTARTARIC ACID|R,S-2-METHYLBUTANEDIOIC ACID|SUCCINIC ACID, METHYL-	498-21-5	PHYSICAL DESCRIPTION: White or yellowish crystals or beige powder. (NTP, 1992)	1.0	2.5	5.0	3821.0	386.0	1348.0	693.0	443.0	891.0	94.0	322.0	177.0	102.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1972	METHYL TRIFLUOROMETHANE SULFONATE	METHANESULFONIC ACID, TRIFLUORO-, METHYL ESTER|METHYL TRIFLATE|METHYL TRIFLUOROMETHANE SULFONATE|METHYL TRIFLUOROMETHANESULFONATE|TRIFLUOROMETHANESULFONIC ACID METHYL ESTER|TRIFLUOROMETHANESULFONIC ACID, METHYL ESTER	333-27-7	PHYSICAL DESCRIPTION: Brown liquid. Insoluble in water. (NTP, 1992) This material is a very reactive methylating agent, also known as methyl triflate.	2.5	5.0	2.5	3821.0	386.0	1348.0	693.0	443.0	891.0	94.0	322.0	177.0	102.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1973	METHYL VINYL KETONE	ACETONE, METHYLENE-|ACETYL ETHYLENE|3-BUTEN-2-ONE|1-BUTEN-3-ONE|3-BUTENE-2-ONE|BUTENONE|2-BUTENONE|DELTA (SUP 3)-2-BUTENONE|DELTA(3)-2-BUTENONE|GAMMA-OXO-ALPHA-BUTYLENE|GAMMA-OXO-ALPHA-BUTYLENE|KETONE, METHYL VINYL|METHYL VINYL KETONE|METHYL VINYL KETONE, INHIBITED|METHYL VINYL KETONE, STABILIZED|METHYL VINYL KETONE, [INHIBITED]|METHYLENE ACETONE|METHYLVINYL KETONE|3-OXO-1-BUTENE|3-OXOBUTENE|VINYL METHYL KETONE	78-94-4	A clear colorless liquid with a pungent odor. Flash point 20Â° F. May polymerize with the release of heat under exposure to heat or contamination. Less dense than water. Highly toxic by inhalation. Causes burns to skin, eyes and mucous membranes.	2.5	5.0	2.5	3824.0	386.0	1348.0	693.0	443.0	892.0	94.0	322.0	177.0	102.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1974	METHYLALLYL CHLORIDE	BETA-METHALLYL CHLORIDE|BETA-METHYLALLYL CHLORIDE|3-CHLORO-2-METHYL-1-PROPENE|1-CHLORO-2-METHYL-2-PROPENE|3-CHLOROISOBUTENE|3-CHLOROISOBUTYLENE|2-(CHLOROMETHYL)-1-PROPENE|GAMMA-CHLOROISOBUTYLENE|ISOBUTENYL CHLORIDE|METHALLYL CHLORIDE|2-METHALLYL CHLORIDE|2-METHYL-2-PROPENYL CHLORIDE|2-METHYL-3-CHLOROPROPENE|METHYL ALLYL CHLORIDE|2-METHYLALLYL CHLORIDE|NCI-C54820|PROPENE, 3-CHLORO-2-METHYL-	563-47-3	A colorless to straw-colored liquid with a sharp penetrating odor. Less dense than water and insoluble in water. Flash point below 0Â°F. May be toxic by ingestion. Irritating to skin and eyes. Used to make plastics and pharmaceuticals.	2.5	5.0	2.5	3827.0	386.0	1348.0	693.0	443.0	893.0	94.0	322.0	177.0	102.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1975	METHYLDICHLOROSILANE	DICHLOROHYDRIDOMETHYLSILICON|DICHLOROMETHYLSILANE|METHYL DICHLOROSILANE|METHYLDICHLOROSILANE|MONOMETHYLDICHLOROSILANE	75-54-7	A colorless fuming liquid with a pungent odor. Flash point: -26Â°F; Boiling point: 41Â°C (106Â°F) . Vapors heavier than air. Vapor and liquid may cause burns. Denser than water and decomposed by water to form hydrochloric acid, a corrosive material.	2.5	5.0	2.5	3830.0	386.0	1348.0	693.0	443.0	894.0	94.0	322.0	177.0	102.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1971	METHYL SUCCINIC ACID	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. When exposed to air it undergoes autooxidation with formation of peroxides. In the distillation process peroxides will concentrate causing violent explosion. Water soluble.	DIOXANE is a flammable liquid; when exposed to air it undergoes autooxidation with formation of peroxides. In the distillation process peroxides will concentrate causing violent explosion. The addition complex with sulfur trioxide (1:1) sometimes decomposes violently on storing at room temperature [Sisler, H. H. et al., Inorg. Synth., 1947, 2, p. 174]. Evaporation of boron trifluoride in aqueous dioxane with nitric acid led to an explosion upon addition of perchloric acid [MCA Guide, 1972, p. 312]. Explosive reaction with Raney nickel catalyst above 210Â° C [Mozingo R., Org. Synth., 1955, Coll. Vol. 3, p. 182].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		54		(NTP, 1992)		2		%	(NTP, 1992)		22		%	(USCG, 1999)		356		(NTP, 1992)		53.2	
1972	METHYL TRIFLUOROMETHANE SULFONATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Do not wear contact lenses when working with this material. Use approved respirator to protect against vapors. (USCG, 1999)	Water soluble.	PENTANOIC ACID is a carboxylic acid. Exothermically neutralizes bases, both organic and inorganic, producing water and a salt. Can react with active metals to form gaseous hydrogen and a metal salt. Reacts with cyanide salts to generate gaseous hydrogen cyanide. Flammable and/or toxic gases and heat are generated by reaction with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Reacts with sulfites, nitrites, thiosulfates and dithionites to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide) but still heat. Can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. May initiate polymerization reactions. May catalyze (increase the rate of) chemical reactions.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		192		(USCG, 1999)		1.6		%	(USCG, 1999)		7.6		%	(USCG, 1999)		752		(NTP, 1992)		-30.1	
1973	METHYL VINYL KETONE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Freely soluble in water. Aqueous solutions are unstable upon storage.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1974	METHYLALLYL CHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	PERCHLORATE, N.O.S. is a strong oxidizing agents. May be self-reactive (e.g., ammonium perchlorate, glycol perchlorate) and liable to violent decomposition. The violence of decomposition of some perchlorates exceeds that of nitroglycerine. Noncombustible but able to accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, then an explosion may result.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
1975	METHYLDICHLOROSILANE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	PERLITE is non-flammable and non-combustible. Mostly chemically inert. Soluble in hot concentrated alkali and HF. Moderately soluble (<10%) in 1 molar NaOH. Slightly soluble in dilute strong acids . Very slightly soluble in water or weak acids. No chemical incompatibilities reported. When heated to a sufficiently high temperature, it expands to between four and twenty times its original volume as its 2-6% by weight of loosely bound water boils away. When quickly heated to above 1600 degrees F, pops like popcorn as its water vaporizes. Expanded perlite is a fluffy, white particulate.						0																						(NIOSH, 2003)		greater than 2000

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1971	METHYL SUCCINIC ACID	(NTP, 1992)	; 37 mm Hg at 77Â° F	29		68		mm Hg	(NTP, 1992)		3.03				(USCG, 1999)		1.036		68		(NTP, 1992)		214		760		(NTP, 1992)		88.11		(NIOSH, 2003)	; A potential human carcinogen.	500	ppm	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DOX	Flammable Liquid	C4H8O2		9.0	0.0	26.0	3.0	3.0
1972	METHYL TRIFLUOROMETHANE SULFONATE	(NTP, 1992)	; 40 mm Hg at 226.0Â° F; 760 mm Hg at 363.9Â° F	1		108		mm Hg	(NTP, 1992)		3.52				(USCG, 1999)		0.939				(NTP, 1992)		365		760		(NTP, 1992)		102.13						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	POC	Corrosive	C5H10O2		6.0	0.0	16.0	3.0	3.0
1973	METHYL VINYL KETONE																																								Poison	C11H17N2NaO3		7.0	0.0	11.0	3.0	3.0
1974	METHYLALLYL CHLORIDE																																								Oxidizer	ClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
1975	METHYLDICHLOROSILANE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(crude) 0.05-0.3 (expanded)		2.2 to 2.4									(NIOSH, 2003)	varies							(NIOSH, 2003)			less than 1	%					6.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1976	METHYLDIETHANOLAMINE	DIETHANOLMETHYLAMINE|ETHANOL, 2,2'-(METHYLIMINO)DI-|EVE|MDEA|MDEA (DIOL)|METHYL DIETHANOLAMINE|METHYL BIS(2-HYDROXYETHYL)AMINE|METHYLDIETHANOLAMINE|2,2'-(METHYLIMINO)DIETHANOL|METHYLIMINODIETHANOL|2,2'-METHYLIMINODIETHANOL|2,2'-METHYLIMINODIETHANOLAMINE|N,N-BIS(2-HYDROXYETHYL)METHYLAMINE|N-(2-HYDROXYETHYL)-N-METHYLETHANOLAMINE|N-METHYL-2,2'-IMINODIETHANOL|N-METHYLAMINODIGLYCOL|N-METHYLBIS(2-HYDROXYETHYL)AMINE|N-METHYLDIETHANOLAMINE|N-METHYLIMINODIETHANOL|	105-59-9	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3833.0	386.0	1348.0	693.0	443.0	895.0	94.0	322.0	177.0	102.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1977	METHYLENEBIS(THIOCYANATE)	ANTIBLU 3737|ANTIBLU 3738|BASIMENT 540|BIS(THIOCYANATO)METHANE|BUSAN 110|DITHIOCYANOMETHANE|KILSTAIN|METASOL T 10|METHYLENE BIS(THIOCYANATE)|METHYLENE DITHIOCYANATE|METHYLENE THIOCYANATE|METHYLENEBIS(THIOCYANATE)|METHYLENEDIRHODANIDE|NALCO 5793|NALCO D 2303|NALFLOC N 206|PROXEL MB|SLIMICIDE MC|THIOCYANIC ACID, METHYLENE ESTER|V 709	6317-18-6	PHYSICAL DESCRIPTION: Yellow to light orange-colored mass or yellow powder. (NTP, 1992)	1.0	2.5	5.0	3836.0	386.0	1348.0	693.0	443.0	896.0	94.0	322.0	177.0	102.0	INHALATION: move to fresh air; support respiration; get medical attention. INGESTION: induce vomiting; get medical attention. EYES: irrigate thoroughly with water. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in a fire. Behavior in Fire: Overheated material may detonate. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1978	METHYLETHANOLAMINE	AMIETOL M T1|BETA-(METHYLAMINO)ETHANOL|2-HYDROXY-N-METHYLETHYLAMINE|(HYDROXYETHYL)METHYLAMINE|(2-HYDROXYETHYL)METHYLAMINE|2-HYDROXYETHYL-N-METHYLAMINE|METHYL(2-HYDROXYETHYL)AMINE|METHYL(BETA-HYDROXYETHYL)AMINE|METHYL(HYDROXYETHYL)AMINE|2-(METHYLAMINO)ETHANOL|2-METHYLAMINO-1-ETHANOL|METHYLAMINOETHANOL|2-METHYLAMINOETHANOL|METHYLETHANOLAMINE|METHYLETHYLOLAMINE|MONOETHYLETHANOLAMINE|MONOMETHYL ETHANOLAMINE|MONOMETHYLAMINOETHANOL|MONOMETHYLETHANOLAMINE|MONOMETHYLMONOETHANOLAMINE|N-(2-HYDROXYETHYL)METHYLA	109-83-1	A clear colorless liquid. Flash point 165Â°F. Less dense than water and soluble in water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Used to make other chemicals.	2.5	5.0	2.5	3839.0	386.0	1348.0	693.0	443.0	897.0	94.0	322.0	177.0	102.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1979	METHYLEUGENOL	4-ALLYL-1,2-DIMETHOXYBENZENE|1-ALLYL-3,4-DIMETHOXYBENZENE|4-ALLYLVERATROLE|BENZENE, 4-ALLYL-1,2-DIMETHOXY-|CHAVIBETOL METHYL ETHER|1,2-DIMETHOXY-4-(2-PROPENYL)BENZENE|1,2-DIMETHOXY-4-ALLYLBENZENE|3,4-DIMETHOXYALLYLBENZENE|1-(3,4-DIMETHOXYPHENYL)-2-PROPENE|3-(3,4-DIMETHOXYPHENYL)PROPENE|ENT 21040|EUGENOL METHYL ETHER|1,3,4-EUGENOL METHYL ETHER|EUGENYL METHYL ETHER|METHYL EUGENOL ETHER|METHYLEUGENOL|O-METHYLEUGENOL|VERATROLE METHYL ETHER|VERATROLE, 4-ALLYL-	93-15-2	PHYSICAL DESCRIPTION: Clear colorless to pale yellow liquid with a spicy earthy odor. Bitter burning taste. (NTP, 1992)	2.5	5.0	2.5	3839.0	386.0	1348.0	693.0	443.0	897.0	94.0	322.0	177.0	102.0	EYES: wash with water. (USCG, 1999)	Combustible. (USCG, 1999)	Extinguish with foam, dry chemical or carbon dioxide. Cool exposed containers with water. (USCG, 1999)
1980	METHYLHYDRAZINE	HYDRAZINE, METHYL-|HYDRAZOMETHANE|METHYL HYDRAZINE|METHYLHYDRAZINE|1-METHYLHYDRAZINE|MMH|MONOMETHYLHYDRAZINE	60-34-4	A colorless liquid with an ammonia-like odor. Flash point below 75Â°F. Spontaneous ignition may occur in contact with oxidizing materials. Very toxic by inhalation and by skin absorption. Produces toxic oxides of nitrogen during combustion. Rate of onset: Immediate Persistence: Hours - days Odor threshold: 1-10 ppm Source/use/other hazard: Solvent, rocket fuel; flammable; irritating to skin/eyes.	2.5	5.0	2.5	3839.0	386.0	1348.0	693.0	443.0	897.0	94.0	322.0	177.0	102.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1976	METHYLDIETHANOLAMINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Acetic acid or acetic anhydride can explode with permanganates if not kept cold. [Von Schwartz 1918. p. 34]. Explosions can occur when permanganates, treated with sulfuric acid come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1977	METHYLENEBIS(THIOCYANATE)	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Respirator with canister for vapors at high concentrations (USCG, 1999)	Flammable. Insoluble in water.	AMYL NITRATE is an oxidizing reagent. When exposed to heat or flame it may decompose to form nitrogen oxides. Accelerates the burning of combustible materials. Can produce a violent reaction with reducing materials [Sax, 9th ed., p. 228].	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2	Oxidizer	(USCG, 1999)		120															(USCG, 1999)		-190	
1978	METHYLETHANOLAMINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	They are slightly soluble in water and weigh more than water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
1979	METHYLEUGENOL	Stop discharge if possible. Keep people away. Avoid contact with liquid. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)		No rapid reaction with air. No rapid reaction with water.	PETROLATUM is unreactive in most circumstances.								0		(USCG, 1999)			360 to 430													(USCG, 1999)		100 to 135
1980	METHYLHYDRAZINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	NAPHTHA is incompatible with strong oxidizing agents such as nitric acid. Charring may occur followed by ignition of unreacted material and nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. Burns when heated sufficiently or when ignited in the presence of air. May be ignited by strong oxidizing agents (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 100	(USCG, 1999)		0.8		%	(USCG, 1999)		5		%	(USCG, 1999)		444					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1976	METHYLDIETHANOLAMINE																																									MnO4	Cellulose-Based Absorbents|Exp anded Polymeric Absorbents	9.0	0.0	24.0	3.0	3.0
1977	METHYLENEBIS(THIOCYANATE)														(USCG, 1999)		1		68		(USCG, 1999)		760	292 to 314	760		(USCG, 1999)		133													ANT	Flammable Liquid	C6H11N O3	Cellulose-Based Absorbents|Exp anded Polymeric Absorbents	9.0	0.0	16.0	3.0	3.0
1978	METHYLETHANOLAMINE														(USCG, 1999)																											Oxidizer	O2	Cellulose-Based Absorbents|Exp anded Polymeric Absorbents	9.0	0.0	22.0	3.0	3.0
1979	METHYLEUGENOL														(USCG, 1999)	Estimated.	0.865		140		(USCG, 1999)	Very high.																			PTL			7.0	0.0	21.0	3.0	3.0
1980	METHYLHYDRAZINE														(USCG, 1999)			0.85 to 0.87	68		(USCG, 1999)		760	266 to 311	760		(NIOSH, 2003)		110		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)	Insoluble				NSV	Flammable Liquid			9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1981	METHYLPHENYLDICHLOROSILANE	[(DICHLORO)METHYLSILYL]BENZENE|DICHLOROMETHYLPHENYLSILANE|DICHLOROPHENYLMETHYLSILANE|LS 1490|METHYLPHENYLDICHLOROSILANE|PHENYLDICHLORO(METHYL)SILANE|PHENYLMETHYLDICHLOROSILANE|SILANE, DICHLOROMETHYLPHENYL-|TSL 8067	149-74-6	A colorless liquid. Insoluble in water and denser than water. Flash point between 70-140Â°F. Corrosive to skin and eyes and may be toxic by inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3839.0	389.0	1348.0	693.0	443.0	897.0	95.0	322.0	177.0	102.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical carbon dioxide or Halon extinguisher; a water spray can also be used. (NTP, 1992)
1982	METHYL-P-TOLUATE	4-(METHOXYCARBONYL) TOLUENE|4-(METHOXYCARBONYL)TOLUENE|METHYL 4-METHYLBENZOATE|METHYL 4-TOLUATE|METHYL P-METHYLBENZOATE|METHYL P-TOLUATE|METHYL-P-TOLUATE|4-METHYLBENZOIC ACID METHYL ESTER|MPT|P-CARBOMETHOXYTOLUENE|P-TOLUIC ACID, METHYL ESTER	99-75-2	PHYSICAL DESCRIPTION: Opaque colorless to white shiny crystalline solid. Intense unpleasant odor. (NTP, 1992)	1.0	2.5	5.0	3839.0	389.0	1348.0	693.0	443.0	897.0	95.0	322.0	177.0	102.0	INHALATION: remove victim from contaminated area; administer artificial respiration if necessary; call physician. EYES: flush with water for 15 min.; call physician. SKIN: wash with soap and water. INGESTION: induce vomiting; call physician. (USCG, 1999)	Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
1983	METHYLTHIOURACIL	ALKIRON|ANTIBASON|BASECIL|BASETHYRIN|2,3-DIHYDRO-6-METHYL-2-THIOXO-4(1H)-PYRIMIDINONE|4(1H)-PYRIMIDINONE,2,3-DIHYDRO-6-METHYL-2-THIOXO-|2-MERCAPTO-4-HYDROXY-6-METHYLPYRIMIDINE|2-MERCAPTO-6-METHYLPYRIMID-4-ONE|2-MERCAPTO-6-THIO-2,4-(1H3H)-PYRIMIDINEDIONE|METACIL|METHACIL|METHIACIL|METHICIL|METHIOCIL|6-METHYL-2-MERCAPTOURACIL|4-METHYL-2-THIOURACIL|6-METHYL-2-THIOURACIL|METHYLTHIOURACIL|6-METHYLTHIOURACIL|4-METHYLURACIL|MTU|MURACIL|ORCANON|PROSTRUMYL|STRUMACIL|THIMECIL|6-THIO-4-METHYLURACIL|2-THIO-4-OXO-6-METHYL-1,3-	56-04-2	PHYSICAL DESCRIPTION: White crystalline powder with an odor of onions and a bitter taste. A saturated aqueous solution is neutral or slightly acidic. (NTP, 1992)	1.0	2.5	5.0	3839.0	389.0	1348.0	693.0	443.0	897.0	95.0	322.0	177.0	102.0			
1984	METHYLTRICHLOROSILANE	METHYLSILICON TRICHLORIDE|METHYLSILYL TRICHLORIDE|METHYLTRICHLOROSILANE|SILANE, METHYLTRICHLORO-|SILANE, TRICHLOROMETHYL-|TRICHLOROMETHYLSILANE|TRICHLORO(METHYL)SILICON	75-79-6	A colorless fuming liquid with a pungent odor. Flash point 8Â°F. Vapor and liquid may cause burns. Denser than water. Vapors are heavier than air.	2.5	5.0	2.5	3839.0	389.0	1348.0	693.0	443.0	897.0	95.0	322.0	177.0	102.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
1985	METOLACHLOR	CGA24705|CODAL|COTORAN MULTI|DUAL|METELILACHLOR|METOLACHLOR|MILOCEP|ONTRACK 8E|PRIMAGRAM|PRIMEXTRA	51218-45-2	Tan to brown oily liquid with a slightly sweet odor. Slightly soluble in water and denser than water. Hence sinks in water. Soluble in most organic solvents. Used as a selective herbicide.	2.5	5.0	2.5	3839.0	389.0	1348.0	693.0	443.0	897.0	95.0	322.0	177.0	102.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1986	METRIBUZIN	METRIBUZIN	21087-64-9	Colorless crystalline solid. Used as an herbicide. Non corrosive. (NIOSH, 1997)	1.0	2.5	5.0	3842.0	389.0	1348.0	693.0	443.0	898.0	95.0	322.0	177.0	102.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1981	METHYLPHENYLDICHLOROSILANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHENANTHRENE may react with oxidizing materials (NTP, 1992).			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		340														(NTP, 1992)		212	
1982	METHYL-P-TOLUATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Solvent-resistant gloves; safety glasses or face shield; self- contained breathing apparatus for high vapor concentrations. (USCG, 1999)	Flammable. Insoluble in water.	DIPENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		115		(USCG, 1999)		0.7		%	(USCG, 1999)		6.1		%	(USCG, 1999)		458		(USCG, 1999)		-40	
1983	METHYLTHIOURACIL			No rapid reaction with air. No rapid reaction with water.	DIPHENAMID is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This compound is decomposed by strong base or acid.							0																				
1984	METHYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: Dampen spilled material with toluene to avoid dust, then transfer material to a suitable container. Use absorbent paper dampened with toluene to pick up remaining material. Wash surfaces well with soap and water. Seal all waste in vapor-tight plastic bags for eventual disposal. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	PHENBENZAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																				
1985	METOLACHLOR	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PHENESTRIN is an amine and ester. [[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)		194 to 195	
1986	METRIBUZIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DIPHENYL CHLOROPHOSPHATE is incompatible with bases (including amines) strong oxidizing agents, and alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. May form highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1981	METHYLPHENYLDICHLOROSILANE	(NTP, 1992)		1		68		mm Hg	(NTP, 1992)		6.14				(NTP, 1992)		1.025				(NTP, 1992)		642		760		(NTP, 1992)		178.24						(NTP, 1992)	at 79Â° F		less than 1	mg/mL			C14H10		5.0	0.0	12.0	3.0	3.0
1982	METHYL-P-TOLUATE														(USCG, 1999)		0.842		69.8		(USCG, 1999)		352		760		(USCG, 1999)		136.2											DPN	Flammable Liquid	C10H16	Dirt/Earth	7.0	0.0	14.0	3.0	3.0
1983	METHYLTHIOURACIL																																									C16H17NO		8.0	0.0	14.0	3.0	3.0
1984	METHYLTRICHLOROSILANE														(NTP, 1992)		1.019				(NTP, 1992)		354 to 356	7			(NTP, 1992)		254.36													C17H22N2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	25.0	3.0	3.0
1985	METOLACHLOR																											(NTP, 1992)		644.89						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C39H59Cl2NO2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	14.0	3.0	3.0
1986	METRIBUZIN																																								Corrosive	C12H10ClO3P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	5.0	0.0	28.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1987	M-NITROANILINE	AMARTHOL FAST ORANGE R BASE|1-AMINO-3-NITROBENZENE|3-AMINONITROBENZENE|ANILINE, M-NITRO-|AZOBASE MNA|BENZENAMINE, 3-NITRO-|C.I. 37030|C.I. AZOIC DIAZO COMPONENT 7|DAITO ORANGE BASE R|DEVOL ORANGE R|DIAZO FAST ORANGE R|FAST ORANGE BASE R|FAST ORANGE M BASE|FAST ORANGE MM BASE|FAST ORANGE R BASE|FAST ORANGE R SALT|HILTONIL FAST ORANGE R BASE|M-AMINONITROBENZENE|M-NITRANILINE|M-NITROAMINOBENZENE|M-NITROANILINE|M-NITROPHENYLAMINE|META-NITROANILINE|MNA|NAPHTOELAN ORANGE R BASE|NITRANILIN|3-NITROANILINE|3-NITROBENZENAMINE|ORANGE BASE IRGA 1|ORANGE BASE IRGA I	99-09-2	PHYSICAL DESCRIPTION: Yellow needles or yellow powder. (NTP, 1992)	1.0	2.5	5.0	3842.0	392.0	1348.0	693.0	446.0	898.0	96.0	322.0	177.0	103.0	(BLOB)	Combustion can produce toxic fumes including nitrogen oxides and carbon monoxide. Aniline vapor forms explosive mixtures with air. It is incompatible with strong oxidizers and strong acids and a number of other materials. Avoid heating. Hazardous polymerization may occur. Polymerizes to a resinous mass. (EPA, 1998)	Fight fire from maximum distance. Dike fire control water for later disposal and do not scatter material. If a leak or spill has not ignited, use water spray to control vapors. Wear self-contained breathing apparatus with a full face piece operated in pressure-demand or other positive pressure mode and special protective clothing. Use water spray, dry chemical, foam or carbon dioxide. Use water to keep fire-exposed containers cool. (EPA, 1998)
1988	M-NITROBENZOYL CHLORIDE	BENZOYL CHLORIDE, M-NITRO-|M-NITROBENZOYL CHLORIDE|META-NITROBENZOYL CHLORIDE|3-NITROBENZOIC ACID CHLORIDE|3-NITROBENZOIC ACID, CHLORIDE|3-NITROBENZOYL CHLORIDE	121-90-4	PHYSICAL DESCRIPTION: Yellow to brown liquid. Unstable at room temperatures; requires refrigeration when not in use.	2.5	5.0	2.5	3842.0	392.0	1348.0	693.0	446.0	898.0	96.0	322.0	177.0	103.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1989	M-NITROBENZYL CHLORIDE	ALPHA-CHLORO-3-NITROTOLUENE|ALPHA-CHLORO-M-NITROTOLUENE|1-(CHLOROMETHYL)-3-NITROBENZENE|1-CHLOROMETHYL-3-NITROBENZENE|M-NITROBENZYL CHLORIDE|3-NITROBENZYL CHLORIDE|TOLUENE, ALPHA-CHLORO-M-NITRO-	619-23-8	PHYSICAL DESCRIPTION: Yellow to brown solid. (NTP, 1992)	1.0	2.5	5.0	3842.0	392.0	1348.0	693.0	446.0	898.0	96.0	322.0	177.0	103.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
1990	M-NITROPHENOL	3-HYDROXY-1-NITROBENZENE|1-HYDROXY-3-NITROBENZENE|3-HYDROXYNITROBENZENE|M-HYDROXYNITROBENZENE|M-NITROPHENOL|3-NITROPHENOL|PHENOL, M-NITRO-	554-84-7	Colorless to pale yellow crystalline solid. Sinks in and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3845.0	392.0	1348.0	693.0	446.0	899.0	96.0	322.0	177.0	103.0	INHALATION: remove victim from exposure; support respiration; call physician if needed. EYES: flush with water for 15 min.; obtain medical attention immediately. SKIN: flush with water; obtain medical attention for acid burns. INGESTION: give large amounts of water, if victim is conscious; give milk, or milk of magnesia; call physician. (USCG, 1999)	Special Hazards of Combustion Products: Hydrochloric acid and phosgene fumes may be formed. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water or foam applied to adjacent fires will produce irritating hydrogen chloride fumes. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1991	M-NITROTOLUENE	M-METHYLNITROBENZENE|M-MONONITROTOLUENE|M-NITROPHENYLMETHANE|M-NITROTOLUENE|META-NITROTOLUENE|3-METHYLNITROBENZENE|3-METHYL-1-NITROBENZENE|1-METHYL-3-NITROBENZENE|3-METHYLNITROBENZENE|MNT|3-NITROTOLUENE|3-NITROTOLUOL|TOLUENE, M-NITRO-	99-08-1	Yellow crystals that melt at 59Â°F to a yellow liquid. Often therefore encountered as a liquid. Flash point 223Â°F. Boiling point 450Â°F. Insoluble in water. Toxic by inhalation and ingestion.	2.5	5.0	2.5	3845.0	392.0	1348.0	693.0	446.0	899.0	96.0	322.0	177.0	103.0	(BLOB)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: MAY EXPLODE AND THROW FRAGMENTS 500 meters (1/3 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 500 meters (1/3 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
1992	MOLYBDENUM PENTACHLORIDE	MOLYBDENUM PENTACHLORIDE|MOLYBDENUM(V) CHLORIDE|PENTACHLOROMOLYBDENUM	10241-05-1	Molybdenum pentachloride is a green-black odorless solid. It is toxic by ingestion and an irritant to skin. It may react with water to produce corrosive hydrochloric acid and toxic fumes.	1.0	2.5	5.0	3848.0	392.0	1351.0	693.0	446.0	900.0	96.0	323.0	177.0	103.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1987	M-NITROANILINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Darkens on exposure to air and light. Polymerizes slowly to a resinous mass on exposure to air and light. Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(EPA, 1998)		158		(EPA, 1998)		1.3		%	(EPA, 1998)		20 to 25		%	(USCG, 1999)		1139		(EPA, 1998)		21	
1988	M-NITROBENZOYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHENMEDIPHAM is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This compound is incompatible with alkaline preparations. (NTP, 1992)					0																					(NTP, 1992)			289 to 291
1989	M-NITROBENZYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Exposure of this chemical to air causes polymerization and some oxidation. It may be sensitive to light. Insoluble in water.	PVC bottles softened and distorted fairly rapidly in the presence of this chemical. (NTP, 1992)	Polymerizable						0		(NTP, 1992)		199														(NTP, 1992)	approximately	63	
1990	M-NITROPHENOL	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect skin and eyes. (USCG, 1999)	(BLOB)	Chlorosilanes, such as DIPHENYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1769 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3	No Water	(USCG, 1999)		288																		
1991	M-NITROTOLUENE	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	TETRAZOL-1-ACETIC ACID is an azo compound. Some materials in this group can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 114 [Explosives* - Division 1.4 or 1.6]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 250 meters (800 feet) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 500 meters (1/3 mile) in all directions; also initiate evacuation including emergency responders for 500 meters (1/3 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																						
1992	MOLYBDENUM PENTACHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Insoluble in water	Ethers, such as ANISOLE can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NFPA, 2010)		125																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_lit_source	melt_note	melt_value	melt_range	melt_lit_source	solbty_note	solbty_value	solbty_range	solbty_lit_source	solbty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1987	M-NITROANILINE	(EPA, 1998)		0.67		77		mm Hg	(EPA, 1998)		3.22				(EPA, 1998)		1.022		68		(EPA, 1998)			363 to 367	760		(EPA, 1998)		93.12		(EPA, 1998)											ANL	Poison	C6H7N		7.0	0.0	19.0	3.0	3.0
1988	M-NITROBENZOYL CHLORIDE	(NTP, 1992)		1.00E-11		77		mm Hg							(NTP, 1992)		0.25 to 0.3		68										300.34		(NTP, 1992)						less than 1			mg/mL					9.0	0.0	15.0	3.0	3.0
1989	M-NITROBENZYL CHLORIDE														(NTP, 1992)		0.978 to 0.988		77																		less than 1			mg/mL				C6H11ClO2	Cellulose-Based Absorbents(Mineral-Based & Clay-Based Absorbents(Dirt/ Earth	7.0	0.0	12.0	3.0	3.0
1990	M-NITROPHENOL														(USCG, 1999)		1.22		77		(USCG, 1999)		579		760		(EPA, 1998)		253		(USCG, 1999)										DPD	Corrosive	C12H10Cl2Si	Cellulose-Based Absorbents(Mineral-Based & Clay-Based Absorbents(Dirt/ Earth	8.0	0.0	18.0	3.0	3.0
1991	M-NITROTOLUENE																																									Explosive 1.4C			6.0	0.0	13.0	3.0	3.0
1992	MOLYBDENUM PENTACHLORIDE																																									Flammable Liquid	C7H8O		4.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1993	MONOCROTOPHOS	(BLOB)	6923-22-4	Colorless crystals with a mild ester odor, commercial product is a reddish-brown solid. Used as a fast acting insecticide with both systemic and contact action against a wide range of pests on cotton, sugar cane, tobacco, potatoes, peanuts, tomatoes, and ornamentals. Very toxic.	1.0	2.5	5.0	3848.0	392.0	1351.0	693.0	446.0	900.0	96.0	323.0	177.0	103.0			
1994	MONOISOPROPANOLAMINE	ALPHA-AMINOISOPROPYL ALCOHOL|2-AMINO-1-METHYLETHANOL|1-AMINO-2-HYDROXYPROPANE|(.+-.)-1-AMINO-2-PROPANOL|1-AMINO-2-PROPANOL|1-AMINOPROPAN-2-OL|BETA-AMINOISOPROPANOL|DL-1-AMINO-2-PROPANOL|2-HYDROXY-1-PROPANAMINE|2-HYDROXY-1-PROPYLAMINE|2-HYDROXYPROPANAMINE|2-HYDROXYPROPYLAMINE|ISOPROPANOLAMINE|1-METHYL-2-AMINOETHANOL|MIPA|MONO-ISO-PROPANOLAMINE|MONOISOPROPANOLAMINE|(RS)-1-AMINO-2-HYDROXYPROPANE|(RS)-1-AMINO-2-PROPANOL|THREAMINE	78-96-6	A colorless liquid with a slight ammonia-like odor. Less dense than water and soluble in water. Flash point 165Â°F. Corrosive to metals and tissue. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Used in plastics, paints, cutting oils, and specialized cleaning compounds.	2.5	5.0	2.5	3848.0	392.0	1351.0	693.0	446.0	900.0	96.0	323.0	177.0	103.0	(BLOB)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Container may explode in heat of fire. When heated to decomposition, it emits toxic fumes of nitrogen oxides. Incompatible with alkalis. Avoid decomposing heat. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material. Fight fire from maximum distance. (Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
1995	MONOPHENYL DICHLOROPHOSPHATE	MONOPHENYL DICHLOROPHOSPHATE	770-12-7	A liquid. May severely irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	3851.0	392.0	1351.0	693.0	446.0	901.0	96.0	323.0	177.0	103.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1996	MONOPROPYLAMINE	1-AMINOPROPANE|MONO-N-PROPYLAMINE|MONOPROPYLAMINE|N-PROPYLAMINE|PROPYLAMINE|PROPYLAMINE (NORMAL) |N-PROPYLAMINE\}|1-PROPYLAMINE	107-10-8	A clear colorless liquid with an ammonia-like odor. Flash point -35Â°F. Less dense than water and soluble in water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Used in chemical analysis and to make other chemicals.	2.5	5.0	2.5	3851.0	395.0	1351.0	693.0	449.0	901.0	97.0	323.0	177.0	104.0	(BLOB)	Flammable vapors when heated. Runoff from fire control water may give off poisonous gases and cause pollution. Mixtures of 9-10% phenol in air are explosive. Avoid aluminum chloride/nitrobenzene mixture, peroxodisulfuric acid, peroxomonosulfuric acid and strong oxidizing agents. Decomposes slowly on air contact. Avoid contact with strong oxidizing agents. (EPA, 1998)	Move container from fire area if it can be done without risk; fight fire from maximum distance; dike fire control water for later disposal, do not scatter the material. Small fires: dry chemical, carbon dioxide, water spray or foam (alcohol); large fires: water spray, fog or foam; use water spray to cool containers in fire area. (EPA, 1998)
1997	M-PHTHALODINITRILE	1,3-BENZENEDICARBONITRILE|1,3-BENZODINITRILE|1,3-BIS(CYANO)BENZENE|3-CYANOBENZONITRILE|1,3-DICYANOBENZENE|IPN|ISOPHTHALODINITRILE|ISOPHTHALONITRILE|M-BENZENEDINITRILE|M-CYANOBENZONITRILE|M-DICYANOBENZENE|M-PDN|M-PHTHALODINITRILE|META-DICYANOBENZENE|NSC 87880	626-17-5	White, crystalline or flaky solid with an almond-like odor. mp: 161-162Â°C (sublimes) Density 1.28 g/cm3 (at 25Â°C). Insoluble in water. Soluble in benzene and in acetone. Used as an intermediate in the manufacture of polyurethane paints and varnishes, pharmaceuticals, and agricultural chemicals.	1.0	2.5	5.0	3854.0	395.0	1351.0	693.0	449.0	902.0	97.0	323.0	177.0	104.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
1998	M-TOLUIC ACID	BENZOIC ACID, 3-METHYL-|BETA-METHYLBENZOIC ACID|M-METHYLBENZOIC ACID|M-TOLUIC ACID|M-TOLUYLIC ACID|META-TOLUIC ACID|3-METHYLBENZOIC ACID	99-04-7	PHYSICAL DESCRIPTION: White to yellowish crystals or mostly yellow flaky solid (with some white flakes). Has a floral-honey odor. (NTP, 1992)	1.0	2.5	5.0	3857.0	395.0	1351.0	693.0	449.0	903.0	97.0	323.0	177.0	104.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1993	MONOCROTOPHOS			Insoluble in water.	Toxic gases may be formed by mixing DIPHENYLHYDRAZINE with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.							0																					
1994	MONOISOPROPANOLAMINE	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Keep unnecessary people away and stay upwind. Do not touch the material or handle broken packages without protective clothing. Use water spray to reduce vapors. Take up spills with non-combustible absorbent material. For small dry spills, place material in a clean dry container with a clean shovel and cover; remove from site of spill. For large spills dike far ahead for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PHENOL, 3-(1-METHYLETHYL)-, METHYLCARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																	(EPA, 1998)		162 to 165
1995	MONOPHENYL DICHLOROPHOSPHATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	0	2		(NIOSH, 2003)		175		(NIOSH, 2003)		1.8		%	(NIOSH, 2003)		8.6		%					(NIOSH, 2003)		109	
1996	MONOPROPYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Decomposes slowly in air. Mixtures of 9-10% phenol in air are explosive. Soluble in water	PHENOL is a weak acid. Reacts exothermically with bases. Reacts with strong oxidizing agents. Emits acrid smoke and irritating fumes when heated to decomposition. Undergoes, in the presence of aluminum chloride, potentially explosive reactions with nitromethane, butadiene, formaldehyde, peroxodisulfuric acid, peroxosulfuric acid, and sodium nitrite . Reacts violently with sodium nitrate in the presence of trifluoroacetic acid [Bretherick, 5th ed., 1995, p. 770]. May corrode lead, aluminum and its alloys, certain plastics, and rubber. Phenol may explode in contact with peroxodisulfuric acid (D'Ans, J. Ber., 1910, 43, 1880; Z. Anorg. Chem., 1911, 73, 1911.) or peroxomonosulfuric acid. (Sidgwick, 1950, 939)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	0	2		(EPA, 1998)		174.2		(EPA, 1998)		1.7		%	(EPA, 1998)		8.6		%	(USCG, 1999)		1319		(EPA, 1998)		109	
1997	M-PHTHALODINITRILE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in cold water. Decomposed by hot water to give corrosive hydrobromic acid.	Halogenated aliphatic compounds are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
1998	M-TOLUIC ACID	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	DIPHENYLOXIDE-4,4'-DISULFOHYDRAZIDE is an azide. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1993	MONOCROTOPHOS																																									C12H12N2	Mineral-Based & Clay-Based Absorbents	5.0	0.0	20.0	3.0	3.0
1994	MONOISOPROPANOLAMINE																										(EPA, 1998)		193.27												Poison	C11H15NO2		6.0	0.0	17.0	3.0	3.0
1995	MONOPHENYL DICHLOROPHOSPHATE	(NIOSH, 2003)		0.4				mm Hg							(NIOSH, 2003)		1.06				(NIOSH, 2003)		359		760		(NIOSH, 2003)		94.1		(NIOSH, 2003)	(as phenol)	250	ppm	(NIOSH, 2003)	at 77Â° F	9		%		Poison	C6H6O		9.0	0.0	19.0	3.0	3.0
1996	MONOPROPYLAMINE	(EPA, 1998)		0.3513		77		mm Hg	(EPA, 1998)		3.24				(EPA, 1998)		1.0722		68		(EPA, 1998)		359.1		760		(EPA, 1998)		94.11		(NIOSH, 2003)	(as phenol)	250	ppm	(NIOSH, 2003)	at 77Â° F	9		%	PHN	Poison	C6H6O		7.0	0.0	18.0	3.0	3.0
1997	M-PHTHALODINITRILE																																								Corrosive	C13H11Br		7.0	0.0	14.0	3.0	3.0
1998	M-TOLUIC ACID																																								Flammable Solid	C12H14N4O5S2		7.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
1999	M-TOLUIDINE	3-AMINO-1-METHYLBENZENE|1-AMINO-3-METHYLBENZENE|1-AMINOPHENYLMETHANE|3-AMINOPHENYLMETHANE|3-AMINOTOLUENE|M-AMINOTOLUENE|M-METHYLANILINE|(M-METHYLPHENYL)AMINE|M-TOLUIDINE|M-TOLYLAMINE|3-METHYLANILINE|3-METHYLBENZENAMINE|3-METHYLBENZENEAMINE|3-METHYLPHENYLAMINE|3-TOLUIDINE	108-44-1	A clear colorless liquid. Flash point below 200Â°F. Vapors heavier than air. Toxic by inhalation, ingestion, and skin absorption in high concentrations or under prolonged exposures. Used in the manufacture of organic chemicals. Density about 8 lb / gal.	2.5	5.0	2.5	3860.0	395.0	1354.0	693.0	449.0	904.0	97.0	324.0	177.0	104.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2000	M-TOLUNITRILE	3-CYANOTOLUENE|M-CYANOTOLUENE|M-METHYLBENZONITRILE|M-TOLUENENITRILE|M-TOLUNITRILE|M-TOLUONITRILE|M-TOLYNITRILE|3-METHYLBENZONITRILE|MTN|3-TOLUNITRILE	620-22-4	PHYSICAL DESCRIPTION: Clear, yellow liquid. (NTP, 1992)	2.5	5.0	2.5	3863.0	395.0	1354.0	693.0	452.0	905.0	97.0	324.0	177.0	105.0	(BLOB)	(Non-Specific -- Arsenic Compounds) When heated to decomposition, it emits highly toxic fumes of arsenic. (EPA, 1998)	(Non-Specific -- Arsenic Compound, Solid, n.o.s.) Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Arsenic Compound, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
2001	MUSK KETONE	ACETOPHENONE, 4'-TERT-BUTYL-2',6'-DIMETHYL-3',5'-DINITRO-[1-[4-(1,1-DIMETHYLETHYL)-2,6-DIMETHYL-3,5-DINITROPHENYL]ETHANONE|MUSK KETONE|4-TERT-BUTYL-2,6-DIMETHYL-3,5-DINITROACETOPHENONE	81-14-1	PHYSICAL DESCRIPTION: Light yellow crystalline solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3863.0	395.0	1354.0	693.0	452.0	905.0	97.0	324.0	177.0	105.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2002	M-XYLENE-ALPHA,ALPHA'-DIAMINE	ALPHA-ALPHAâ€™-DIAMINO-3-XYLENE|.ALPHA.,.ALPHA.'-DIAMINO-M-XYLENE|.ALPHA.,.ALPHA.'-M-XYLENEDIAMINE|3-(AMINOMETHYL)BENZYLAMINE|1,3-BENZENEBIS(METHYLAMINE)|1,3-BENZENEDIMETHANAMINE|1,3-BIS(AMINOMETHYL)BENZENE|EPILINK MX|EUREDUR 22|M-(.ALPHA.,.ALPHA.'-DIAMINO)XYLENE|M-PHENYLENEBIS(METHYLAMINE)|M-XYLENE-.ALPHA.,.ALPHA.'-DIAMINE|M-XYLENE-ALPHA,ALPHA'-DIAMINE|M-XYLYLENEDIAMINE|MXDA|NSC 61568|1,3-XYLYLENEDIAMINE	1477-55-0	Colorless liquid with an amine smell. Mp: 14.1Â°C; bp: 273Â°C . Water soluble.	2.5	5.0	2.5	3866.0	395.0	1354.0	693.0	452.0	906.0	97.0	324.0	177.0	105.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2003	MYCLOBUTANIL	.ALPHA.-BUTYL-.ALPHA.-(4-CHLOROPHENYL)-1H-1,2,4-TRIAZO|MYCLOBUTANIL	88671-89-0	Light yellow solid used as a fungicide.	1.0	2.5	5.0	3869.0	395.0	1354.0	693.0	452.0	907.0	97.0	324.0	177.0	105.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
1999	M-TOLUIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water. Hydrolyzed by alkalis.	A pyrethroid derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2000	M-TOLUNITRILE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Insoluble in water.	Organometallics, such as PHENOXARSINE, 10,10'-OXYDI-, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents.	Highly Flammable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)			363 to 365
2001	MUSK KETONE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes slowly in water or moist air (or when inhaled) to form very corrosive hydrogen chloride gas (hydrochloric acid) and carbon monoxide.	Diphosgene probably has similar reactivity to that of phosgene. PHOSGENE is water reactive. Incompatible with strong oxidizing agents, alcohols, amines, alkali. May react violently with aluminum, alkali metals (lithium, potassium, sodium), alcohols (isopropyl alcohol, 2,4-hexadiyn-1,6-diol), sodium azide [Bretherick, 5th ed., 1995, p. 134]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].		Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1076 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									
2002	M-XYLENE-ALPHA,ALPHA'-DIAMINE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Emits fumes containing HCl in moist air. Decomposes in water to form HCl.	PHENYL CHLOROFORMATE is incompatible with strong oxidizing agents, alcohols, amines, alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2003	MYCLOBUTANIL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Salts, basic, such as ANTIMONY LACTATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Special Hazards of Combustion Products: Toxic oxides of nitrogen or ammonia gas may form in fires (USCG, 1999).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
1999	M-TOLUIDINE																																								Class 9	C23H26O3	Dirt/Earth	8.0	0.0	26.0	3.0	3.0
2000	M-TOLUNITRILE																										(EPA, 1998)		502.23													Corrosive	C24H16As2O3		6.0	0.0	11.0	3.0	3.0
2001	MUSK KETONE																																								Poison Gas|Corrosive	C2Cl4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	13.0	3.0	3.0
2002	M-XYLENE-ALPHA,ALPHA'-DIAMINE																																								Poison|Corrosive	C6H5OCl(O)Cl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	16.0	3.0	3.0
2003	MYCLOBUTANIL																																								Poison	Sb(C3H5O3)3	Cellulose-Based Absorbents	6.0	0.0	26.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2004	MYLERAN	1,4-BIS(METHANESULFONOXY)BUTANE|1,4-BIS(METHANESULFONYLOXY)BUTANE|1,4-BIS(METHANESULFONYLOXY)BUTANE|1,4-BIS[METHANESULFONOXY]BUTANE|BUSULFAN|BUSULPHAN|1,4-BUTANEDIOL DIMESYLATE|1,4-BUTANEDIOL DIMETHANESULPHONATE|C.B. 2041|CB 2041|1,4-DIMETHANESULFONOXYBUTANE|1,4-DIMETHYLSULFONYLOXYBUTANE|GLYZOPHROL|GT 2041|GT 41|LEUCOSULFAN|MABLIN|METHANESULFONIC ACID, TETRAMETHYLENE ESTER|MIELEVCIN|MIELOSAN|MIELUCIN|MILECITAN|MILERAN|MISULBAN|MITOSTAN|MYELOLEUKON|MYELOSAN|MYLECYTAN|MYLERAN|NCI-C01592|NSC 750|NSC-750|SULFABUTIN|SULPHABU	55-98-1	PHYSICAL DESCRIPTION: White crystals or powder. (NTP, 1992)	1.0	2.5	5.0	3869.0	395.0	1354.0	693.0	452.0	907.0	97.0	324.0	177.0	105.0	(BLOB)	When heated to decomposition, it can emit highly toxic fumes of oxides of phosphorus. Decomposes when mixed with acid. Hydrolyzed under acid conditions to dimethylamine and orthophosphoric acid. (EPA, 1998)	(Non-Specific -- Organophosphorus Liquid Pesticides) Do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
2005	N,N,N',N'-TETRAMETHYL-P-PHENYLENEDIAMINE	BENZENE,1,4-BIS(DIMETHYLAMINO)-|1,4-BENZENEDIAMINE,N,N,N',N'-TETRAMETHYL-|1,4-BIS(DIMETHYLAMINO)BENZENE|4-(DIMETHYLAMINO)-N,N-DIMETHYLANILINE|N,N,N',N'-TETRAMETHYL-1,4-BENZENEDIAMINE|N,N,N',N'-TETRAMETHYL-1,4-DIAMINOBENZENE|N,N,N',N'-TETRAMETHYL-1,4-PHENYLENEDIAMINE|N,N,N',N'-TETRAMETHYL-P-BENZENEDIAMINE|N,N,N',N'-TETRAMETHYL-P-PHENYLENEDIAMINE|N,N-DIMETHYL-P-(DIMETHYLAMINO)ANILINE|P-(DIMETHYLAMINO)-N,N-DIMETHYLANILINE|P-BIS(DIMETHYLAMINO)BENZENE|P-PHENYLENE, N,N,N',N'-TETRAMETHYL-|P-PHENYLENEDIAMINE, N,N,N',N'-TETRAMETHYL-|REAGENTS, WURSTER'S|TETRAMETHYL-	100-22-1	PHYSICAL DESCRIPTION: Leaflets or a drab green solid. (NTP, 1992)	1.0	2.5	5.0	3872.0	395.0	1354.0	693.0	452.0	908.0	97.0	324.0	177.0	105.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2006	N,N-BUTYL IMIDAZOLE	BUTYL IMIDAZOLE|1-BUTYL 1H-IMIDAZOLE|BUTYLIMIDAZOLE|1-BUTYLIMIDAZOLE|IMIDAZOLE, 1-BUTYL-|N,N-BUTYL IMIDAZOLE|N-BUTYL-1H-IMIDAZOLE|N-BUTYLIMIDAZOLE	4316-42-1	A colorless to light yellow colored liquid. Insoluble in water and more dense than water. Hence sinks in water. Contact may irritate skin, eyes or mucous membranes. Toxic by ingestion, inhalation or skin absorption.	2.5	5.0	2.5	3875.0	395.0	1354.0	693.0	452.0	909.0	97.0	324.0	177.0	105.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2007	N,N'-DIETHYLTHIOUREA	ACCEL EUR|1,3-DIETHYL-2-THIOUREA|1,3-DIETHYLTHIOUREA|N,N'-DIETHYLTHIOCARBAMIDE|N,N'-DIETHYLTHIOUREA|NCI-C03816|NOCCELER EUR|PENNZONE E|THIATE H|THIOUREA, N,N'-DIETHYL-|U 15030|UREA, 1,3-DIETHYL-2-THIO-|USAF EK-1803	105-55-5	PHYSICAL DESCRIPTION: Buff solid or white powder. (NTP, 1992)	1.0	2.5	5.0	3875.0	395.0	1354.0	693.0	452.0	909.0	97.0	324.0	177.0	105.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
2008	N,N-DIMETHYL-1-OCTADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	N,N-DIMETHYL-1-OCTADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	124-28-7	A clear yellow liquid with a fishlike odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	3875.0	395.0	1354.0	693.0	452.0	909.0	97.0	324.0	177.0	105.0	(BLOB)	This material may burn but does not ignite readily. Containers may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Upon decomposition hydrogen chloride and phenylarsenious oxide are emitted. Unstable. Decomposed by water. (EPA, 1998)	Wear positive pressure breathing apparatus. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, foam, or fog. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2004	MYLERAN	Caution : Avoid sources of extreme heat including fire. Diphosphoramide, octamethyl- will liberate toxic phosphorus oxides when heated to decomposition. (Non-Specific -- Organophosphorus Liquid Pesticides) Use water spray to knock down vapors. Attempt to stop leak if it can be done without hazard. Avoid breathing vapors. Keep upwind. Avoid bodily contact with material. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as DIPHOSPHORAMIDE, OCTAMETHYL-, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(EPA, 1998)		57 to 68
2005	N,N,N',N'-TETRAMETHYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air to form hydrochloric acid. Reacts with water to yield heat and antimony pentaoxide (Sb2O5) and hydrochloric acid [Merck 11th ed. 1989].	Acidic salts, such as ANTIMONY PENTACHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																										
2006	N,N-BUTYL IMIDAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Pyrophoric in air. Insoluble in water. Slowly generates flammable or noxious gases in contact with water.	PHENYL PHOSPHINE is a reducing agent. They slowly generate flammable or noxious gases in contact with water. Phosphides react quickly upon contact with moisture or acids to give the very toxic gas phosphine; phosphides also can react vigorously with oxidizing materials. In general, materials in this group are incompatible with oxidizers such as atmospheric oxygen. They are violently incompatible with acids, particularly oxidizing acids.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2007	N,N'-DIETHYLTHIOUREA	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May ignite spontaneously if exposed to air.	DIPROPIONYL PEROXIDE is a good oxidizing agent. May cause ignition of organic compounds on contact . Reacts violently with strongly reduced material such as sulfides, nitrides, and hydrides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. May become explosive when evaporated to dryness or near-dryness. May explode from heat, contamination or loss of temperature control.	Highly Flammable; Explosive; Strong Oxidizing Agent; Pyrophoric	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2008	N,N-DIMETHYL-1-OCTADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	The liquid reacts with water or with moist air to form the strong acid, hydrochloric acid. Very Corrosive!	PHENYLDICHLOROARSINE is incompatible with acids and bases. A reducing agent, therefore generally incompatible with oxidizing agents.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: If this material is being used as a weapon, see ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1556 datasheet. Otherwise increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	High enough not to interfere with military use																				(EPA, 1998)		-4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2004	MYLERAN	(EPA, 1998)		0.001		77		mm Hg							(EPA, 1998)		1.09		77		(EPA, 1998)			248 to 257		0.5	(EPA, 1998)		286.26													Poison	C8H24N4O3P2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	21.0	3.0	3.0
2005	N,N,N',N'-TETRAMETHYL-P-PHENYLENEDIAMINE																																								Corrosive	SbCl5 (in hydrochloric acid)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	12.0	3.0	3.0
2006	N,N-BUTYL IMIDAZOLE								(NTP, 1992)		3.79				(NTP, 1992)		1.001		59		(NTP, 1992)			320 to 322	760		(NTP, 1992)		110.1						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid|Corrosive	C6H7P	Mineral-Based & Clay-Based Absorbents	9.0	0.0	15.0	3.0	3.0
2007	N,N'-DIETHYLTHIOUREA																																								Organic Peroxide	C6H10O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	11.0	3.0	3.0
2008	N,N-DIMETHYL-1-OCTADECANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	(EPA, 1998)		0.033		77		mm Hg	(EPA, 1998)		7.7				(EPA, 1998)		1.6516		66.2		(EPA, 1998)			489.9 to 495.7	760		(EPA, 1998)		223											PDL	Poison	C6H5AsCl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2009	N,N-DIMETHYL-N-BUTYLAMINE (AMINES, <OR> POLYALKYLAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.)	N,N-DIMETHYL-N-BUTYLAMINE (AMINES, <OR> POLYALKYLAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.)	927-62-8	A clear liquid with an ammonia-like odor. Ingestion may irritate or burn the mouth, throat, esophagus and stomach. May cause nausea, vomiting and diarrhea. Inhalation of vapors may irritate the respiratory system and cause pulmonary edema. Contact with the skin may cause burns. Eye contact may cause corrosion to the eyes and contact with the vapor may temporarily blur vision. Vapors heavier than air and may travel considerable distance to a source of ignition and flash back.	2.5	5.0	2.5	3878.0	395.0	1354.0	693.0	452.0	910.0	97.0	324.0	177.0	105.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2010	N,N'-DIPHENYL-P-PHENYLENEDIAMINE	AGERITE|AGERITE DPPD|ALTOFANE DIP|ANTAGE DP|ANTIGEN P|ANTIGENE P|ANTIOXIDANT H|1,4-BIS(PHENYLAMINO)BENZENE|DFFD|DIAFEN|DIAFEN FF|1,4-DIANILINOBENZENE|DIPHENYL-P-PHENYLENEDIAMINE|4,4'-DIPHENYL-P-PHENYLENEDIAMINE|DPPD|EKALAND DPPD|FLEXAMINE G|JZF|N,N'-DIPHENYL-1,4-BENZENEDIAMINE|N,N'-DIPHENYL-1,4-DIAMINOBENZENE|N,N'-DIPHENYL-1,4-PHENYLENEDIAMINE|N,N'-DIPHENYL-P-PHENYLENEDIAMINE|NAUGARD J|NOCRAC DP|NONFLEX H|NONOX DPPD|P-BIS(PHENYLAMINO)BENZENE|P-PHENYLAMINOD|PHENYLAMINE|P-	74-31-7	PHYSICAL DESCRIPTION: Gray or dark gray powder or flakes. (NTP, 1992)	1.0	2.5	5.0	3881.0	395.0	1354.0	693.0	452.0	911.0	97.0	324.0	177.0	105.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2011	N,N'-DI-SEC-BUTYL-P-PHENYLENEDIAMINE	ANTIOXIDANT 22|DU PONT GASOLINE ANTIOXIDANT NO. 22|KEROBIT BPD|N,N'-BIS(1-METHYLPROPYL)-1,4-BENZENEDIAMINE|N,N'-DI-S-BUTYL-P-PHENYLENEDIAMINE|N,N'-DI-SEC-BUTYL-P-PHENYLDIAMINE|N,N'-DI-SEC-BUTYL-P-PHENYLENEDIAMINE|NAUGALUBE 403|P-PHENYLENEDIAMINE, N,N'-DI-SEC-BUTYL-|SUMILIZER BPAM 1|TENAMENE 2|TOPANOL M|UNILINK 4100|UOP 5	101-96-2	PHYSICAL DESCRIPTION: Amber to red or dark reddish black liquid. (NTP, 1992)	2.5	5.0	2.5	3881.0	395.0	1357.0	693.0	452.0	911.0	97.0	325.0	177.0	105.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2012	N-ACETYL-M-AMINOPHENOL	3-ACETAMIDOPHENOL|ACETANILIDE, 3'-HYDROXY-|3-ACETOAMIDOPHENOL|3-(ACETYLAMINO)-1-HYDROXYBENZENE|3-(ACETYLAMINO)PHENOL|BS 479|BS479|3'-HYDROXYACETANILIDE|3-HYDROXYACETANILIDE|M-(ACETYLAMINO)PHENOL|M-ACETAMIDOPHENOL|M-HYDROXYACETANILIDE|MEALID|METACETAMOL|METALID|N-(3-HYDROXYPHENYL)ACETAMIDE|N-ACETYL-3-HYDROXYANILINE|N-ACETYL-M-AMINOPHENOL|NEBS|PEDITUSS|PYRAPAP|RYSTAL	621-42-1	PHYSICAL DESCRIPTION: Light gray solid. (NTP, 1992)	1.0	2.5	5.0	3881.0	395.0	1357.0	693.0	452.0	911.0	97.0	325.0	177.0	105.0	If any symptoms, however slight, are noticed, the affected individual should be removed from contact with the chemical and placed under the care of a physician who is versed in the treatment necessary. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2013	N-AMINOETHYLPIPERAZINE	AEP|1-(2-AMINOETHYL) PIPERAZINE|1-(2-AMINOETHYL)PIPERAZINE|4-(2-AMINOETHYL)PIPERAZINE|ANCAMINE AEP|1-(BETA-AMINOETHYL)PIPERAZINE|N-(2-AMINOETHYL) PIPERAZINE|N-(2-AMINOETHYL)PIPERAZINE|N-(BETA-AMINOETHYL)PIPERAZINE|N-AMINOETHYL PIPERAZINE|N-AMINOETHYLPIPERAZINE|1-PIPERAZINE ETHANAMINE|PIPERAZINE, 1-(2-AMINOETHYL)-|1-PIPERAZINEETHYLAMINE|2-(1-PIPERAZINYL)ETHYLAMINE|2-PIPERAZINYLETHYLAMINE|USAF DO-46	140-31-8	A colorless liquid with a faint fishlike odor. Flash point 199Â°F. Corrosive to tissue. Toxic oxides of nitrogen are produced by combustion.	2.5	5.0	2.5	3881.0	395.0	1357.0	693.0	452.0	911.0	97.0	325.0	177.0	105.0	(BLOB)	Decomposes to toxic fumes of nitrogen oxides when heated. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2009	N,N-DIMETHYL-N-BUTYLAMINE (AMINES, <OR> POLYALKYLAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	Bases or alkalis are chemically similar to sodium hydroxide (NaOH) or sodium oxide (Na2O). They neutralize acids exothermically to form salts plus water. When soluble in water they give solutions having a pH greater than 7.0. Mixing these materials with water can generate troublesome amounts of heat as the base is dissolved or diluted. Bases react with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. Bases may initiate polymerization reactions in polymerizable organic compounds, especially epoxides). They may generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. Materials of this group often serve as catalysts.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2010	N,N'-DIPHENYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water slowly hydrolyzes antimony tribromide to form antimony (III) oxide and hydrobromic acid. The dry powdered oxide ignites on heating in air [Mellor Vol. 9 425.1939].	Acidic salts, such as ANTIMONY TRIBROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2011	N,N'-DI-SEC-BUTYL-P-PHENYLENEDIAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PHENYLPROPANOLAMINE HYDROCHLORIDE is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		381 to 385
2012	N-ACETYL-M-AMINOPHENOL	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Approved respirator, rubber gloves. (USCG, 1999)	Water slowly hydrolyzes antimony fluoride to form antimony (III) oxide. The dry powdered oxide ignites on heating in air [Mellor Vol. 9 425.1939].	A colorless, solid compound, toxic and corrosive. When heated to decomposition, it emits very toxic fumes of fluoride and metallic antimony [Lewis, 3rd ed., 1993, p. 83].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)	Not flammable			(USCG, 1999)		558	
2013	N-AMINOETHYLPIPERAZINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Siloxanes, such as PHENYLSILATRANE, are not particularly reactive materials. They will undergo oxidation and reduction reactions under severe conditions or by very strong oxidizers or reducers. Otherwise they are relatively inert substances.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2009	N,N-DIMETHYL-N-BUTYLAMINE (AMINES, <OR> POLYALKYLAMINES, LIQUID, CORROSIVE, FLAMMABLE, N.O.S.)																																							Poison	C6H6HgO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0
2010	N,N'-DIPHENYL-P-PHENYLENEDIAMINE																																								Poison	SbBr3 (in hydrobromic acid)		7.0	0.0	14.0	3.0	3.0
2011	N,N'-DI-SEC-BUTYL-P-PHENYLENEDIAMINE																										(NTP, 1992)		187.67						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C9H13NO.ClH	Cellulose-Based Absorbents	8.0	0.0	15.0	3.0	3.0
2012	N-ACETYL-M-AMINOPHENOL														(USCG, 1999)		4.38		69.8								(USCG, 1999)		178.75											ATT	Poison	F3Sb	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	8.0	0.0	11.0	3.0	3.0
2013	N-AMINOETHYLPIPERAZINE																										(EPA, 1998)		251.39												Poison	C12H17NO3Si	Mineral-Based & Clay-Based Absorbents	9.0	0.0	20.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2014	N-AMINOPROPYLMORPHOLINE	3-AMINO-1-(MORPHOLINO)PROPANE|1-AMINO-3-MORPHOLINOPROPANE|4-(3-AMINOPROPYL)MORPHOLINE|4-(GAMMA-AMINOPROPYL)MORPHOLINE|GAMMA-MORPHOLINOPROPYLAMINE|MORPHOLINE, 4-(3-AMINOPROPYL)-|3-(MORPHOLINO)-N-PROPYLAMINE|3-MORPHOLINOPROPANAMINE|3-MORPHOLINOPROPYLAMINE|3-(4-MORPHOLINYL)PROPANAMINE|3-(4-MORPHOLINYL)PROPYLAMINE|N-(3-AMINOPROPYL)MORPHOLINE|N-AMINOPROPYLMORPHOLINE|3-(N-MORPHOLINO)-1-AMINOPROPANE	123-00-2	A colorless liquid with a faint, fishlike odor. Burns, but requires some effort to ignite. Corrosive to tissue. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3884.0	395.0	1357.0	693.0	452.0	912.0	97.0	325.0	177.0	105.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2015	N-AMYLAMINE	1-AMINO PENTANE|1-AMINOPENTANE|AMYLAMINE|AMYLAMINES|MONOAMYLAMINE|MONOPENTYLAMINE|N-AMYLAMINE|N-PENTYLAMINE|NORLEUCAMINE|1-PENTANAMINE|PENTYLAMINE|PENTYLAMINE|1-PENTYLAMINE {AMYLAMINE}|1-PENTYLAMINE	110-58-7	A clear colorless liquid with an ammonia-like odor. Flash point 30Â°F. Irritates the eyes and respiratory system. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Used as a corrosion inhibitor, solvent, flotation agent and in the manufacture of other chemicals.	2.5	5.0	2.5	3884.0	395.0	1357.0	693.0	452.0	912.0	97.0	325.0	177.0	105.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2016	NAPHTHENIC ACID	ACIDOL (PETROLEUM BY-PRODUCT)|ACIDS, NAPHTHENIC|CARBOXYLIC ACIDS, NAPHTHENIC|NAPHTHENIC ACID|NAPHTHENIC ACIDS|NRVINS 130|NS 160|NY 160|NY 200|SNA 180|SP 230|SUNAPTIC B	1338-24-5	Naphthenic acid is a dark colored liquid with an offensive odor. It is insoluble in water. It will burn though it may take some effort to ignite. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used to make paint dryers, detergents, and solvents.	2.5	5.0	2.5	3884.0	395.0	1357.0	693.0	452.0	912.0	97.0	325.0	177.0	105.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2017	N-BUTYL CHLOROFORMATE	BUTOXYCARBONYL CHLORIDE|BUTYL CHLOROCARBONATE|BUTYL CHLOROFORMATE|BUTYLCHLOROFORMATE|CARBONOCHLORIDIC ACID, BUTYL ESTER|CHLOROCARBONIC ACID, N-BUTYL ESTER|CHLOROFORMIC ACID BUTYL ESTER|CHLOROFORMIC ACID, N-BUTYL ESTER|FORMIC ACID, CHLORO-, BUTYL ESTER|N-BUTYL CHLOROCARBONATE|N-BUTYL CHLOROFORMATE	592-34-7	A colorless liquid. Flash point near 70Â°F. Very toxic by inhalation. Denser than water. Used to make other chemicals.	2.5	5.0	2.5	3887.0	395.0	1360.0	693.0	452.0	913.0	97.0	326.0	177.0	105.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2018	N-BUTYL ETHER	1-BUTOXY BUTANE|1-BUTOXYBUTANE|BUTYL ETHER|BUTYL ETHERS|BUTYL OXIDE|DI-N-BUTYL ETHER|DIBUTYL ETHER|DIBUTYL ETHER (NORMAL) (BUTYL ETHER)|DIBUTYL ETHERS|DIBUTYL OXIDE|N-BUTYL ETHER|N-DIBUTYL ETHER|1,1'-OXYBIS(BUTANE)|1,1'-OXYBISBUTANE	142-96-1	A clear colorless liquid with an ethereal odor. Flash point below 141Â°F. Less dense than water and insoluble in water. Vapors heavier than air. Irritates the eyes, nose, throat, and respiratory tract.	2.5	5.0	2.5	3887.0	395.0	1360.0	693.0	452.0	913.0	97.0	326.0	177.0	105.0	(BLOB)	When heated to decomposition, emits toxic fumes, primarily chlorides and oxides of nitrogen, sulfur and phosphorus. Avoid extreme heat. (EPA, 1998)	
2019	N-BUTYL GLYCIDYL ETHER	AGEFLEX BGE|BGE|3-BUTOXY-1,2-EPOXYPROPANE|1-BUTOXY-2,3-EPOXYPROPANE|(BUTOXYMETHYL)OXIRANE|2-(BUTOXYMETHYL)OXIRANE|BUTOXYMETHYLOXIRANE|BUTYL 2,3-EPOXYPROPYL ETHER|(.+-.)-BUTYL GLYCIDYL ETHER|1-BUTYL GLYCIDYL ETHER|BUTYL-2,3-EPOXYPROPYL ETHER|DY-BP|EPI-REZ 501|1,2-EPOXY-3-BUTOXY PROPANE|1,2-EPOXY-3-BUTOXYPROPANE|2,3-EPOXYPROPYL BUTYL ETHER|ERL 0810|GLYCIDYL BUTYL ETHER|GLYCIDYL N-BUTYL ETHER|N-BUTYL GLYCIDYL ETHER|PROPANE, 1-BUTOXY 2,3-EPOXY-	2426-08-6	Colorless to pale yellow liquid with a strong, slightly unpleasant odor. Flash point approximately 164Â°F. Denser than water. Vapors are heavier than air. Vapors may irritate the nose, throat and respiratory tract. Ingestion or inhalation may cause central nervous system depression. Liquid contact may severely irritate the eyes and skin. Prolonged contact with the skin may cause defatting and drying.	2.5	5.0	2.5	3887.0	395.0	1360.0	699.0	452.0	913.0	97.0	326.0	179.0	105.0	(BLOB)	When heated to decomposition or on contact with water or steam, it will react to produce toxic and corrosive fumes. Reacts violently with aluminum; tert-butyl azido formate; 2,4-hexadiyn-1,6-diol; isopropyl alcohol; potassium; sodium; hexafluoro isopropylidene; amino lithium; lithium. Stable in steel containers if dry. Avoid moisture. (EPA, 1998)	If necessary to stop flow of gas, use water spray to protect the personnel effecting shutoff. Sodium hydroxide or anhydrous ammonia have been used to neutralize phosgene. Nonflammable. For small fires, use dry chemical or carbon dioxide. Use water spray, fog, or foam for larger fires. Do not get water inside containers. Move container from fire area if you can do so without risk. Stay away from the ends of tanks, and cool exposed containers with water until well after the fire is out. Isolate the area until gas has dispersed. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2014	N-AMINOPROPYLMORPHOLINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Mixes with water to form a corrosive solution.	(BLOB)	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2015	N-AMYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	P-HEXYLRESORCINOL may be sensitive to prolonged exposure to light. Incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).						0																						(NTP, 1992)			154 to 156
2016	NAPHTHENIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PHORBOL is unstable to prolonged exposure to air, light and ambient temperatures. It is also sensitive to acid and alkalis and is subject to autooxidation. It dissolves slowly, therefore solution in a desired solvent is best accomplished by prolonged shaking under an inert atmosphere. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(solvent-free) (decomposes)		482 to 484
2017	N-BUTYL CHLOROFORMATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Ketones, such as PHORONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		185																			
2018	N-BUTYL ETHER	Avoid skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as PHOSACETIM, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.						0																								
2019	N-BUTYL GLYCIDYL ETHER	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Decomposes slowly in water or moist air (or when inhaled) to form very corrosive hydrogen chloride gas (hydrochloric acid) and carbon monoxide.	PHOSGENE is water reactive. Incompatible with strong oxidizing agents, alcohols, amines, alkali. May react violently with aluminum, alkali metals (lithium, potassium, sodium), alcohols (isopropyl alcohol, 2,4-hexadiyn-1,6-diol), sodium azide [Bretherick, 5th ed., 1995, p. 134]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Phosgene reacts with phosphate or silicate salts, yielding water-reactive and toxic POCl3 with phosphates (Dunlap, K.L. 2005, Phosgene. In Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc.).		Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1076 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1																						(USCG, 1999)	Not flammable			(EPA, 1998)		-180	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2014	N-AMINOPROPYLMORPHOLINE																																										Corrosive	C6H6O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	16.0	3.0	3.0
2015	N-AMYLAMINE																				(NTP, 1992)		631		760		(NTP, 1992)		194.27						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C12H18O2		7.0	0.0	13.0	3.0	3.0
2016	NAPHTHENIC ACID																										(NTP, 1992)		364.44						(NTP, 1992)	Quite soluble					Poison	C20H28O6	Cellulose-Based Absorbents|Dirt/Earth	7.0	0.0	13.0	3.0	3.0
2017	N-BUTYL CHLOROFORMATE																																								Combustible Liquid	C9H14O	Dirt/Earth	7.0	0.0	14.0	3.0	3.0
2018	N-BUTYL ETHER																										(EPA, 1998)		375.22													C14H13Cl2N2O2PS	Mineral-Based & Clay-Based Absorbents	7.0	0.0	15.0	3.0	3.0
2019	N-BUTYL GLYCIDYL ETHER	(EPA, 1998)		1215		68		mm Hg	(EPA, 1998)		3.4				(EPA, 1998)		1.432		32		(EPA, 1998)		47		760		(EPA, 1998)		98.92		(NIOSH, 2003)		2	ppm	(NTP, 1992)	Very slighly soluble				PHG	Poison Gas|Corrosive	CCl2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2020	N-BUTYL ISOCYANATE	BUTYL ISOCYANATE|1-ISOCYANATOBUTANE|ISOCYANIC ACID, BUTYL ESTER|N-BUTYL ISOCYANATE	111-36-4	A clear, colorless liquid with a pungent odor. Very toxic by ingestion, and may also be toxic by skin absorption and inhalation. Vapors heavier than air. Less dense than water and insoluble in water. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3890.0	395.0	1360.0	699.0	452.0	914.0	97.0	326.0	179.0	105.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2021	N-BUTYL METHACRYLATE	ACRYESTER B|BLEMMER BMA|BUTYL 2-METHACRYLATE|BUTYL 2-METHYL-2-PROPENOATE|BUTYL METHACRYLATE|METHACRYLIC ACID, BUTYL ESTER|METHACRYLIC ACID, ETHYL ESTER|2-METHYL-2-PROPENOIC ACID, BUTYL ESTER|2-METHYL-BUTYLACRYLATE|N-BUTYL ALPHA-METHYLACRYLATE|N-BUTYL METHACRYLATE|N-BUTYL METHACRYLATE, INHIBITED	97-88-1	A clear colorless liquid. Flash point 130Â°F. Less dense (7.5 lb / gal) than water and insoluble in water. Hence floats on water. Vapors heavier than air. Used to make resins adhesives, and oil additives.	2.5	5.0	2.5	3890.0	395.0	1360.0	699.0	452.0	914.0	97.0	326.0	179.0	105.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.). Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Storage above 113F, may lead to decomposition. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.). Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
2022	N-BUTYL PROPRIONATE	BUTYL PROPANOATE|BUTYL PROPIONATE|BUTYL PROPIONATES|N-BUTYL PROPANOATE|N-BUTYL PROPIONATE|N-BUTYL PROPRIONATE|PROPANOIC ACID BUTYL ESTER|PROPIONIC ACID BUTYL ESTER|PROPIONIC ACID, BUTYL ESTER	590-01-2	A water-white liquid with an apple-like odor. Less dense than water. Flash point 90Â°F. May irritate skin and eyes. Used to make perfumes and flavorings.	2.5	5.0	2.5	3890.0	395.0	1360.0	699.0	452.0	914.0	97.0	326.0	179.0	105.0	(BLOB)	Phosphine can explode with powerful oxidizers. The gas is heavier than air and may travel along the ground to an ignition source. Container may explode in heat of fire. When heated to decomposition, it emits highly toxic fumes of phosphorus oxides. Reacts violently with: air; boron trichloride; bromine; chlorine; chlorine monoxide; nitric acid; nitric oxide; nitrous oxide; nitrogen trioxide; silver nitrate; nitrous acid; mercuric nitrate; nitrogen trichloride; oxygen; and (potassium plus ammonia). Stable up to 131F. May become unstable at high temperatures. (EPA, 1998)	Wear full protective clothing including self-contained breathing apparatus, rubber gloves, boots, and bands around legs, arms, and waist. No skin surface should be exposed. For massive fires in cargo areas, use unmanned hose holders or monitor nozzles. Move containers from fire area. If material is on fire or involved in a fire, do not extinguish unless flow can be stopped; use water in flooding quantities as fog; cool all affected containers with flooding quantities of water; apply water from as far a distance as possible; solid streams of water may be ineffective; use "alcohol" foam, carbon dioxide or dry chemical. (EPA, 1998)
2023	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [<= 52% WITH INERT SOLID]	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE|N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [<= 52% WITH INERT SOLID]	995-33-5	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with an inert solid.	1.0	2.5	5.0	3893.0	395.0	1360.0	699.0	452.0	915.0	97.0	326.0	179.0	105.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2024	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [TECHNICALLY PURE]	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE|N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [TECHNICALLY PURE]	995-33-5	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with an inert solid.	1.0	2.5	5.0	3893.0	395.0	1363.0	699.0	452.0	915.0	97.0	327.0	179.0	105.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2020	N-BUTYL ISOCYANATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Phosgene oxime is an oxime. Chemically similar to, but more reactive than an amide. Incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Also incompatible with strongly oxidizing acids, peroxides, and hydroperoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
2021	N-BUTYL METHACRYLATE	Caution : Phosmet may produce toxic gases when heated; containers may explode in the heat of fire. Avoid sources of extreme heat. This is an organophosphorus pesticide. As for other organophosphorus pesticides stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water spray to reduce vapors. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Take up small, dry spills with clean shovel and place in clean, dry container. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as PHOSMET, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. Storage above 113 F, may lead to decomposition. [EPA, 1998].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		161						
2022	N-BUTYL PROPRIONATE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Usually ignites spontaneously in air. Burns with a luminous flame [Merck 11th ed. 1989]. Insoluble in water.	PHOSPHINE is a reducing agent. Ignites spontaneously in air when pure [Sidgwick, 1950, p. 729]. Liquefied phosphine can be detonated [Rust, 1948, p. 301]. Ignites or reacts violently with boron trichloride, dichlorine oxide, halogens (bromine, chlorine, iodine), metal nitrates, nitrogen oxides, nitric acid, nitrous acid, nitrogen trichloride [Bretherick, 5th ed., 1995, p. 1562]. Forms explosive mixtures with even small amounts of oxygen. Autoignites at low pressures [Fisher, E. O. et al., Angew. Chem., 1968, 7, p. 136].	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2199 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6					(EPA, 1998)	Dangerous fire hazard from spontaneous chemical reaction.	1.79		%	(EPA, 1998)	Dangerous fire hazard from spontaneous chemical reaction.								(EPA, 1998)		-207	
2023	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [<= 52% WITH INERT SOLID]	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Soluble in water with release of heat.	AQUA REGIA is a powerful oxidizing agent and a strong acid. Reacts exothermically with chemical bases (for example: amines and inorganic hydroxides) to form salts and water. Reacts with most metals, including gold and platinum, to dissolve them with generation of toxic and/or flammable gases. Can initiate polymerization in polymerizable organic compounds. Reacts with cyanide salts to generate toxic hydrogen cyanide gas. Generates flammable and/or toxic gases with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and weak or strong reducing agents. Additional exothermic gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates (CO2).	Strong Oxidizing Agent; Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
2024	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [TECHNICALLY PURE]	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2020	N-BUTYL ISOCYANATE																																								Poison	CCl2NOH		6.0	0.0	18.0	3.0	3.0
2021	N-BUTYL METHACRYLATE	(EPA, 1998)		0.001		122		mm Hg													(EPA, 1998)	Decomposes below boiling point					(EPA, 1998)		317.32											Class 9	C11H12NO4PS2		7.0	0.0	17.0	3.0	3.0
2022	N-BUTYL PROPRIONATE	(EPA, 1998)		760		-125.5		mm Hg	(EPA, 1998)		1.17				(EPA, 1998)		0.746		-130		(EPA, 1998)		-126		760		(EPA, 1998)		34		(NIOSH, 2003)		50	ppm	(NIOSH, 2003)	Slight					Poison Gas|Flammable Gas	H3P	Mineral-Based & Clay-Based Absorbents	6.0	0.0	13.0	3.0	3.0
2023	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [<= 52% WITH INERT SOLID]																																							Corrosive	HCl (hydrochloric acid)|HNO3 (nitric acid)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	12.0	3.0	3.0
2024	N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, [TECHNICALLY PURE]																																							Non-Flammable Gas	Ar		9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2025	N-BUTYLAMINE	1-AMINOBUTANE|1-BUTANAMINE|BUTYLAMINE|1-BUTYLAMINE|MONO-N-BUTYLAMINE|MONOBUTYLAMINE|N-BUTYLAMINE|NORRALAMINE|NORVALAMINE|TUTANE	109-73-9	A clear colorless liquid with an ammonia-like odor. Flash point 10Â°F. Less dense (6.2 lb / gal) than water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3896.0	395.0	1363.0	699.0	452.0	916.0	97.0	327.0	179.0	105.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2026	N-BUTYL-P-AMINOBENZOATE	BENZOIC ACID, P-AMINO-, BUTYL ESTER|BUTAMBEN|BUTESIN|BUTESINE|BUTOFORM|4-(BUTOXYCARBONYL)ANILINE|BUTYL 4-AMINOBENZOATE|BUTYL KELOFORM|BUTYL P-AMINOBENZOATE|BUTYL PARA-AMINOBENZOATE|BUTYLCAINE|N-BUTYL P-AMINOBENZOATE|N-BUTYL-P-AMINOBENZOATE|P-AMINOBENZOIC ACID BUTYL ESTER|P-AMINOBENZOIC ACID N-BUTYL ESTER|PLANOFORM|SCUROFORM|SCUROFORME	94-25-7	PHYSICAL DESCRIPTION: Yellow powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3896.0	395.0	1366.0	699.0	452.0	916.0	97.0	328.0	179.0	105.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2027	N-DECANE	DECANE|DECANE (N)|DECYL HYDRIDE|N-DECANE	124-18-5	A colorless liquid. Flash point 115Â°F. Less dense than water and insoluble in water. Vapors heavier than air. In high concentrations its vapors may be narcotic. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	3896.0	395.0	1366.0	699.0	452.0	916.0	97.0	328.0	179.0	105.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2028	N-DODECANE	ADAKANE 12|BA 51-090453|BIHEXYL|C12-N-ALKANE|DIHEXYL|DODECANE|D(UO)DEC(ANE)|N-DODECANE	112-40-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3899.0	395.0	1369.0	699.0	452.0	917.0	97.0	329.0	179.0	105.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2029	NEODECANOIC ACID	NEODECANOIC ACID	26896-20-8	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	3899.0	395.0	1369.0	699.0	452.0	917.0	97.0	329.0	179.0	105.0	(BLOB)	(Non-Specific -- Organophosphorus pesticide, liquid, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. (EPA, 1998)	(Non-Specific -- Organophosphorus pesticide, liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. (Non-Specific -- Organophosphorus pesticide, liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2025	N-BUTYLAMINE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(4-(METHYLTHIO)PHENYL) ESTER may react with strong reducing agents such as hydrides to give highly toxic and flammable phosphine gas. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2026	N-BUTYL-P-AMINOBENZOATE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2027	N-DECANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water with small release of heat.	PHOSPHORIC ACID reacts exothermically with bases. May react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain classes of organic compounds. Reacts with cyanide compounds to release gaseous hydrogen cyanide. May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Forms explosive mixture with nitromethane. Reacts violently with sodium tetrahydroborate. In the presence of chlorides can corrode stainless steel to form explosive hydrogen gas. Emits toxic and irritating fumes of oxides of phosphorus when heated to decomposition [Lewis, 3rd ed., 1993, p. 1029].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																										
2028	N-DODECANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Organothiophosphorus compounds are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2029	NEODECANOIC ACID	(Non-Specific -- Organophosphorus pesticide, liquid) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PHOSPHOROTHIOIC ACID, O,O-DIMETHYL S-(2-(METHYLTHIO) ETHYL) ESTER, like other thiophosphate esters, may react with strong reducing agents such as hydrides to give highly toxic and flammable phosphine gas. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2025	N-BUTYLAMINE																									(EPA, 1998)		262														Poison	C10H15O2PS2		8.0	0.0	19.0	3.0	3.0
2026	N-BUTYL-P-AMINOBENZOATE																																									Non-Flammable Gas	Ar		9.0	0.0	12.0	3.0	3.0
2027	N-DECANE	(NIOSH, 2003)		0.03				mm Hg							(USCG, 1999)		1.892		77		(USCG, 1999)			greater than 266	760		(USCG, 1999)		98		(NIOSH, 2003)		1000	mg/m3	(NIOSH, 2003)	Miscible				PAC	Corrosive	H3PO4		7.0	0.0	12.0	3.0	3.0
2028	N-DODECANE																																									Combustible Liquid	H3O2PS2		7.0	0.0	14.0	3.0	3.0
2029	NEODECANOIC ACID														(EPA, 1998)		1.218		77		(EPA, 1998)	decomposes	149		0.1		(EPA, 1998)		216.27												Class 9	C5H13O3PS2		6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2030	NEOHESPERIDIN DIHYDROCHALCONE	BETA-D-2-O-(6-DEOXY-ALPHA-L-MANNOPYRANOSYL)-3,5-DIHYDROXY-4-(3-HYDROXY-4-METHOXYHYDROCINNAMOYL)PHENYL GLUCOPYRANOSIDE|3,5-DIHYDROXY-4-(3-HYDROXY-4-METHOXYHYDROCINNAMOYL)PHENYL-2-O-(6-DEOXY-ALPHA-L-MANNOPYRANOSYL)-BETA-D-GLUCOPYRANOSIDE|GLUCOPYRANOSIDE, 3,5-DIHYDROXY-4-(3-HYDROXY-4-METHOXYHYDROCINNAMOYL)PHENYL 2-O-(6-DEOXY-ALPHA-L-MANNOPYRANOSYL)-, BETA-D-|GLUCOPYRANOSIDE, 3,5-DIHYDROXY-4-(3-HYDROXY-4-METHOXYHYDROCINNAMOYL)PHENYL 2-O-ALPHA-L-	20702-77-6	PHYSICAL DESCRIPTION: Off-white crystals or powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	3902.0	395.0	1369.0	699.0	452.0	918.0	97.0	329.0	179.0	105.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Combustible. Emits toxic fumes under fire conditions. (USCG, 1999)	Extinguish with dry chemical, alcohol foam, or CO2. Cool exposed containers with water. (USCG, 1999)
2031	NEOPENTYL GLYCOL DIGLYCIDYL ETHER	1,3-BIS(2,3-EPOXYPROPOXY)-2,2-DIMETHYLPROPANE|1,3-BIS(GLYCIDYLOXY)-2,2-DIMETHYLPROPANE|2,2-BIS(GLYCIDYLOXYMETHYL)PROPANE|DIGLYCIDYL ETHER OF NEOPENTYL GLYCOL|2,2'-((2,2-DIMETHYL-1,3-PROPANEDIYL)BIS(OXYMETHYLENE))BIS-(9CI)OXIRANE|2,2-((DIMETHYL-1,3-PROPANEDIYL)BIS(OXYMETHYLENE))BISOXIRANE|HELOXY WC68|NEOPENTYL GLYCOL DIGLYCIDYL ETHER|PROPANE, 1,3-BIS(2,3-EPOXYPROPOXY)-2,2-DIMETHYL-	17557-23-2	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	3905.0	395.0	1369.0	699.0	452.0	919.0	97.0	329.0	179.0	105.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
2032	N-ETHYL MORPHOLINE	ETHYLMORPHOLINE|4-ETHYLMORPHOLINE|N-ETHYL MORPHOLINE|N-ETHYLMORPHOLINE|NEM	100-74-3	A colorless liquid with a strong ammonia-like odor. Severely irritates skin, eyes, and mucous membranes. Moderately soluble in water and less dense than water. Flash point 83Â°F .	2.5	5.0	2.5	3908.0	395.0	1369.0	699.0	452.0	920.0	97.0	329.0	179.0	105.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2033	N-ETHYL-4-METHYLBENZENE SULFONAMIDE	BENZENESULFONAMIDE, N-ETHYL-4-METHYL-|N-ETHYL 4-METHYLBENZENE SULFONAMIDE|N-ETHYL-4-METHYLBENZENESULFONAMIDE|N-ETHYL-4-TOLUENESULFONAMIDE|N-ETHYL-P-METHYLBENZENESULFONAMIDE|N-ETHYL-P-TOLUENESULFONAMIDE|N-ETHYL-P-TOLYLSULFONAMIDE|N-TOSYLETHYLAMINE|P-TOLUENE ETHYLSULFONAMIDE|P-TOLUENE-N-ETHYLSULFONAMIDE|P-TOLUENESULFONAMIDE, N-ETHYL-|P-TOLUENESULFONYL-N-ETHYLAMIDE|P-TOLUNESULFONAMIDE, N-ETHYL-|SANCTICIZER 3|SANTICIZER 3|4-TOLUENESULFONAMIDE, N-ETHYL-|TOPCIZER 3	80-39-7	PHYSICAL DESCRIPTION: Platelets (from dilute alcohol or ligroin) or off-white solid. (NTP, 1992)	1.0	2.5	5.0	3911.0	395.0	1369.0	699.0	452.0	921.0	97.0	329.0	179.0	105.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2034	N-ETHYLANILINE	ANILINE, N-ETHYL-|ANILINOETHANE|ETHYLANILINE|ETHYLPHENYLAMINE|N-ETHYL-N-PHENYLAMINE|N-ETHYLAMINOBENZENE|N-ETHYLANILINE|N-ETHYLBENZENAMINE|N-ETHYLBENZENEAMINE	103-69-5	A dark liquid with an aromatic odor. Insoluble in water. Density 0.963 g / cm3. Toxic by skin absorption and inhalation of vapors. Evolves toxic fumes during combustion. Flash point 185Â°F.	2.5	5.0	2.5	3914.0	395.0	1369.0	699.0	452.0	922.0	97.0	329.0	179.0	105.0	(BLOB)	Poisonous, corrosive, and irritating gases are generated when this material is heated or is in contact with water. It may ignite other combustible materials (wood, paper, oil, etc.). It reacts violently with water. When heated to decomposition, it emits toxic fumes of chlorides and oxides of phosphorus; it will react with water or steam to produce heat and toxic and corrosive fumes. Incompatible with carbon disulfide; N,N-dimethylformamide; 2,5-dimethylpyrrole; 2,6-dimethyl-pyridine N-oxide; dimethylsulfoxide; Ferrocene-1,1-dicarboxylic acid; water; and zinc. Do not store with combustible materials, particularly fibrous organic materials, or with electrical or other equipment that can be corroded. Reacts violently with moisture. (EPA, 1998)	Avoid breathing vapors; keep upwind. Wear self-contained breathing apparatus. Avoid bodily contact with the material. Wear boots, protective gloves, and goggles. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. If contact with the material is anticipated, wear full protective clothing. Keep unnecessary people away; isolate hazard area and deny entry. Extinguish by smothering with suitable dry chemical. Use water on combustibles burning in vicinity of this material. Use dry chemical, carbon dioxide, or dry sand; do not use water on material itself; if large quantities of combustibles are involved, use water in flooding quantities as spray and fog; use water spray to absorb vapors; cool all affected containers with flooding quantities of water; apply water from as far a distance as possible. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2030	NEOHESPERIDIN DIHYDROCHALCONE	Stop discharge if possible. Call fire department. Avoid contact with liquid. Isolate and remove discharged material. Notify local health and pollution control agencies. Evacuate areas. Should be removed. Chemical and physical treatment. Effect of low concentrations on aquatic life is unknown. May be dangerous if it enters water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes. (USCG, 1999)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Breitherick, 1979 p.151-154, 164]. Miscible with water.	DIPROPYLENE GLYCOL METHYL ETHER may react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound		(NFPA, 2010)		2	2	0	2		(USCG, 1999)		166		(USCG, 1999)	Data not available.				(USCG, 1999)	Data not available.								(USCG, 1999)		-117	
2031	NEOPENTYL GLYCOL DIGLYCIDYL ETHER	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Reacts with liquid water or atmospheric moisture to form toxic hydrogen sulfide gas and corrosive phosphoric acid. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Sulfide gas will be created in 5.8 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 71 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS HEPTASULFIDE is a reducing agent. Can react vigorously with oxidizing agents including inorganic oxoacids, organic peroxides and epoxides. Simple salts of sulfides (such as sodium, potassium, and ammonium sulfide) react vigorously with acids to release hydrogen sulfide gas.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2032	N-ETHYL MORPHOLINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts slowly and exothermically with water to form phosphoric acid and hydrobromic acid [Merck, 11th ed. 1989]. Decomposes exothermically in water to form toxic fumes of hydrobromic and phosphoric acids [Lewis]. Experiments conducted at Argonne showed that HBr gas is generated upon mixing with water. However, it was shown that nearly all of the generated HBr was apparently dissolved into the excess water as rapidly as it formed. So that virtually none of the gas was observed above the solution. "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS OXYBROMIDE is incompatible with water, strong oxidizing agents, alcohols, bases, including amines. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NOAA, 2007)		133	
2033	N-ETHYL-4-METHYLBENZENE SULFONAMIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	ARSENIC ACID SOLUTION may evolve very toxic gaseous arsine (AsH_3) from contact with active metals, such as zinc and aluminum [Inorganic Chemicals Handbook, I, p. 175]. When heated to decomposition, it produces toxic fumes of metallic arsenic [Sax, 9th ed., p. 271]. The solution is weakly acidic and a weak oxidizing agent. Reacts with alkalis to generate some heat and precipitate arsenates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2034	N-ETHYLANILINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Fumes in air. Reacts exothermically (with possible spattering) with water to form fumes of phosphoric acid, hydrogen chloride, and possibly spontaneously flammable phosphine gas. Phosphorus oxychloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS OXYCHLORIDE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Combining the chloride with zinc dust caused immediate ignition, due to the formation of phosphine gas which ignites, [Mellor, 1940, Vol. 8, 1025]. An exotherm starting with the mixing of phosphorus oxychloride with acetone (a ketone) lead to an explosion, may behave similarly with other ketones, [Organic Process Research and Development, Vol.4, No. 6,200, "Phosphorus Oxychloride and Acetone: An Incompatibility Investigation Using ARC."]	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	2	2	No Water	(EPA, 1998)	Not Flammable													(USCG, 1999)	Not flammable			(EPA, 1998)		34.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2030	NEOHESPERIDIN DIHYDROCHALCONE	(NIOSH, 2003)		0.5				mm Hg	(USCG, 1999)		5.11				(USCG, 1999)		0.951		68		(USCG, 1999)		363.2		760		(USCG, 1999)		148.2		(NIOSH, 2003)		600	ppm	(NIOSH, 2003)	Miscible				DPY		C7H16O3	Cellulose-Based Absorbents	6.0	0.0	22.0	3.0	3.0
2031	NEOPENTYL GLYCOL DIGLYCIDYL ETHER																																									Flammable Solid	P4S7		6.0	0.0	14.0	3.0	3.0
2032	N-ETHYL MORPHOLINE														(NOAA, 2007)			greater than 1																							Corrosive	Br3OP	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	16.0	3.0	3.0
2033	N-ETHYL-4-METHYLBENZENE SULFONAMIDE																															(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						Poison	AsH3O4		6.0	0.0	11.0	3.0	3.0
2034	N-ETHYLANILINE	(EPA, 1998)		40		81.14		mm Hg	(EPA, 1998)		5.3				(EPA, 1998)		1.645		77		(EPA, 1998)		223		760		(EPA, 1998)		153.32						(NIOSH, 2003)	Decomposes				PPO	Poison Inhalation Hazard|Corrosive	Cl3OP	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2035	N-ETHYL-M-TOLUIDINE	M-TOLUIDINE, N-ETHYL-|3-METHYL-N-ETHYLANILINE|N-ETHYL-3-METHYLANILINE|N-ETHYL-3-METHYLBENZENAMINE|N-ETHYL-M-TOLUIDINE	102-27-2	A light amber liquid. Less dense than water and insoluble in water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used to make other chemicals.	2.5	5.0	2.5	3917.0	395.0	1369.0	699.0	452.0	923.0	97.0	329.0	179.0	105.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2036	N-ETHYL-N-BENZYLANILINE	BENZYLAMINE, N-ETHYL-N-PHENYL-|BENZYLETHYLPHENYLAMINE|BENZYLETHYLPHENYLAMINE|ETHYLBENZYLANILINE|ETHYLBENZYLANILINE|N-BENZYL-N-ETHYLANILINE|N-ETHYL-N-BENZYLANILINE|N-ETHYL-N-PHENYLBENZENEMETHANAMINE|N-ETHYL-N-PHENYLBENZYLAMINE|PHENYLETHYLBENZYLAMINE	92-59-1	A colorless to light colored liquid. Insoluble in water and denser than water. Hence sinks in water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	3917.0	395.0	1369.0	705.0	452.0	923.0	97.0	329.0	181.0	105.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of chlorides and chlorine. Will react with water or steam to produce heat and toxic and corrosive fumes. Reacts violently with moisture, chlorine trioxide, fluorine hydroxylamine, magnesium oxides, diphosphorus trioxide, sodium and potassium. Decomposed by water to form hydrogen chloride, phosphoric acids, corrosive materials, and heat. This heat may be sufficient to ignite surrounding combustible materials. Incompatible with water, magnesium oxide, chemically active metals: sodium, potassium; alkalis; aluminum; chlorine dioxide; chlorine; diphosphorus trioxide; fluorine; hydroxylamine; magnesium oxide; 3'-methyl-2-nitrobenzanilide; nitrobenzene; sodium; urea; water. (EPA, 1998)	Avoid breathing vapors; keep upwind. Wear self-contained breathing apparatus. Avoid bodily contact with the material; wear boots, protective gloves, and goggles. If material is involved in fire then use dry chemical, carbon dioxide, or dry sand. Do not use water on material itself. If large quantities of combustibles are involved, use water in flooding quantities (i.e., spray or fog), and use water spray to absorb vapors. (EPA, 1998)
2037	N-HEPTALDEHYDE	ENANTHAL|ENANTHALDEHYDE|ENANTHICALDEHYDE|ENANTHOLE|HEPTALDEHYDE|1-HEPTALDEHYDE|HEPTANAL|HEPTANALDEHYDE|HEPTYL ALDEHYDE|N-HEPTALDEHYDE|N-HEPTANAL|N-HEPTYLALDEHYDE|OENANTHAL|OENANTHALDEHYDE|OENANTHICALDEHYDE|OENANTHOL	111-71-7	A colorless, oily liquid with a penetrating fruity odor. Insoluble in water and less dense than water. Hence floats on water. Flash point near 141Â°F. Used to make perfumes and pharmaceuticals.	2.5	5.0	2.5	3917.0	395.0	1369.0	705.0	452.0	923.0	97.0	329.0	181.0	105.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this solid chemical contacts the skin, dust it off immediately and then flush the contaminated skin with water. If this chemical or liquids containing this chemical penetrate the clothing, promptly remove the clothing and flush the skin with water. Get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Special Hazards of Combustion Products: Products of combustion include sulfur dioxide and phosphorus pentoxide, which are irritating, toxic and corrosive. (USCG, 1999)	(BLOB)
2038	N-HEXADECANE	CETANE|N-CETANE|N-HEXADECANE	544-76-3	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	3920.0	395.0	1369.0	705.0	452.0	924.0	97.0	329.0	181.0	105.0	(BLOB)	This material will react violently with water, producing heat and toxic and corrosive fumes. When heated to decomposition, it emits highly toxic fumes of chlorides and phosphorus oxides. It may ignite other combustible materials. Reacts violently with water. Reacts explosively with acetic acid, aluminum, chromyl chloride, diallylphosphite and allyl alcohol, dimethyl sulfoxide, fluorine, hydroxylamine, iodine monochloride, lead dioxide, nitric acid, nitrous acid, organic matter, potassium, and sodium. Avoid contact with water, steam, or acids. Hazardous polymerization may not occur. (EPA, 1998)	Spray cooling water on containers that are exposed to flames until well after fire is out. Do not get water inside containers. This material will not burn. Use carbon dioxide or dry chemical on fires involving phosphorus trichloride. Do not use water. (EPA, 1998)
2039	N-HEXANETHIOL	HEXAN-1-THIOL|HEXANE-1-THIOL|HEXANETHIOL|1-HEXANETHIOL|HEXYL MERCAPTAN|1-HEXYL MERCAPTAN|HEXYLTHIOL|1-HEXYLTHIOL|1-MERCAPTOHEXANE|N-HEXANETHIOL|N-HEXYL MERCAPTAN|N-HEXYLTHIOL|NSC 99106	111-31-9	Colorless liquid with an unpleasant odor. Mp: -81Â°C; bp: 152-153Â°C. Density 0.838 g cm-3 (at 25Â°C).	2.5	5.0	2.5	3923.0	395.0	1369.0	705.0	452.0	925.0	97.0	329.0	181.0	105.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2035	N-ETHYL-M-TOLUIDINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Decomposed in water or moist air to form corrosive hydrogen bromide fumes. [Merck 11th ed. 1989]. Phosphorus pentabromide reacts vigorously with water to generate gaseous HBr. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Bromide gas will be created in 0.29 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS PENTABROMIDE is a yellow crystalline compound, toxic and corrosive. Contact with water or steam leads to violent decomposition (hydrolysis) producing toxic and corrosive phosphoryl bromide fumes. When heated to decomposition it emits toxic fumes of bromide and oxides of phosphorus [Lewis, 3rd ed., 1993, p. 1033].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2691 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2036	N-ETHYL-N-BENZYLANILINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Fumes in air, reacts violently with water to form phosphoric acid and hydrochloric acid [Oldbury Chemicals year/ p.9]. Phosphorus pentachloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.54 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS PENTACHLORIDE is a lightly yellow, fuming crystalline material, highly caustic, corrosive and toxic. Flammable by chemical reaction. Violent exothermic reaction with water to generate gaseous HCl. Based on decomposition it emits highly toxic fumes of chlorides and oxides of phosphorus. Explosive reaction with alkaline metals (sodium, potassium), urea. Ignites on contact with fluorine. Violent reaction with aluminum, chlorine trioxide, hydroxylamine, magnesium oxide, nitrobenzene, phosphorus(III) oxide, potassium. Carbamates form explosive products [Bretherick, 5th ed., 1995, p. 1360]. Reaction with the mixture of chlorine and chlorine dioxide causes explosion [Mellor, 1941, vol. 2, p. 281; 1940, vol. 8, p. 1013].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1806 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																				(EPA, 1998)	(decomposes) 298Â° F (under pressure) sublimes at about 212Â° F without melting		
2037	N-HEPTALDEHYDE	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Highly flammable. May heat and spontaneously ignite in presence of moisture [Haz. Chem. Data. 1969]. Reaction with water forms toxic hydrogen sulfide gas and phosphoric acid. Dangerous when wet. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Sulfide gas will be created in 5.8 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 71 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS PENTASULFIDE reacts vigorously with strong oxidants. Exothermically violent decomposition reaction with water, steam or acids to produce irritating fumes of phosphorus pentaoxide and highly toxic hydrogen sulfide gas. May ignite in contact with limited amounts of water [Haz. Chem. Data, 1975, p. 239]. Can be ignited by sparks or friction and its dust presents an explosion hazard in air at sufficient concentrations. Hydrogen sulfide gas evolved from reactions with water may also form explosive mixtures with air.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1340 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	2	3	No Water																				(USCG, 1999)		288		(USCG, 1999)		527	
2038	N-HEXADECANE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Fumes in air. Reacts violently with water. Hydrolysis produces dense hydrogen chloride vapors. Phosphorus trichloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.14 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	(BLOB)	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1809 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	2	2	No Water																				(USCG, 1999)	Not flammable			(EPA, 1998)		-170	
2039	N-HEXANETHIOL	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. The solid may spontaneously ignite with moist air or in contact with water. Produces phosphoric acid and hydrogen sulfide, a toxic flammable gas in reaction with water.	PHOSPHORUS TRISULFIDE is a reducing agent. Reacts vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Produce acidic and corrosive phosphorus pentaoxide and sulfur dioxide when burned. Produces phosphoric acid and hydrogen sulfide, a toxic flammable gas with water.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2035	N-ETHYL-M-TOLUIDINE																																								Corrosive	Br5P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	16.0	3.0	3.0
2036	N-ETHYL-N-BENZYLANILINE	(EPA, 1998)		1		131.9		mm Hg							(NIOSH, 2003)		3.6				(EPA, 1998)		320		760		(EPA, 1998)		208.27		(NIOSH, 2003)		70	mg/m3	(NIOSH, 2003)	Reacts with water					Corrosive	Cl5P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
2037	N-HEPTALDEHYDE	(NIOSH, 2003)		1		572		mm Hg							(USCG, 1999)		2.03		68		(USCG, 1999)		957		760		(USCG, 1999)		222.27		(NIOSH, 2003)		250	mg/m3	(NIOSH, 2003)	Reacts with water				PPP	Dangerous When Wet(Flammable Solid	P,S		9.0	0.0	18.0	3.0	3.0
2038	N-HEXADECANE	(EPA, 1998)		100		69.8		mm Hg	(EPA, 1998)		4.75				(EPA, 1998)		1.574		69.8		(EPA, 1998)		169		760		(EPA, 1998)		137.35		(NIOSH, 2003)		25	ppm	(NIOSH, 2003)	Reacts with water				PPT	Poison Inhalation Hazard|Corrosive	PCl3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	17.0	3.0	3.0
2039	N-HEXANETHIOL																																								Flammable Solid	P2S3		7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2040	N-HEXANOL	ALFOL 6|AMYLCARBINOL|CAPROYL ALCOHOL|EPAL 6|HEXANOL|1-HEXANOL {HEXYL ALCOHOL}|1-HEXANOL|HEXYL ALCOHOL|1-HEXYL ALCOHOL|1-HYDROXYHEXANE|N-AMYLCARBINOL|N-HEXAN-1-OL|N-HEXANOL|N-HEXYL ALCOHOL|PENTYLCARBINOL	111-27-3	A clear colorless liquid. Flash point 149Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	3923.0	395.0	1369.0	705.0	452.0	925.0	97.0	329.0	181.0	105.0			
2041	NICETHAMID	(BLOB)	59-26-7	PHYSICAL DESCRIPTION: Clear light yellow viscous liquid or crystalline solid. Slightly bitter taste followed by a faint sensation of the warmth. (NTP, 1992)	2.5	5.0	2.5	3926.0	395.0	1372.0	705.0	452.0	926.0	97.0	330.0	181.0	105.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2042	NICKEL AMMONIUM SULFATE	AMMONIUM DISULFATONICKELATE (II)|AMMONIUM NICKEL SULFATE|AMMONIUM NICKEL SULFATE ((NH4)2NI(SO4)2)|DIAMMONIUM NICKEL DISULFATE|NICKEL AMMONIUM SULFATE|NICKEL AMMONIUM SULFATE (NI(NH4)2(SO4)2)|NICKEL AMMONIUM SULFATE HEXAHYDRATE|NICKEL AMMONIUM SULPHATE|NICKEL CATALYST|NICKEL METAL: ELEMENTAL NICKEL	15699-18-0	Nickel ammonium sulfate is a green crystalline solid. Mildly toxic, carcinogenic. When heated to decomposition it emits highly toxic fumes of metallic nickel, oxides of sulfur, and oxides of nitrogen (Lewis, 3rd ed., 1993, p. 910). The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used for electroplating nickel.	1.0	2.5	5.0	3926.0	395.0	1372.0	705.0	452.0	926.0	97.0	330.0	181.0	105.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2043	NICKEL BROMIDE	NICKEL BROMIDE|NICKEL BROMIDE TRIHYDRATE	13462-88-9	Yellowish-green odorless solid. Sinks in and mixes with water. (USCG, 1999)	1.0	2.5	5.0	3929.0	395.0	1372.0	705.0	455.0	927.0	97.0	330.0	181.0	106.0	(BLOB)	When in contact with active metals such as arsenic, iron, aluminum, zinc, or when heated to decomposition, it emits highly toxic fumes of arsenic. Upon contact with water hydrogen chloride is produced. Water causes it to decompose to yield arsenic acid and hydrochloric acid. Avoid active metals such as arsenic, iron, aluminum, zinc, decomposed by water to form arsenic hydroxide and hydrogen chloride. Avoid air, ultraviolet light. Hazardous polymerization may not occur. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. This compound is not flammable. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2044	NICOTINE AND SALTS	NICOTINE AND SALTS	54-11-5	A colorless to light yellow or brown liquid. Combustible. Toxic by inhalation and by skin absorption. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3929.0	401.0	1375.0	708.0	455.0	927.0	99.0	331.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or a Halon extinguisher. (NTP, 1992)
2045	NITROFURAZONE	(BLOB)	59-87-0	PHYSICAL DESCRIPTION: Odorless pale yellow needles or yellow powder. pH (saturated aqueous solution) 6.0 - 6.5. Alkaline solutions are dark orange. (NTP, 1992)	1.0	2.5	5.0	3932.0	401.0	1375.0	708.0	455.0	928.0	99.0	331.0	182.0	106.0	(BLOB)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2040	N-HEXANOL			Stable in air. Does not spontaneously ignite in air (a property of white or yellow phosphorus). Insoluble in water.	PHOSPHORUS, [BLACK] is a reducing agent. Much less reactive than the allotropic white phosphorus. Reacts strongly with bromine trifluoride. [Mellor 2:113. 1946-47]. Explodes on contact with bromoazide.			(NFPA, 2010)		1	1	1	2																(USCG, 1999)			greater than 752				
2041	NICETHAMID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable.	Nitriles, such as TRANS-2-METHYL-2-BUTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
2042	NICKEL AMMONIUM SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Soluble in water.	DIRECT BLUE 15 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																						(NTP, 1992)				greater than 572
2043	NICKEL BROMIDE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Safety goggles and face shield; acid-type canister gas mask; rubber gloves; protective clothing. (USCG, 1999)	Fumes in air. Reacts with water to form hydrochloric acid and As(OH)3.	When ARSENIC CHLORIDE is heated to decomposition or on contact with mineral acids, it emits highly toxic fumes of hydrogen chloride and of metallic arsenic. Explodes with Na, K, and Al on impact [Sax, 9th ed., 1996, p. 275]. The interaction of hexafluoroisopropylideneaminolithium with a range of chlorinated and /or fluorinated derivatives of arsenic, boron, phosphorus, silicon, and sulfur yielded a violently exothermic reaction.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1560 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																					(EPA, 1998)		3.2	
2044	NICOTINE AND SALTS	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PHOTODIELDRIN is a chlorinated epoxide derivative. Epoxides tend to be highly reactive. Compounds in this group react with acids, bases, and oxidizing and reducing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2045	NITROFURAZONE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Water insoluble. Dust may form an explosive mixture in air.	AZODICARBONAMIDE is easily ignited and burns rapidly. Confined samples show a high rate of pressure rise during thermal decomposition, which produces carbon monoxide and nitrogen. Sensitive to temperatures exceeding 122Â°F. May be sensitive to exposure to light. Stable in bulk when stored for two weeks at temperatures up to 140Â° F. Slightly unstable in water suspension (showed 1.3% decomposition at 2 mg/mL over a two-week period at room temperature in the light but no decomposition at 41Â° F over a two-week period in the dark (NTP, 1992). Reacts with hot water to give nitrogen, carbon monoxide, and ammonia [Hawley]. Decomposes in hot hydrochloric acid. Incompatible with strong acids and bases, and with compounds of metals.	Highly Flammable; Explosive	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		205																	(NTP, 1992)	(decomposes)	437	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2040	N-HEXANOL														(USCG, 1999)		2.691		68		(USCG, 1999)		838.9		760		(USCG, 1999)		30.975											PPB		P		9.0	0.0	27.0	3.0	3.0
2041	NICETHAMID																																								Flammable Liquid|Poison	C5H7N	Dirt/Earth	6.0	0.0	11.0	3.0	3.0
2042	NICKEL AMMONIUM SULFATE																											(NTP, 1992)		996.88						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL			C34H28N6O16S4.4Na		5.0	0.0	16.0	3.0	3.0
2043	NICKEL BROMIDE	(EPA, 1998)		10		74.3		mm Hg	(EPA, 1998)		6.25				(USCG, 1999)		2.156		77		(USCG, 1999)		266.4		760		(EPA, 1998)		181.28		(NIOSH, 2003)	as arsenic, suspected human carcinogen.	5	mg/m3						AST	Poison Inhalation Hazard	AsCl3		5.0	0.0	13.0	3.0	3.0
2044	NICOTINE AND SALTS																											(NTP, 1992)		380.9						(NTP, 1992)	at 59Â° F		less than 0.1	mg/mL		Poison	C12H8Cl6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	16.0	3.0	3.0
2045	NITROFURAZONE	(NTP, 1992)	: 10.7 mm Hg at 79.7Â° F	7.1		66.2		mm Hg							(NTP, 1992)		1.65		68		(NTP, 1992)	Decomposes					(NTP, 1992)		116.08						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Flammable Solid	C2H4N4O2		8.0	0.0	20.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2046	NITROMETHANE	METHANE, NITRO-|NITROCARBOL|NITROMETHANE	75-52-5	A colorless oily liquid. Flash point 95Â°F. May violently decompose if intensely heated when contaminated. Denser than water and slightly soluble in water. Hence sinks in water. Vapors are heavier than air. Moderately toxic. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	3932.0	401.0	1375.0	708.0	455.0	928.0	99.0	331.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2047	NITROTOLUENES	METHYLNITROBENZENE|MONONITROTOLUENE|NITROPHENYLMETHANE|NITROTOLUENE|NITROTOLUENE (PARA)|NITROTOLUENES|NITROTOLUENES, LIQUID|NITROTOLUENES, SOLID|TOLUENE, AR-NITRO-	1321-12-6	Exists as either a yellow solid crystal or liquid. Insoluble in water and soluble in alcohol. Denser than water. Toxic by ingestion, inhalation or skin contact. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	3935.0	401.0	1378.0	708.0	455.0	929.0	99.0	332.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2048	N-METHYL-4-NITROANILINE	ANILINE, N-METHYL-4-NITRO-|ANILINE, N-METHYL-P-NITRO|ANILINE, N-METHYL-P-NITRO-|BENZENAMINE, N-METHYL-4-NITRO-|METHYL(4-NITROPHENYL)AMINE|4-(METHYLAMINO)NITROBENZENE|N-METHYL-4-NITROANILINE|N-METHYL-4-NITROBENZENAMINE|N-METHYL-P-NITRANILINE|N-METHYL-P-NITROANILINE|N-MONOMETHYL-P-NITROANILINE|4-NITRO-N-METHYLANILINE|P-(METHYLAMINO)NITROBENZENE|P-NITRO-N-METHYLANILINE	100-15-2	PHYSICAL DESCRIPTION: Brownish-yellow prisms with violet reflex (from ethanol) or yellow powder. (NTP, 1992)	1.0	2.5	5.0	3935.0	401.0	1378.0	708.0	455.0	929.0	99.0	332.0	182.0	106.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2049	N-METHYLANILINE	ANILINE, N-METHYL-|ANILINOMETHANE|BENZENEAMINE,N-METHYL-(9 CI)MA|(METHYLAMINO) BENZENE|(METHYLAMINO) BENZENE|METHYLANILINE|METHYLANILINE (MONO)|METHYLPHENYLAMINE|MONOMETHYL ANILINE|MONOMETHYLANILINE|N-METHYL ANILINE|N-METHYL-N-PHENYLAMINE|N-METHYLAMINOBENZENE|N-METHYLANILINE|N-METHYLBENZENAMINE|N-METHYLPHENYLAMINE|N-MONOMETHYLANILINE|N-PHENYL-N-METHYLAMINE|N-PHENYLMETHYLAMINE	100-61-8	A colorless to brown viscous liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3938.0	401.0	1378.0	708.0	455.0	930.0	99.0	332.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2050	N-METHYLFORMAMIDE	EK 7011|FORMAMIDE, N-METHYL-|METHYLFORMAMIDE|MONOMETHYLFORMAMIDE|N-METHYLFORMAMIDE|N-METHYLFORMIMIDIC ACID|N-MONOMETHYLFORMAMIDE |NSC 3051|X 188	123-39-7	PHYSICAL DESCRIPTION: Clear colorless liquid with a slight amine odor. (NTP, 1992)	2.5	5.0	2.5	3938.0	401.0	1381.0	708.0	455.0	930.0	99.0	333.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2051	N-METHYL-O-PHENYLENEDIAMINE DIHYDROCHLORIDE	1,2-BENZENEDIAMINE, N-METHYL-, DIHYDROCHLORIDE|N-METHYL-1,2-BENZENEDIAMINE DIHYDROCHLORIDE|N-METHYL-1,2-DIAMINOBENZENE DIHYDROCHLORIDE|N-METHYL-O-PHENYLENEDIAMINE DIHYDROCHLORIDE|O-PHENYLENEDIAMINE, N-METHYL-, DIHYDROCHLORIDE	25148-68-9	PHYSICAL DESCRIPTION: Crystals (from ethanol); light purple powder. (NTP, 1992)	1.0	2.5	5.0	3941.0	401.0	1381.0	708.0	455.0	931.0	99.0	333.0	182.0	106.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2046	NITROMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	PIGMENT RED 2 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																						(NTP, 1992)		590 to 592
2047	NITROTOLUENES	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air and light. Insoluble in water.	TRANS-STILBENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		255 to 257
2048	N-METHYL-4-NITROANILINE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Soluble in water.	BARIUM AZIDE, [DRY OR WETTED WITH < 50 % WATER] may decompose explosively when subjected to shock or heat. Wetting reduces its sensitivity of shock. Can burn very vigorously producing toxic oxides of nitrogen. May form violently explosive salts in combination with carbon disulfide. Sensitivity toward decomposition can be heightened by metal salts or by traces of strong acids [Sax, 9th ed., 1996, p. 298].	Highly Flammable; Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
2049	N-METHYLANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	Ketones, such as PINDONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		227.3 to 230.9
2050	N-METHYLFORMAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PIPERAZINE ADIPATE gives weakly acidic aqueous solutions. Can serve as both an oxidizing agent and as a reducing agent.							0																			(NTP, 1992)	approximately with decomposition	482	
2051	N-METHYL-O-PHENYLENEDIAMINE DIHYDROCHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2046	NITROMETHANE																									(NTP, 1992)		187.67						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C23H15C12N3O2		7.0	0.0	20.0	3.0	3.0
2047	NITROTOLUENES														(NTP, 1992)		0.9707		68		(NTP, 1992)			583 to 585	760		(NTP, 1992)		180.25						(NTP, 1992)	Insoluble					Class 9	C14H12	Dirt/Earth	7.0	0.0	19.0	3.0	3.0
2048	N-METHYL-4-NITROANILINE																																								Explosive 1.1A|Poison	Ba(N3)2		6.0	0.0	12.0	3.0	3.0
2049	N-METHYLANILINE	(NIOSH, 2003)	Very low												(NIOSH, 2003)		1.06				(NIOSH, 2003)	Decomposes					(NTP, 1992)		230.27		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C14H14O3		8.0	0.0	22.0	3.0	3.0
2050	N-METHYLFORMAMIDE																											(NTP, 1992)		232.32						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL			C6H10O4.C4H10N2		5.0	0.0	12.0	3.0	3.0
2051	N-METHYL-O-PHENYLENEDIAMINE DIHYDROCHLORIDE																																								Poison	CH2NS2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	23.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2052	N-OCTANE	N-OCTANE|NORMAL-OCTANE|OCTANE|OCTANES	111-65-9	Colorless liquid with an odor of gasoline. Less dense than water and insoluble in water. Hence floats on water. Produces irritating vapor.	2.5	5.0	2.5	3944.0	401.0	1381.0	708.0	455.0	932.0	99.0	333.0	182.0	106.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.) Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2053	N-OCTYLALDEHYDE	ALDEHYDE C 8|ANTIFOAM LF|CAPRYLALDEHYDE|CAPRYLIC ALDEHYDE|N-CAPRYLALDEHYDE|N-OCTALDEHYDE|N-OCTANAL|N-OCTYL ALDEHYDE|N-OCTYLAL|N-OCTYLALDEHYDE|OCTALDEHYDE|1-OCTANAL|OCTANALDEHYDE|OCTANOIC ALDEHYDE|OCTYL ALDEHYDE|OCTYL ALDEHYDES|OCTYLALDEHYDE	124-13-0	Colorless liquids with a strong fruity odor. Less dense than water and insoluble in water. Flash points 125Â°F. Used in making perfumes and flavorings.	2.5	5.0	2.5	3944.0	401.0	1381.0	708.0	455.0	932.0	99.0	333.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2054	NONANAL	ALDEHYDE C-9|C-9 ALDEHYDE|N-NONANAL|N-NONYLALDEHYDE|NCI-C61018|NONALDEHYDE|1-NONALDEHYDE|NONANAL|1-NONANAL|NONANALDEHYDE|NONANOIC ALDEHYDE|1-NONYL ALDEHYDE|NONYLALDEHYDE|NONYLIC ALDEHYDE|PELARGONALDEHYDE|PELARGONIC ALDEHYDE	124-19-6	PHYSICAL DESCRIPTION: Clear brown liquid characterized by a rose-orange odor. Insoluble in water. Found in at least 20 essential oils, including rose and citrus oils and several species of pine oil.	2.5	5.0	2.5	3944.0	401.0	1381.0	708.0	455.0	932.0	99.0	333.0	182.0	106.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2055	N-PHENYL-1-NAPHTHYLAMINE	ACETO PAN|ADDITIN 30|ALGERITE POWDER|ALPHA-NAPHTHYLPHENYLAMINE|ALPHA-PHENYLNAPTHYLAMINE|AMOCO 32|1-ANILINONAPHTHALENE|ANTIGENE PA|ANTIOXIDANT PAN|C.I. 44050|IRGANOX L 05|N-(1-NAPHTHYL)ANILINE|N-PHENYL-1-AMINONAPHTHALENE|N-PHENYL-1-NAPHTHALENAMINE|N-PHENYL-1-NAPHTHYLAMINE|N-PHENYL-ALPHA-NAPHTHYLAMINE|1-(N-PHENYLAMINO)NAPHTHALENE|1-NAPHTHYLAMINE, N-PHENYL-|1-NAPHTHYLAMINE,N-PHENYL-|1-NAPHTHYLPHENYLAMINE|NAUGARD PANA|NEOZONE A|NOCRAC PA|NONOX A|NONOX AN|PANA|PHENYL-1-NAPHTHYLAMINE	90-30-2	PHYSICAL DESCRIPTION: White to slightly yellowish prisms or reddish brown crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3947.0	401.0	1381.0	708.0	455.0	933.0	99.0	333.0	182.0	106.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2056	N-PHENYL-2-NAPHTHYLAMINE	ACETO PBN|AGERITE|AGERITE POWDER|AK 1|AK 1 (STABILIZER)|ANILINONAPHTHALENE|2-ANILINONAPHTHALENE|ANTIOXIDANT 116|ANTIOXIDANT D|ANTIOXIDANT PBN|BETA-NAPHTHYLPHENYLAMINE|N-(2-NAPHTHYL)-N-PHENYLAMINE|N-(2-NAPHTHYL)ANILINE|N-BETA-NAPHTHYL-N-PHENYLAMINE|N-PHENYL-2-NAPHTHALENAMINE|N-PHENYL-2-NAPHTHYLAMINE|N-PHENYL-BETA-NAPHTHYLAMINE|NAFTAM 2|2-NAPHTHYLAMINE, N-PHENYL-|2-NAPHTHYLAMINE,N-PHENYL-|2-NAPHTHYLPHENYLAMINE|NCI-C02915|NEOSONE D|NEOZON D|NEOZONE|NEOZONE D|NILOX PBNA|NOCLIZER	135-88-6	PHYSICAL DESCRIPTION: Light gray to gray powder. Solutions show blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	3950.0	401.0	1381.0	708.0	455.0	934.0	99.0	333.0	182.0	106.0	CALL A DOCTOR IMMEDIATELY. INHALATION: Remove from exposure. Break amyl nitrate pearl in cloth and hold lightly under nose for 15 seconds. Repeat 5 times at 15-second intervals. Use artificial respiration if breathing stops. EYES: Wash eyes with copious quantities of water for a minimum of 20 minutes. SKIN: Wash with soap and water. INGESTION: If patient is conscious, induce vomiting and repeat until vomit is clear. Treat as for inhalation. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cyanides and barium oxides. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2057	N-PHENYL-P-PHENYLENEDIAMINE	ACNA BLACK DF BASE|4ADPA|4-AMINO-N-PHENYLANILINE|4-AMINODIPHENYLAMINE|AZOSALT R|C.I. 37240|C.I. 76085|C.I. AZOIC DIAZO COMPONENT 22|C.I. DEVELOPER 15|C.I. OXIDATION BASE 2|DIPHENYL BLACK|DIPHENYL BLACK BASE P|FAST BLUE R SALT|LUXAN BLACK R|N,4'-BIANILINE|N-(4-AMINOPHENYL)ANILINE|N-PHENYL-1,4-BENZENEDIAMINE|N-PHENYL-1,4-PHENYLENEDIAMINE|N-PHENYL-P-AMINOANILINE|N-PHENYL-P-PHENYLENEDIAMINE|NAPHTHOELAN NAVY BLUE|NCI-C02233|OXY ACID BLACK BASE|P-(PHENYLAMINO)ANILINE|P-AMINODIPHENYLAMINE|P-ANILINOANILINE|P-	101-54-2	PHYSICAL DESCRIPTION: Odorless purple-black solid or flake or dark purple chips. (NTP, 1992)	1.0	2.5	5.0	3953.0	401.0	1381.0	708.0	455.0	935.0	99.0	333.0	182.0	106.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.) Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2052	N-OCTANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	ZINC CHLORATE is an oxidizing agent. Forms flammable mixtures with combustible materials; these mixtures may be explosive if the combustible material is finely divided. Contact with concentrated sulfuric acid can cause fires or explosions. Heating with a moist dibasic organic acid liberates chlorine dioxide and carbon dioxide [Bretherick 1979. p. 100] mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979. p. 806]. A combination with finely divided aluminum can explode by heat, percussion, or friction [Mellor 2:310 1946-47]. A mixture with charcoal (or other finely divided organic material) may ignite or explode. Ignition or explosion may also be caused by friction or shock [U.S. Army Ordnance Safety Manual 1951].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2053	N-OCTYLALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PLATINOL is incompatible with oxidizing agents. It is also incompatible with aluminum. It may react with sodium bisulfite and other antioxidants. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	approximately (decomposes)	518	
2054	NONANAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as P-MENTHANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.						0																									
2055	N-PHENYL-1-NAPHTHYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Flammable. Insoluble in water.	DIVINYL BENZENE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases. May in the presence of various catalysts (such as acids) or initiators undergo exothermic polymerization. Inhibited by presence of an additive. When uninhibited violent polymerization may occur (NTP, 1992). Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	2	4		(NTP, 1992)		143		(NTP, 1992)		1.1		%	(NTP, 1992)		6.2		%						(NTP, 1992)		-125	
2056	N-PHENYL-2-NAPHTHYLAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Safety goggles, protective clothing, self-contained breathing apparatus. Equipment should be approved for use around cyanides. (USCG, 1999)	Soluble in water. Gradually decomposed by water and rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas.	BARIUM CYANIDE is an inorganic cyanide. Members of this class that contain heavy metals tend to explosive instability, most of them are capable of violent oxidation under certain conditions; fusion of metal cyanides with metal chlorates, perchlorates, nitrates, or nitrites can cause violent explosion [Bretherick 1979 p. 101].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)	Not flammable				
2057	N-PHENYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Salts of hypochlorous acid, HClO. Generally toxic, irritants and powerful oxidizers, particularly in the presence of water or at higher temperature as they decompose to release oxygen and chlorine gases. On contact with urea they form the highly explosive NCl3. When heated or on contact with acids, they produce highly toxic fumes of chlorine gas [Sax, 9th ed., 1996, p. 1905].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2052	N-OCTANE																																								Oxidizer	Zn(ClO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	17.0	3.0	3.0
2053	N-OCTYLALDEHYDE																											(NTP, 1992)		300.07						(NTP, 1992)		less than 1	mg/mL		Poison|Corrosive	Cl2H6N2Pt		8.0	0.0	14.0	3.0	3.0
2054	NONANAL																											(NTP, 1992)		140.27						(NTP, 1992)		less than 1	mg/mL			C10H20		7.0	0.0	13.0	3.0	3.0
2055	N-PHENYL-1-NAPHTHYLAMINE	(NIOSH, 2003)		0.7				mm Hg							(NIOSH, 2003)		0.93				(NTP, 1992)		383		760		(NTP, 1992)		130.19						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Flammable Liquid	C10H10	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	21.0	3.0	3.0
2056	N-PHENYL-2-NAPHTHYLAMINE																											(USCG, 1999)		189.4										BCY	Poison	Ba(CN)2		6.0	0.0	13.0	3.0	3.0
2057	N-PHENYL-P-PHENYLENEDIAMINE																																								Oxidizer|Poison	Ba(ClO)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	19.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2058	N-PROPANOLAMINE	3-AMINO-1-PROPANOL|N-PROPANOLAMINE|1-PROPANOL, 3-AMINO|3-PROPANOLAMINE	156-87-6	Colorless to pale yellow liquid with a fishy odor. Less dense than water. Melting point 12.4Â°C (54Â°F). Moderately toxic by ingestion.	2.5	5.0	2.5	3956.0	404.0	1381.0	708.0	458.0	936.0	100.0	333.0	182.0	107.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2059	N-PROPYL CHLOROFORMATE	CARBONOCHLORIDIC ACID, PROPYL ESTER|CARBONOCHLORIDIC ACID, PROPYLESTER|FORMIC ACID, CHLORO-, PROPYL ESTER|N-PROPYL CHLOROFORMATE|PROPYL CHLOROCARBONATE|PROPYL CHLOROFORMATE	109-61-5	A colorless liquid. May be decomposed by water. Severely irritates skin and eyes. Very toxic by ingestion, inhalation or skin absorption. Denser than water and vapors heavier than air. Flash point 50Â°F. Used to make other chemicals.	2.5	5.0	2.5	3956.0	404.0	1381.0	708.0	458.0	936.0	100.0	333.0	182.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2060	N-TETRADECANE	N-TETRADECANE	629-59-4	PHYSICAL DESCRIPTION: Colorless liquid. Must be preheated before ignition can occur. (NTP, 1992)	2.5	5.0	2.5	3959.0	404.0	1384.0	708.0	458.0	937.0	100.0	334.0	182.0	107.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2061	O-AMINOPHENOL	2-AMINO-1-HYDROXYBENZENE|1-AMINO-2-HYDROXYBENZENE|2-AMINOPHENOL|BASF URSOL 3GA|BENZOFURGG|C.I. 76520|C.I. OXIDATION BASE 17|FOURAMINE OP|1-HYDROXY-2-AMINOBENZENE|2-HYDROXYANILINE|2-HYDROXYBENZENAMINE|NAKO YELLOW 3GA|O-AMINOHYDROXYBENZENE|O-AMINOPHENOL|O-HYDROXYANILINE|O-HYDROXYPHENYLAMINE|PARADONE OLIVE GREEN B|PELAGOL 3GA|PELAGOL GREY GG|PHENOL, O-AMINO|ZOBA 3GA	95-55-6	PHYSICAL DESCRIPTION: Off-white crystals or beige powder. (NTP, 1992)	1.0	2.5	5.0	3959.0	404.0	1384.0	708.0	458.0	937.0	100.0	334.0	182.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2062	O-ANISIDINE	1-AMINO-2-METHOXYBENZENE|2-AMINOANISOLE|2-AMINOMETHOXYBENZENE|2-ANISIDINE|2-METHOXY-1-AMINOBENZENE|2-METHOXYANILINE|2-METHOXYBENZENAMINE|2-METHOXYPHENYLAMINE|O-AMINOANISOLE|O-AMINOMETHOXYBENZENE|O-AMINOPHENOL METHYL ETHER|O-ANISIDINE|O-ANISYLAMINE|O-METHOXYANILINE|O-METHOXYPHENYLAMINE|ORTHO-AMINOANISOLE	90-04-0	PHYSICAL DESCRIPTION: Clear, yellowish to reddish or brown liquid with an amine (fishy) odor. (NTP, 1992)	2.5	5.0	2.5	3959.0	404.0	1384.0	708.0	458.0	937.0	100.0	334.0	182.0	107.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2063	O-CHLOROANILINE	2-AMINO-1-CHLOROBENZENE|1-AMINO-2-CHLOROBENZENE|ANILINE, O-CHLORO-|2-CHLOROANILINE|2-CHLOROBENZENAMINE|2-CHLOROBENZENEAMINE|2-CHLOROPHENYLAMINE|FAST YELLOW GC BASE|O-AMINOCHLOROBENZENE|O-CHLORANILINE|O-CHLOROANILINE	95-51-2	PHYSICAL DESCRIPTION: Clear amber liquid with an amine odor. Occurs in both alpha and beta forms. (NTP, 1992)	2.5	5.0	2.5	3962.0	404.0	1384.0	711.0	458.0	938.0	100.0	334.0	183.0	107.0	Get medical attention at once following all exposures to this compound. INHALATION: remove victim to fresh air; give artificial respiration if breathing has stopped; oxygen can be given by qualified personnel. EYES: immediately wash with large amounts of water for at least 15 min. SKIN: flush immediately with water, wipe off, treat with 30% isopropyl alcohol (rubbing alcohol), and wash with soap and water. INGESTION: induce vomiting at least 3 times by giving warm salt water (one tablespoon of salt per cup); follow with a quart of milk and a mild carthartic such as milk of magnesia. (USCG, 1999)	Behavior in Fire: Containers may explode. (USCG, 1999)	Fire Extinguishing Agents: Dry chemical or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2058	N-PROPANOLAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	(BLOB)	Insoluble in water.	P-NITROCHLOROBENZENE reacts with oxidizing agents. Reacts violently and finally explosively when added to a solution of sodium methoxide in methanol. (NTP, 1992). Unstable when heated.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	3	4		(NTP, 1992)		230														(NTP, 1992)		182.5	
2059	N-PROPYL CHLOROFORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	P-NITROSODIPHENYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. May react with strong oxidizing agents (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)	(Decomposes)	291	
2060	N-TETRADECANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as POLYETHYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
2061	O-AMINOPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	A synthetic thio-substituted amino acid. [[Details on specifics of reactivity not yet available.]]						0																(NTP, 1992)	(decomposes)		516 to 523
2062	O-ANISIDINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	POLYETHYLENE GLYCOL 200 is heat-stable and inert to many chemical agents; it will not hydrolyze or deteriorate under normal conditions. This material has a solvent action on some plastics. (NTP, 1992)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		340 to 360															
2063	O-CHLOROANILINE		Air-line or organic canister mask; goggles or face shield; rubber gloves and other protective clothing to prevent contact with skin. (USCG, 1999)	Reacts with water slowly forming heavy scum and liberating carbon dioxide gas. Dangerous pressure can build up if container is sealed.	POLYMERIC DIPHENYLMETHANE DIISOCYANATE reacts with water slowly forming heavy scum and liberating carbon dioxide gas. Dangerous pressure can build up if container is sealed. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer 1969].	Water-Reactive						0		(USCG, 1999)		425															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2058	N-PROPANOLAMINE	(NTP, 1992)	; 0.23 mm Hg at 99.9Â° F	0.09		77		mm Hg	(NTP, 1992)		5.44				(NTP, 1992)		1.52		64		(NTP, 1992)		468		760		(NTP, 1992)		157.56		(NIOSH, 2003)	(As p-Nitrochlorobenzene); A potential human carcinogen.	100	mg/m3	(NTP, 1992)	at 75Â° F		less than 0.1	mg/mL		Poison	C6H4ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	15.0	3.0	3.0
2059	N-PROPYL CHLOROFORMATE																										(NTP, 1992)		198.22						(NTP, 1992)	at 70.7Â° F		less than 0.1	mg/mL		Poison	C12H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	15.0	3.0	3.0
2060	N-TETRADECANE																																								Combustible Liquid	(C8H10)x		6.0	0.0	14.0	3.0	3.0
2061	O-AMINOPHENOL																										(NTP, 1992)		163.24						(NTP, 1992)	at 64Â° F		1 to 5	mg/mL			C6H13NO2S	Mineral-Based & Clay-Based Absorbents	9.0	0.0	28.0	3.0	3.0
2062	O-ANISIDINE	(NTP, 1992)	relatively low.												(NTP, 1992)		1.125		77								(NTP, 1992)			190 to 210					(NTP, 1992)	Soluble (>= 10 mg/ml at 70Â° F)						(C2H4O)nH2O	Cellulose-Based Absorbents	5.0	0.0	24.0	3.0	3.0
2063	O-CHLOROANILINE														(USCG, 1999)		1.2		68		(USCG, 1999)		392		760		(USCG, 1999)	(approx.)	400										PPI		(C8H5NO)n	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	28.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2064	O-CHLOROTOLUENE	BENZENE, 1-CHLORO-2-METHYL|2-CHLORO-1-METHYLBENZENE|1-CHLORO-2-METHYLBENZENE|2-CHLOROTOLUENE|1-METHYL-2-CHLOROBENZENE|2-METHYLCHLOROBENZENE|O-CHLOROTOLUENE|O-METHYLCHLOROBENZENE|O-TOLYL CHLORIDE|ORTHO-CHLOROTOLUENE|ORTHO-TOLYL CHLORIDE|TOLUENE, O-CHLORO-	95-49-8	Colorless liquid with an aromatic odor. Denser than water and poorly soluble in water. Hence sinks in water . (USCG, 1999)	2.5	5.0	2.5	3962.0	404.0	1384.0	711.0	458.0	938.0	100.0	334.0	183.0	107.0	EYES: flush with water until mild irritation is gone. (USCG, 1999)		Fire Extinguishing Agents: Water, dry chemical, foam, carbon dioxide (USCG, 1999)
2065	OCTAFLUOROCYCLOBUTANE	C 318|FC 318|FC-C 318|FKWC 318|FLON C 318|FREON C 318|FRON C 318|HFC-C 318|OCTAFLUOROCYCLOBUTANE|PERFLUOROCYCLOBUTANE|PROPELLANT C 318|R 318|R-C 318|REFRIGERANT GAS RC-318	115-25-3	Octafluorocyclobutane is a colorless nonflammable gas. It may be harmful by asphyxiation. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket. It is used to make other chemicals.	5.0	1.0	1.0	3962.0	404.0	1384.0	711.0	458.0	938.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2066	OCTAFLUOROPROPANE	FC 218|FC 218 (REFRIGERANT)|FREON 218|FS 069|GENETRON 218|HFC 218|OCTAFLUOROPROPANE|PERFLUOROPROPANE|R 218|REFRIGERANT GAS R-218	76-19-7	Octafluoropropane is a colorless, odorless gas. It is relatively inert. The mixture is nonflammable and nontoxic, though asphyxiation may occur because of displacement of oxygen. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	3962.0	404.0	1384.0	711.0	458.0	938.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2067	OCTANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	OCTANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	111-86-4	A yellow liquid with an ammonia-like odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3965.0	404.0	1384.0	711.0	458.0	939.0	100.0	334.0	183.0	107.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires associated with this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2068	OIL ORANGE SS	A.F. ORANGE NO. 2|AIZEN FOOD ORANGE NO. 2|ATUL OIL ORANGE T|C.I. 12100|C.I. SOLVENT ORANGE 2|D & C ORANGE NO. 2|DOLKWAL ORANGE SS|EXT D AND C ORANGE NO. 4|EXT. D AND C ORANGE NO. 4|EXTRACT D AND C ORANGE NO. 4|FAT ORANGE II|FAT ORANGE RR|FD & C ORANGE 2|FD AND C ORANGE 2|FD AND C ORANGE NO. 2|HEXACOL OIL ORANGE SS|JAPAN ORANGE 403L|LACQUER ORANGE V|LAQUER ORANGE V|1-((2-METHYLPHENYL)AZO)-2-NAPHTHALENOL|1-((2-METHYLPHENYL)AZO)|-2-NAPHTHOL|1-(2-METHYLPHENYLAZO)-2-NAPTHOL|1,2-NAPTHOQUINONE-1-O-TOLYLHYDRAZONE|1-O-TOLUENEAZO-2-NAPHTHOL|O-TOLUENO-AZO-BETA-NAPHTHOL|1-(O-TOLYLAZO)-BETA-	2646-17-5	PHYSICAL DESCRIPTION: Red needles or orange powder. Sublimes above 374Â°F. (NTP, 1992)	1.0	2.5	5.0	3965.0	404.0	1384.0	711.0	458.0	939.0	100.0	334.0	183.0	107.0			
2069	OIL, [TRANSFORMER]	ELECTRICAL INSULATING OIL|INSULATING OIL|OIL, [TRANSFORMER]|OILS, MISCELLANEOUS: TRANSFORMER|PETROLEUM INSULATING OIL|TRANSFORMER OIL	64742-53-6	Oily colorless to light brown liquid with the odor of motor oil. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	3968.0	404.0	1384.0	711.0	458.0	940.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2064	O-CHLOROTOLUENE		Safety glasses or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	POLYPROPYLENE GLYCOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)			390 to 495													(USCG, 1999)		-58	
2065	OCTAFLUOROCYCLOBUTANE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Trinitroanisole is insoluble in water	TRINITROANISOLE is one of the least sensitive explosives. It is quite toxic to humans and therefore hasn't been used in general as an explosive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						
2066	OCTAFLUOROPROPANE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water. Solution exhibits a strong acidic reaction.	TRINITROBENZENE SULFONIC ACID is a nitroaryl oxidizing acid. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						
2067	OCTANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	POLYVINYL CHLORIDE LATEX may become discolored may on exposure to heat or light in the absence of stabilizers (NTP, 1992).						0		(NTP, 1992)			greater than 200															
2068	OIL ORANGE SS			Hydrolyzes rapidly in alkaline media and decomposes above 125Â°C.	BENDIOCARB PHENOL is a phenol. Compounds in this group do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing agents such as hydrides, nitrides, alkali metals, and inorganic sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.						0																						
2069	OIL, [TRANSFORMER]	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2064	O-CHLOROTOLUENE														(USCG, 1999)		1.012		68								(USCG, 1999)			200 to 2000										PGC		(C3H6O)n H2O	Cellulose-Based Absorbents	8.0	0.0	23.0	3.0	3.0
2065	OCTAFLUOROCYCLOBUTANE																																									Explosive 1.1D	C7H5N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	13.0	3.0	3.0
2066	OCTAFLUOROPROPANE																																									Explosive 1.1D	C6H3N3O9S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	13.0	3.0	3.0
2067	OCTANAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)																										(NTP, 1992)	(average)		60,000 to 150,000					(NTP, 1992)	at 73Â° F		less than 1	mg/mL			(C2H3Cl)x		8.0	0.0	20.0	3.0	3.0
2068	OIL ORANGE SS																																										C9H10O3		6.0	0.0	13.0	3.0	3.0
2069	OIL, [TRANSFORMER]																																									Oxidizer	KClO3 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2070	OLIVETOL	1,3-DIHYDROXY-5-PENTYLBENZENE|3,5-DIHYDROXYAMYLBENZENE|5-N-AMYLRESORCINOL|5-N-PENTYLRESORCINOL|OLIVETOL|5-PENTYL-1,3-BENZENEDIOL|5-PENTYLRESORCINOL|RESORCINOL, 5-PENTYL-	500-66-3	PHYSICAL DESCRIPTION: Off-white crystals or olive to light purple waxy solid. Forms monohydrate (melting point: 102-106Â°F). (NTP, 1992)	1.0	2.5	5.0	3968.0	404.0	1384.0	711.0	458.0	940.0	100.0	334.0	183.0	107.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2071	O-METHYLBENZYL CHLORIDE	ALPHA-CHLORO-O-XYLENE|1-(CHLOROMETHYL)-2-METHYLBENZENE|2-(CHLOROMETHYL)TOLUENE|2-METHYLBENZYL CHLORIDE|O-CHLOROMETHYLTOLUENE|O-METHYLBENZYL CHLORIDE|O-METHYLBENZYL CHLORIDE (COMBUSTIBLE LIQUID, N.O.S.)|O-XYLENE, ALPHA-CHLORO-|O-XYLYL CHLORIDE|O-XYLYL-ALPHA-CHLORIDE|OMEGA-CHLORO-O-XYLENE	552-45-4	A colorless to pale-yellow colored liquid with a pungent odor. Insoluble in water. Slightly denser than water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	3968.0	404.0	1384.0	711.0	458.0	940.0	100.0	334.0	183.0	107.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2072	O-NITROACETOPHENONE	ACETOPHENONE, 2'-NITRO-|2-ACETYLNITROBENZENE|METHYL 2-NITROPHENYL KETONE|2'-NITROACETOPHENONE|1-(2-NITROPHENYL)ETHANONE|O-ACETYLNITROBENZENE|O-NITROACETOPHENONE|O-NITROACETYLBENZENE|O-NITROPHENYL METHYL KETONE	577-59-3	PHYSICAL DESCRIPTION: Clear yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	3971.0	404.0	1384.0	711.0	458.0	941.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2073	O-NITROANILINE	1-AMINO-2-NITROBENZENE|2-AMINONITROBENZENE|ANILINE, O-NITRO-|AZOENE FAST ORANGE GR BASE|AZOENE FAST ORANGE GR SALT|AZOFIX ORANGE GR SALT|AZOGENE FAST ORANGE GR|AZOIC DIAZO COMPONENT 6|BRENTAMINE FAST ORANGE GR BASE|BRENTAMINE FAST ORANGE GR SALT|C.I. 37025|C.I. AZOIC DIAZO COMPONENT 6|DEVOL ORANGE B|DEVOL ORANGE SALT B|DIAZO FAST ORANGE GR|FAST ORANGE BASE GR|FAST ORANGE BASE JR|FAST ORANGE GR BASE|FAST ORANGE GR SALT|FAST ORANGE O BASE|FAST ORANGE O SALT|FAST ORANGE SALT GR|FAST ORANGE SALT JR|HILTONIL FAST ORANGE GR BASE|HILTOSAL FAST ORANGE GR	88-74-4	Orange solid with a musty odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	3974.0	404.0	1384.0	711.0	458.0	942.0	100.0	334.0	183.0	107.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2074	O-NITROBENZOIC ACID	BENZOIC ACID, O-NITRO-|2-NITROBENZOIC ACID|O-CARBOXYNITROBENZENE|O-NITROBENZOIC ACID|ORTHO-NITROBENZOIC ACID	552-16-9	PHYSICAL DESCRIPTION: Yellowish white crystals with an intensely sweet taste. (NTP, 1992)	1.0	2.5	5.0	3974.0	404.0	1384.0	711.0	458.0	942.0	100.0	334.0	183.0	107.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2075	O-NITROCHLOROBENZENE, [LIQUID]	BENZENE, 1-CHLORO-2-NITRO-|2-CHLORO-1-NITROBENZENE|1-CHLORO-2-NITROBENZENE|CHLORO-O-NITROBENZENE|CHLORONITROBENZENE (ORTHO)|2-CHLORONITROBENZENE|2-CNB|1-NITRO-2-CHLOROBENZENE|NITROCHLOROBENZENE, ORTHO-|2-NITROCHLOROBENZENE|O-CHLORONITROBENZENE|O-NITROCHLOROBENZENE|O-NITROCHLOROBENZENE, [LIQUID]|ONCB	88-73-3	Yellow crystals with an aromatic odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	3977.0	404.0	1384.0	711.0	458.0	943.0	100.0	334.0	183.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with water spray, a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2070	OLIVETOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	DMA 4 (DOW) 49 PERCENT 2,4- D, DIMETHYLAMINE SALT neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 191																				
2071	O-METHYLBENZYL CHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Hydrolysis generates enough heat to ignite adjacent combustible material [Haz. Chem. Data 1966]. Dissolves in water (with liberation of heat, may steam and spatter. Solution is basic (alkaline). Deliquescent	POTASSIUM HYDROXIDE absorbs moisture readily forming caustic solution that attacks aluminum and zinc. A piece of potassium hydroxide causes liquid chlorine dioxide to explode [Mellor 2:289. 1946-47]. 1,2-dichloroethylene and potassium hydroxide forms chloroacetylene, which is explosive and spontaneously flammable in air. It is highly toxic [Rutledge 1968. p. 134]. A reaction between n-nitrosomethylurea and potassium hydroxide in n-butyl ether resulted in an explosion due to the formation of diazomethane [Schwab 1972]. Potassium persulfate and a little potassium hydroxide and water ignited a polythene (polyethylene) liner of a container by release of heat and oxygen [MCA Case History 1155. 1955]. Using potassium hydroxide to dry impure tetrahydrofuran, which contains peroxides, may be hazardous. Explosions have occurred in the past. Sodium hydroxide behaves in a similar way as potassium hydroxide [NSC Newsletter Chem. Soc. 1967]. A strong base. Forms caustic solution in water. [Merck 11th ed. 1989].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																(USCG, 1999)	Not flammable			(NTP, 1992)	approximately	680	
2072	O-NITROACETOPHENONE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2073	O-NITROANILINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Chemical goggles and protective clothing. (USCG, 1999)	Oxidizes in air to form benzoic acid, which is moderately toxic by ingestion. Insoluble in water.	A nontoxic, combustible liquid, reacts with oxidizing reagents. BENZALDEHYDE must be blanketed with an inert gas at all times since it is oxidized readily by air to benzoic acid [Kirk-Othmer, 3rd ed., Vol. 3, 1978, p. 736]. In contact with strong acids or bases it will undergo an exothermic condensation reaction [Sax, 9th ed., 1996, p. 327]. A violent reaction was observed on contact with peroxyacids (peroxyformic acid) [Dâ€™Ans, J. et al., Ber., 1915, 48, p. 1136]. An explosion occurred when pyrrolidine, benzaldehyde, and propionic acid were heated to form porphyrins.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		148												(USCG, 1999)		378		(NTP, 1992)		-15	
2074	O-NITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BENZAMIDE reacts with azo and diazo compounds to generate toxic gases. Forms flammable gases with strong reducing agents. Mixing with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. Combustion generates toxic mixed oxides of nitrogen (NOx).					0																			(NTP, 1992)		270 to 271	
2075	O-NITROCHLOROBENZENE, [LIQUID]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. Keep away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	BENZANTHRONE is incompatible with nitrobenzene and potassium hydroxide. It is also incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		338	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2070	OLIVETOL																									(NTP, 1992)		266.12													Poison	C8H5Cl2O3(C2H7N)		7.0	0.0	19.0	3.0	3.0
2071	O-METHYLBENZYL CHLORIDE	(NTP, 1992)	: 5 mm Hg at 149.7Â° F	1		1326		mm Hg							(USCG, 1999)		2.04		59		(NTP, 1992)		2408		760		(NTP, 1992)		56.11						(NTP, 1992)	at 59Â° F	107		g/100 cc	PTH	Corrosive	HKO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	19.0	3.0	3.0
2072	O-NITROACETOPHENONE																																							Corrosive	KClO (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	17.0	3.0	3.0
2073	O-NITROANILINE	(NTP, 1992)	: 5 mm Hg at 122.2Â° F; 10 mm Hg at 144Â° F	1		79.2		mm Hg	(NTP, 1992)		3.65				(USCG, 1999)		1.046		68		(NTP, 1992)		354		760		(NTP, 1992)		106.13						(NTP, 1992)	at 67.1Â° F		less than 0.1	mg/mL	BZD	Class 9	C7H6O	Cellulose-Based Absorbents	7.0	0.0	24.0	3.0	3.0
2074	O-NITROBENZOIC ACID														(NTP, 1992)		1.0792		266		(NTP, 1992)		554		760		(NTP, 1992)		121.14						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL			C7H7NO		5.0	0.0	11.0	3.0	3.0
2075	O-NITROCHLOROBENZENE, [LIQUID]	(NTP, 1992)	; 40 mm Hg at 662.0Â° F	1		437		mm Hg																			(NTP, 1992)		230.27												Poison	C17H10O		7.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2076	O-NITROTOLUENE	2-METHYL NITROBENZENE|2-METHYL-1-NITROBENZENE|1-METHYL-2-NITROBENZENE|2-METHYLNITROBENZENE|2-NITROPHENYLMETHANE|2-NITROTOLUENE|2-NITROTOLUOL|O-METHYLNITROBENZENE|O-MONONITROTOLUENE|O-NITROPHENYLMETHANE|O-NITROTOLUENE|O-NITROTOLUOL|ONTJORTHO-NITROTOLUENE|TOLUENE, O-NITRO|TOLUENE, O-NITRO	88-72-2	Light yellow oily liquid with a characteristic odor of aromatic nitro compounds. Sinks in water. Derived from toluene by nitration and separation by fractional distillation. Flash point 223Â°F.	2.5	5.0	2.5	3980.0	404.0	1384.0	711.0	458.0	944.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2077	OROTIC ACID	ANIMAL GALACTOSE FACTOR|6-CARBOXYURACIL|2,6-DIHYDROXY-4-PYRIMIDINECARBOXYLIC ACID|ORODIN|OROPUR|OROTIC ACID|OROTONIN|OROTURIC| OROTYL|1,2,3,6-TETRAHYDRO-2,6-DIOXO-4-PYRIMIDINECARBOXYLIC ACID|URACIL-6-CARBOXYLIC ACID|6-URACILCARBOXYLIC ACID|WHEY FACTOR	65-86-1	PHYSICAL DESCRIPTION: White crystals or crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3983.0	404.0	1384.0	711.0	458.0	945.0	100.0	334.0	183.0	107.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2078	ORTHO-BENZYL-PARA-CHLOROPHENOL	2-BENZYL-4-CHLOROPHENOL|BENZYLCHLOROPHENOL|BIO-CLAVE|4-CHLORO-2-(PHENYLMETHYL)PHENOL|4-CHLORO-2-BENZYLPHENOL|5-CHLORO-2-HYDROXYDIPHENYLMETHANE|4-CHLORO-ALPHA-PHENYL-O-CRESOL|4-CHLORO-ALPHA-PHENYL-ORTHO-CRESOL|CHLOROPHENE|CLOROFENE|CLOROPHENE|2-HYDROXY-5-CHLORODIPHENYLMETHANE|KETOLIN H|KETOLIN-H|NEOSABENYL|NIPACIDE BCP|O-BENZYL-P-CHLOROPHENOL|O-CRESOL, 4-CHLORO-ALPHA-PHENYL-|ORTHO-BENZYL-PARA-CHLOROPHENOL|ORTHOBENZYL-PARA-CHLOROPHENOL|ORTHOBENZYLPARACHLOROPHENOL|P-CHLORO-O-BENZYLPHENOL|PREVENTO	120-32-1	PHYSICAL DESCRIPTION: White to light tan or pink flakes or white crystals. Insoluble in water. Slight phenolic odor. (NTP, 1992)	1.0	2.5	5.0	3986.0	404.0	1384.0	717.0	458.0	946.0	100.0	334.0	185.0	107.0	Get medical attention following all exposures to this compound. INHALATION: remove to fresh air; if breathing has stopped, start mouth-to-mouth resuscitation. EYES: flush with water for at least 15 min.; do not use oils or ointments. SKIN: flush with water; wash with soap and water. INGESTION: give large amounts of milk or water; do NOT induce vomiting; if vomiting does occur, give milk or beaten eggs at one-hour intervals. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes include oxides of phosphorus and hydrogen chloride. Behavior in Fire: Containers may rupture. Hot liquid is spontaneously flammable because of presence of dissolved phosphorus. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2079	O-TOLUALDEHYDE	2-FORMYLTOLUENE|2-METHYLBENZALDEHYDE|O-METHYLBENZALDEHYDE|O-TOLUALDEHYDE|O-TOLUICALDEHYDE|O-TOLUYLALDEHYDE|O-TOLYLALDEHYDE|2-TOLUALDEHYDE	529-20-4	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	3989.0	404.0	1384.0	717.0	458.0	947.0	100.0	334.0	185.0	107.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2080	O-TOLUIC ACID	BENZOIC ACID, 2-METHYL-|2-METHYLBENZOIC ACID|O-METHYLBENZOIC ACID|O-TOLUIC ACID|O-TOLUYLIC ACID|ORTHO-TOLUIC ACID|ORTHOTOLUIC ACID	118-90-1	PHYSICAL DESCRIPTION: Pale yellow crystals or off-white flaky solid. (NTP, 1992)	1.0	2.5	5.0	3992.0	404.0	1384.0	717.0	458.0	948.0	100.0	334.0	185.0	107.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2076	O-NITROTOLUENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	POTASSIUM METABISULFITE reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Can react explosively with strong oxidizing agents. Generates gaseous sulfur dioxide in contact with acids. Aqueous solutions are acidic and corrosive.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2077	OROTIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DODECANAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2078	ORTHO-BENZYL-PARA-CHLOROPHENOL	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self-contained breathing apparatus; acid-type canister mask; goggles and face shield; rubber gloves; protective clothing. (USCG, 1999)	Fumes in air. Reacts with water, including moisture in air or soil, to liberate heat and hydrochloric acid [Merck, 11th ed. 1989].	BENZENE PHOSPHORUS DICHLORIDE is incompatible with water, with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		215												(USCG, 1999)		319		(USCG, 1999)		-60	
2079	O-TOLUALDEHYDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2080	O-TOLUIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	DODECYL ALCOHOL ETHOXYLATE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		347											(NTP, 1992)			41 to 70

| id | name | yp_source | yp_note | yp_value | yp_range | yp_value_tempDegF | yp_range_tempDegF | yp_unit | vd_source | vd_note | vd_value | vd_range | vd_value_tempDegF | vd_range_tempDegF | sg_source | sg_note | sg_value | sg_range | sg_value_tempDegF | sg_range_tempDegF | bp_value | bp_range | bp_value_bp_range_pressMMH G | molwgt_source | molwgt_n otе | molwgt_s ource | bp_source | bp_note | bp_value | bp_range | sg_value_ tempDegF | sg_range_ tempDegF | vd_value_ tempDegF | vd_range_ tempDegF | yp_value_ tempDegF | yp_range_ tempDegF | yp_unit | vd_source | vd_note | vd_value | vd_range | vd_value_ tempDegF | vd_range_ tempDegF | sg_source | sg_note | sg_value | sg_range | sg_value_ tempDegF | sg_range_ tempDegF | bp_value | bp_range | bp_value_bp_range_pressMMH G

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2081	O-TOLUNITRILE	1-CYANO-2-METHYLBENZENE|2-CYANOTOLUENE|2-METHYLBENZENECARBONITRILE|2-METHYLBENZONITRILE|O-CYANOTOLUENE|O-METHYLBENZONITRILE|O-TOLUENECARBONITRILE|O-TOLUIC NITRILE|O-TOLUNITRILE|O-TOLUONITRILE|O-TOLYLNITRILE|2-TOLUNITRILE	529-19-1	PHYSICAL DESCRIPTION: Light blue clear liquid. (NTP, 1992)	2.5	5.0	2.5	3995.0	404.0	1384.0	717.0	458.0	949.0	100.0	334.0	185.0	107.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2082	OXYDIAZON	3-(2,4-DICHLORO-5-(1-METHYLETHOXY)PHENYL)-5-(1,1-DIMETHYLETHYL)-1,3,4-OXADIAZOL-2(3H)-ONE|OXYDIAZON	19666-30-9	Crystalline solid. Used as an herbicide.	1.0	2.5	5.0	3995.0	404.0	1384.0	717.0	458.0	949.0	100.0	334.0	185.0	107.0	INGESTION: consult a doctor if large amount was ingested. EYES: wash well with water, consult a doctor if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic vapors of diethanolamine and oxides nitrogen may form in fires. (USCG, 1999)	
2083	OXYMETHOLONE	(BLOB)	434-07-1	PHYSICAL DESCRIPTION: Odorless white to creamy white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	3998.0	404.0	1384.0	717.0	458.0	950.0	100.0	334.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2084	P-ACETAMIDOBENZOIC ACID	ACEDOBEN|4-ACETAMIDOBENZOIC ACID|4-(ACETYLAMINO)BENZOIC ACID|4-AMINOBENZOIC ACID, N-ACETYL|BENZOIC ACID, 4-(ACETYLAMINO)-|BENZOIC ACID, P-ACETAMIDO-|4'-CARBOXYACETANILIDE|N-ACETYL-P-AMINOBENZOIC ACID|P-(ACETAMINO)BENZOIC ACID|P-(ACETOAMINO)BENZOIC ACID|P-(ACETYLAMINO)BENZOIC ACID|P-ACETAMIDOBENZOIC ACID|P-ACETAMINOBENZOIC ACID	556-08-1	PHYSICAL DESCRIPTION: Needles or off-white powder. (NTP, 1992)	1.0	2.5	5.0	4001.0	404.0	1384.0	717.0	458.0	951.0	100.0	334.0	185.0	107.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2085	P-AMINOACETANILIDE	4-ACETAMIDOANILINE|ACETANILIDE, 4'-AMINO-|4-ACETOAMIDOANILINE|ACETPARAMIN|ACETYL-P-PHENYLENEDIAMINE|4-(ACETYLAMINO)ANILINE|1-AMINO-4-(ACETYLAMINO)BENZENE|4'-AMINOACETANILIDE|4-AMINOACETANILIDE|C.I. 76005|C.I. OXIDATION BASE 19|FOURRINE 88|FOURRINE A|N-(4-AMINOPHENYL)ACETAMIDE|N-(P-AMINOPHENYL)ACETAMIDE|N-ACETYL-1,4-BENZENEDIAMINE|N-ACETYL-1,4-DIAMINOBENZENE|N-ACETYL-1,4-PHENYLENEDIAMINE|N-ACETYL-P-PHENYLENEDIAMINE|P-(ACETYLAMINO)ANILINE|P-ACETAMIDOANILINE|P-ACETOAMINOANILINE|P-AMINOACETANILIDE|PARA	122-80-5	PHYSICAL DESCRIPTION: White or slightly reddish solid. (NTP, 1992)	1.0	2.5	5.0	4001.0	404.0	1384.0	717.0	458.0	951.0	100.0	334.0	185.0	107.0	INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. Maintain normal body temperature and keep victim quiet. Keep victim under observation for delayed effects. INGESTION: If unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain highly toxic and irritating hydrogen chloride and oxides of chlorine and sulfur. Behavior in Fire: Cylinder may explode. Decomposes to produce highly toxic chlorine and sulfur compounds. Reacts with hot water to produce highly toxic and corrosive hydrochloric acid and benzenesulfonic acid. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2081	O-TOLUNITRILE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes generating carbon disulfide and methylamine. Addition of water increases the rate of decomposition.	POTASSIUM N-METHYLDITHIOCARBAMATE slowly decomposes in water to give hydrogen sulfide and methylamine. Dilution increases the rate of decomposition. Acidification increases the rate of decomposition. Reactions with aldehydes, nitrides, and hydrides generate flammable gases. Incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2082	OXYDIAZON		Chemical goggles or face shield; protective gloves (USCG, 1999)	Soluble in water.	Acidic organic salts, such as DODECYL SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																										
2083	OXYMETHOLONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Protective gloves; dust mask or face shield (USCG, 1999)	Insoluble in water.	DODECYL SULFATE is incompatible with strong oxidizers. It is also incompatible with cationic materials and with acids with pH below 2.5. (NTP, 1992) Salts, basic, such as DODECYL SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																									(NTP, 1992)			399 to 405
2084	P-ACETAMIDOBENZOIC ACID	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	BENZENEETHANAMINE, ALPHA,ALPHA-DIMETHYL- neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2085	P-AMINOACETANILIDE	(BLOB)	Wear positive pressure breathing apparatus and special protective clothing. (USCG, 1999)	Insoluble and stable in cold water [Merck]. Decomposes in hot water to produce corrosive and toxic hydrochloric acid and benzenesulfonic acid. Rate of reaction decreases as temperature decreases.	BENZENESULFONYL CHLORIDE is incompatible with strong oxidizing agents and bases, including amines. Corrodes metals in the presence of water due to slow formation of hydrochloric acid and benzenesulfonic acid (USCG, 1999). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		greater than 233.6														(USCG, 1999)		58.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2081	O-TOLUNITRILE																																								Poison	KC2H4NS2 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
2082	OXYDIAZON														(USCG, 1999)		1.01		68																					DSD		C12H26O4S.C4H11NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	16.0	3.0	3.0
2083	OXYMETHOLONE														(USCG, 1999)			greater than 1.1	68								(NTP, 1992)		288.38						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	DDS		NaSO4C12H25		7.0	0.0	14.0	3.0	3.0
2084	P-ACETAMIDOBENZOIC ACID																																							Poison	C10H15N	Mineral-Based & Clay-Based Absorbents	8.0	0.0	14.0	3.0	3.0
2085	P-AMINOACETANILIDE														(USCG, 1999)		1.3842		59		(USCG, 1999)		484.7		760	(USCG, 1999)		176.62											BSC	Corrosive	C6H5ClO2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2086	P-ANISIDINE	1-AMINO-4-METHOXYBENZENE|4-AMINOANISOLE|4-AMINOMETHOXYBENZENE|ANILINE, P-METHOXY-|1,4-ANISIDINE|4-ANISIDINE|ANISOLE, P-AMINO-|BENZENAMINE, 4-METHOXY-|4-METHOXY-1-AMINOBENZENE|4-METHOXYANILINE|4-METHOXYBENZENAMINE|4-METHOXYBENZENEAMINE|4METHOXYLANILINE|4-METHOXYPHENYLAMINE|METHYL 4-AMINOPHENYL ETHER|P-AMINOANISOLE|P-AMINOMETHOXYBENZENE|P-ANISIDINE|P-ANISYLAMINE|P-METHOXYANILINE|P-METHOXYPHENYLAMINE|PARA-AMINOANISOLE	104-94-9	PHYSICAL DESCRIPTION: Brown crystals or dark brown solid. Characteristic amine odor. (NTP, 1992)	1.0	2.5	5.0	4001.0	404.0	1384.0	717.0	458.0	951.0	100.0	334.0	185.0	107.0	Call a physician. EYES AND SKIN: Flush eyes and skin with plenty of water for at least 15 minutes. Remove contaminated clothing and shoes. INGESTION: Give fluids and allow vomiting. See physician. (USCG, 1999)	Special Hazards of Combustion Products: May give off SO 3 , SO 2 and H 2 S (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2087	PAPAVERINE HYDROCHLORIDE	CARDIOSPAN|CARDOVERINA|CERESPAN|6,7-DIMETHOXY-1-VERATRYL HYDROCHLORIDE|1-(3,4-DIMETHOXYBENZYL)-6,7-DIMETHOXYISOQUINOLINE HYDROCHLORIDE|1-((3,4-DIMETHOXYPHENYL)METHYL)-6,7-DIMETHOXYISOQUINOLINE HYDROCHLORIDE|DISPAMIL|DRAPAVEL|ISOQUINOLINE, 6,7-DIMETHOXY-1-VERATRYL-, HYDROCHLORIDE|MYOBID|NCI-C56359|PAPH|PAPAVARINE CHLORHYDRATE|PAPAVERINE CHLORHYDRATE|PAPAVERINE CHLOROHYDRATE|PAPAVERINE HYDROCHLORIDE|PAPAVERINE MONOHYDROCHLORIDE|PAPAVERINIUM CHLORIDE|PAPAVERSAN|PAVERON|RO-PAPAV|6,7,3',4'-TETRAMETHOXY-1-(3,4-DIMETHOXYBENZYL)ISOQUINOLINE HYDROCHLORIDE	61-25-6	PHYSICAL DESCRIPTION: White powder. pH (0.05 molar solution) 3.9. pH (2% aqueous solution) 3.3. (NTP, 1992)	1.0	2.5	5.0	4004.0	404.0	1384.0	717.0	458.0	952.0	100.0	334.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2088	PARALDEHYDE	ACETALDEHYDE, TRIMER|ELALDEHYDE|P-ACETALDEHYDE|PARAACETALDEHYDE|PARACETALDEHYDE|PARAL|PARALDEHYDE|PCHO|S-TRIMETHYLTRIOXYMETHYLENE|S-TRIOXANE, 2,4,6-TRIMETHYL-|2,4,6-TRIMETHYL-1,3,5-TRIOXACYCLOHEXANE|2,4,6-TRIMETHYL-1,3,5-TRIOXANE|1,3,5-TRIMETHYL-2,4,6-TRIOXANE|2,4,6-TRIMETHYL-S-TRIOXANE	123-63-7	A clear colorless liquid with a pleasant odor. Flash point 96Â°F. Melting point 54Â°F. Less dense than water. Vapors are heavier than air.	2.5	5.0	2.5	4007.0	404.0	1384.0	717.0	458.0	953.0	100.0	334.0	185.0	107.0	INHALATION: remove from exposure; support respiration. INGESTION: give large amount of water; do NOT induce vomiting; get medical attention. EYES: irrigate with large quantities of water for at least 15 min.; get medical attention for caustic burns. SKIN: flush with water; treat caustic burns. (USCG, 1999)	Behavior in Fire: Increases intensity of fire and can start fires when in contact with organic combustibles (USCG, 1999)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash or lime. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2089	PARAQUAT DICHLORIDE	(BLOB)	1910-42-5	Colorless to yellow crystalline solid. Used as a contact herbicide and desiccant. (EPA, 1998)	1.0	2.5	5.0	4010.0	404.0	1387.0	717.0	458.0	954.0	100.0	335.0	185.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2090	PARATHION	(BLOB)	56-38-2	A deep brown to yellow liquid, usually with a faint odor of garlic. Used as an insecticide almost exclusively in agriculture. Boiling point 707Â°F. Freezing point 43Â°F. Rate of onset: Immediate but often Delayed (weeks) Persistence: Days to weeks Odor threshold: 0.04 ppm Source/use/other hazard: Organophosphate (insecticide); similar symptoms (and thus treatment) as nerve gases; can penetrate leather/canvas; attacks plastics/rubber coatings.	2.5	5.0	2.5	4013.0	404.0	1387.0	717.0	458.0	955.0	100.0	335.0	185.0	107.0	INHALATION: move to fresh air; if exposure has been severe, get medical attention. INGESTION: induce vomiting, followed by prompt and complete gastric lavage, catharsis, and demulcents. EYES: flush with water. SKIN: wash thoroughly with soap and water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2086	P-ANISIDINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles, rubber gloves, air pack for contact with fumes in unventilated area. (USCG, 1999)	Soluble in water.	DODECYLBENZENESULFONIC ACID is corrosive. When heated to decomposition or on contact with strong acids produces highly toxic fumes of oxides of sulfur. The toxicity and hazards of individual alkylbenzene sulfonic acids must be assessed individually [Kirk-Othmer, 3rd ed., Vol. 22, 1978, p. 45].	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		300																			
2087	PAPAVERINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Hygroscopic. May be sensitive to prolonged exposure to air. Water soluble.	BENZETHONIUM CHLORIDE is incompatible with strong oxidizing agents. Incompatible with soap and anionic detergents. Can react with nitrates. Sensitive to light. Acids cause it to precipitate from aqueous solutions of ~2% concentration. Stable for two weeks at temperatures up to 140 F, (NTP, 1992).						0																		(NTP, 1992)			327 to 331
2088	PARALDEHYDE	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Reacts exothermically with water (or moisture in the air) to give oxygen and a caustic solution, potassium hydroxide [NFPA 491M] .	POTASSIUM PEROXIDE is a strong oxidizing agent. Reacts readily with reducing agents, including most organic compounds, to generate heat and products that may be gaseous (causing pressurization of closed containers). The products may themselves be capable of further reactions (such as combustion in the air). A quantity left on a piece of paper in the open air usually starts a fire in the paper spontaneously in a few minutes [Freeman].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1	Oxidizer																	(USCG, 1999)		914	
2089	PARAQUAT DICHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Phenols, such as DODECYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1																						
2090	PARATHION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Suitable respirator (for dust); rubber gloves; chemical goggles or face shield (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2086	P-ANISIDINE														(USCG, 1999)		1		77		(USCG, 1999)			greater than 440	760		(USCG, 1999)	average	316												DSA	Corrosive	C18H30O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	19.0	3.0	3.0
2087	PAPAVERINE HYDROCHLORIDE																										(NTP, 1992)		448.1						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL			C27H42NO2.Cl		8.0	0.0	13.0	3.0	3.0
2088	PARALDEHYDE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		110											POP	Oxidizer	K2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
2089	PARAQUAT DICHLORIDE																																							Class 9	C18H30O		8.0	0.0	29.0	3.0	3.0
2090	PARATHION														(USCG, 1999)		3.43		68								(USCG, 1999)	(approx.)	874		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3					ZCR	Poison	CrH2O4 . Zn	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2091	PARATHION AND COMPRESSED GAS MIXTURE	AAT|AATP|ALKRON|ALLERON|AMERICAN CYANAMID 3422|APHAMITE|ARALO|BAY 1605|BAYER E-605|BLADAN F|DIETHYL 4-NITROPHENYL PHOSPHOROTHIOATE|DIETHYL P-NITROPHENYL PHOSPHOROTHIONATE|DIETHYL P-NITROPHENYL THIONOPHOSPHATE|DIETHYL PARATHION|E 605|E 605F|E 605FT20|EC.ATOX 20|EKATOX|EKATOX 20|ENT 15108|ETHYL PARATHION|ETILON|FOLIDOL|FOLIDOL E|FOLIDOL E-605|FOLIDOL OIL|FOSFERNO|FOSTOX|GEARPHOS|LIROTHION|NIRAN|NITROSTIGMINE|NIUIF 100|NOURITHON|O,O-DIETHYL O-(4-NITROPHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-(P-NITROPHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-P-NITROPHENYL THIOPHOSPHATE|OLEOFOS	56-38-2	A yellow liquid charged with a gas. Lethal by skin absorption and inhalation. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4016.0	404.0	1387.0	717.0	458.0	956.0	100.0	335.0	185.0	107.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2092	PARATHION MIXTURE, DRY	AAT|AATP|ALKRON|ALLERON|AMERICAN CYANAMID 3422|APHAMITE|ARALO|BAY 1605|BAYER E-605|BLADAN F|DIETHYL 4-NITROPHENYL PHOSPHOROTHIOATE|DIETHYL P-NITROPHENYL PHOSPHOROTHIONATE|DIETHYL P-NITROPHENYL THIONOPHOSPHATE|DIETHYL PARATHION|E 605|E 605F|E 605FT20|EC.ATOX 20|EKATOX|EKATOX 20|ETHYL PARATHION|ETILON|FOLIDOL|FOLIDOL E|FOLIDOL E-605|FOLIDOL OIL|FOSFERNO|FOSTOX|GEARPHOS|LIROTHION|NIRAN|NITROSTIGMINE|NIUIF 100|NOURITHON|O,O-DIETHYL O-(4-NITROPHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-(P-NITROPHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-P-NITROPHENYL THIOPHOSPHATE|OLEOFOS	56-38-2	Parathion is a deep brown to yellow liquid with a faint odor. It is slightly soluble in water. It is toxic by inhalation, ingestion or skin absorption.	2.5	5.0	2.5	4019.0	404.0	1387.0	717.0	458.0	957.0	100.0	335.0	185.0	107.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2093	PARATHION MIXTURE, LIQUID	PARATHION|PARATHION MIXTURE, LIQUID|PARATHION MIXTURE, [LIQUID]|PHOSPHOROTHIOIC ACID, O,O-DIETHYL-O-(4-NITROPHENYL) ESTER	56-38-2	Light-yellow liquid, it turn solid at 6Â° C, a deadly poison by all routes. Organic phosphate insecticide, acts as an inhibitor of cholinesterase.	2.5	5.0	2.5	4019.0	404.0	1387.0	717.0	458.0	957.0	100.0	335.0	185.0	107.0	(BLOB)	When heated to decomposition, it emits toxic fumes of thallium. (Non-Specific -- Thallium Salts, n.o.s.) Fire may produce irritating or poisonous gases. (EPA, 1998)	(Non-Specific -- Thallium Salts, n.o.s.) Extinguish with dry chemicals, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2094	P-CHLOROANILINE	4-AMINO-1-CHLOROBENZENE|1-AMINO-4-CHLOROBENZENE|4-AMINOCHLOROBENZENE|ANILINE, P-CHLORO-|4-CHLORO-1-AMINOBENZENE|4-CHLOROANILINE|4-CHLOROBENZENAMINE|4-CHLOROBENZENEAMINE|4-CHLOROPHENYLAMINE|NCI-C02039|P-AMINOCHLOROBENZENE|P-CHLORANILINE|P-CHLOROANILINE|P-CHLOROPHENYLAMINE	106-47-8	A white or pale yellow solid. Melting point 69.5Â°C.	1.0	2.5	5.0	4019.0	404.0	1387.0	717.0	458.0	957.0	100.0	335.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2095	P-CHLOROBENZOIC ACID	BENZOIC ACID, P-CHLORO-|CHLORADRACYLIC|4-CHLOROBENZOIC ACID|P-CARBOXYCHLOROBENZENE|P-CHLORBENZOIC ACID|P-CHLOROBENZOIC ACID|PARA-CHLOROBENZOIC ACID	74-11-3	PHYSICAL DESCRIPTION: Triclinic crystals or light fluffy white powder. (NTP, 1992)	1.0	2.5	5.0	4019.0	404.0	1387.0	717.0	458.0	957.0	100.0	335.0	185.0	107.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2096	P-CHLOROBENZOTRIFLUORIDE	4-CHLORO(TRIFLUOROMETHYL)BENZENE|1-CHLORO-4-(TRIFLUOROMETHYL)BENZENE|4-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|4-CHLOROBENZOTRIFLUORIDE|OXSOL 100|P-(TRIFLUOROMETHYL)CHLOROBENZENE|P-CHLORO(TRIFLUOROMETHYL)BENZENE|P-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|P-CHLOROBENZOTRIFLUORIDE|(P-CHLOROPHENYL)TRIFLUOROMETHANE|P-CHLOROTRIFLUOROMETHYLBENZENE|P-TRIFLUOROMETHYLPHENYL CHLORIDE|TOLUENE, P-CHLORO-ALPHA,ALPHA,ALPHA-TRIFLUORO-|4-(TRIFLUOROMETHYL)CHLOROBENZENE	98-56-6	Clear colorless liquid with an aromatic odor. (NTP, 1992)	2.5	5.0	2.5	4022.0	404.0	1387.0	717.0	458.0	958.0	100.0	335.0	185.0	107.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2091	PARATHION AND COMPRESSED GAS MIXTURE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved dust respirator, air or oxygen mask in emergencies, chemical safety goggles, dry cotton gloves for handling solids and rubber gloves for solutions, hard hat or brimmed felt hat, rubber or leather safety shoes, long sleeved shirt. (USCG, 1999)	Insoluble in water.	ZINC CYANIDE is decomposed by acids to give off hydrogen cyanide, a flammable poisonous gas. Tends to explosive instability. Capable of violent oxidation under certain condition; fusion with metal chlorates, perchlorates, nitrates or nitrites can cause explosions [Bretherick, 1979 p. 101]. Reacts with incandescence with magnesium [Mellor, 1940, Vol. 4, 271].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																			(USCG, 1999)	Not flammable			(NTP, 1992)		1472	
2092	PARATHION MIXTURE, DRY	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Slowly decomposed by water. The salt rapidly liberates oxygen when heated, and especially so when wet.	POTASSIUM PERSULFATE is an oxidizing agent. Noncombustible but accelerates the burning of combustible material. Potassium persulfate plus a little potassium hydroxide and water released sufficient heat and oxygen to ignite a polythene (polyethylene) liner in a container. [MCA Case History 1155. 1955].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2093	PARATHION MIXTURE, LIQUID	Ventilate area of spill. For small quantities, sweep onto paper or other suitable material, place in sealed container for disposal. Large quantities may be reclaimed. If this is not practical, collect in most convenient and safe manner and deposit in sealed containers. For liquids absorb in vermiculite, dry sand, earth or similar material and place in sealed containers for disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	THALLOUS CARBONATE is a carbonate salt. These salts react with acids to release carbon dioxide and water. This reaction is often exothermic.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									(EPA, 1998)		522	
2094	P-CHLOROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine. Neutralizes acids to form salts plus water. These acid-base reactions are exothermic. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. May be shock sensitive.					0																									(NTP, 1992)		338 to 342	
2095	P-CHLOROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear impervious coveralls, shoe covers and gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	DOXYLAMINE is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides					0																														
2096	P-CHLOROBENZOTRIFLUORIDE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts explosively with water [Mellor 2, Supp. 3: 1631. 1963].	POTASSIUM SUPEROXIDE is a powerful oxidizer. Forms on the surface of potassium metal, solid or molten, that is exposed to the air. Attempts to extinguish burning potassium with powdered graphite has resulted in violent explosions [Chem. Abstr. 63:424. 1965]. Highly oxidized potassium metal was dropped into a dish of ethyl alcohol, an immediate explosion shattered the dish. Potassium superoxide was considered the cause of the reaction [Health and Safety Inf. 251. 1967]. Potassium superoxide should not be added to pure organic materials (hydrocarbons), as ignition and violent explosion may occur. Oxidation of arsenic, antimony, copper, potassium, tin, or zinc proceeds with incandescence, [Mellor, 1941, Vol. 2, 493]. Interaction between the superoxide and diselenium dichloride is violent, [Mellor, 1947, Vol. 10, 897].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2091	PARATHION AND COMPRESSED GAS MIXTURE														(USCG, 1999)		1.85		68								(NTP, 1992)		117.41												ZCN	Poison	Zn(CN)2		3.0	0.0	11.0	3.0	3.0
2092	PARATHION MIXTURE, DRY																																									Oxidizer	K2O8S2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	11.0	3.0	3.0
2093	PARATHION MIXTURE, LIQUID														(EPA, 1998)		7.1										(EPA, 1998)		468.78		(NIOSH, 2003)	(as Tl)	15	mg/m3						THB	Poison	CH2O3.2Tl		3.0	0.0	11.0	3.0	3.0
2094	P-CHLOROANILINE																				(NTP, 1992)			greater than 680	760		(NTP, 1992)		118.14						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C7H6N2	Mineral-Based & Clay-Based Absorbents	9.0	0.0	26.0	3.0	3.0
2095	P-CHLOROBENZOIC ACID																				(NTP, 1992)			279 to 286	0.5		(NTP, 1992)		270.38													C17H22N2O	Mineral-Based & Clay-Based Absorbents	9.0	0.0	28.0	3.0	3.0
2096	P-CHLOROBENZOTRIFLUORIDE																																									Oxidizer	KO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	41.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2097	P-CHLORO-O-CRESOL	4-CHLORO-2-CRESOL|5-CHLORO-2-HYDROXYTOLUENE|4-CHLORO-2-METHYLPHENOL|4-CHLORO-O-CRESOL|O-CRESOL, 4-CHLORO-|P-CHLORO-O-CRESOL|PCOC|PHENOL, 4-CHLORO-2-METHYL-	1570-64-5	PHYSICAL DESCRIPTION: Dark red flakes with waxy texture. Insoluble in water.	1.0	2.5	5.0	4025.0	404.0	1390.0	717.0	458.0	959.0	100.0	336.0	185.0	107.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2098	P-CRESIDINE	1-AMINO-2-METHOXY-5-METHYLBENZENE|3-AMINO-4-METHOXYTOLUENE|2-AMINO-4-METHYLANISOLE|3-AMINO-P-CRESOL METHYL ETHER|AZOIC RED 36|BENZENAMINE, 2-METHOXY-5-METHYL-|C.I. AZOIC RED 83|CRESIDINE|KREZIDIN|KREZIDINE|M-AMINO-P-CRESOL METHYL ETHER|M-AMINO-P-CRESOL, METHYL ESTER|2-METHOXY-5-METHYLANILINE|2-METHOXY-5-METHYLBENZENAMINE|4-METHOXY-M-TOLUIDINE|4-METHYL-2-AMINOANISOLE|5-METHYL-O-ANISIDINE|NCI-C02982|O-ANISIDINE, 5-METHYL-|P-CRESIDINE	120-71-8	PHYSICAL DESCRIPTION: White to silver-gray odorless crystals. (NTP, 1992)	1.0	2.5	5.0	4028.0	404.0	1393.0	717.0	458.0	960.0	100.0	337.0	185.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2099	P-CRESOL	CRESOL (PARA)|4-CRESOL|1-HYDROXY-4-METHYLBENZENE|4-HYDROXYTOLUENE|4-METHYL PHENOL|1-METHYL-4-HYDROXYBENZENE|4-METHYLPHENOL|P-CRESOL|P-CRESYLIC ACID|P-HYDROXYTOLUENE|P-KRESOL|P-METHYLHYDROXYBENZENE|P-METHYLPHENOL|P-OXYTOLUENE|P-TOLUOL|P-TOLYL ALCOHOL|PARA-CRESOL|PARAMETHYL PHENOL	106-44-5	Colorless solid with a tar like odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	4028.0	404.0	1393.0	717.0	458.0	960.0	100.0	337.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2100	P-CYMENE	CYMENE|CYMOL|ISOPROPYLTOLUOL|1-METHYL-4-ISOPROPYLBENZENE|METHYLPROPYLBENZENE|P-CYMENE|P-ISOPROPYLTOLUENE	99-87-6	Colorless liquid with a mild pleasant odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4031.0	404.0	1393.0	717.0	458.0	961.0	100.0	337.0	185.0	107.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2101	PENDIMETHALIN	N-(1-ETHYLPROPYL)-3,4-DIMETHYL-2,6-DINITROBENZENAMINE|PENDIMETHALIN	40487-42-1	Orange-yellow crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	4034.0	404.0	1396.0	717.0	458.0	962.0	100.0	338.0	185.0	107.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2097	P-CHLORO-O-CRESOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Vapors may form explosive mixtures with air.	Halogenated aliphatic compounds, such as 1-CHLOROHEXANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		95																				
2098	P-CRESIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust/air mixture may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as BENZO(J)FLUORANTHENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2099	P-CRESOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZO[K]FLUORANTHENE can react with strong oxidizing agents. May react with electrophiles, peroxides, nitrogen oxides and sulfur oxides (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		423	
2100	P-CYMENE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts vigorously with oxygen. Reacts vigorously with water even at less than 100Â°C [Merck, 11th ed., 1989]. Water (caustic solution, H2) The oxidation of potassium in air is so rapid that the heat generated by the reaction melts and ignites the metal. This is particularly the case when pressure is applied at ordinary temperatures [Sidgwick 1. 1950]. Potassium burns in moist air at room temperature [Mellor 2:468. 1946-47]. The higher oxides of potassium, formed in air, react explosively with pure potassium, sodium, sodium-potassium alloys, and organic matter [Mellor 2, Supp. 3:1559. 1963].	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water																							
2101	PENDIMETHALIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as BENZO[GHI]PERYLENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		531 to 534	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chiris_codes	dot_labels	formulas	incompatible_abl solvents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2097	P-CHLORO-O-CRESOL																																			Combustible Liquid	C6H13Cl		5.0	0.0	11.0	3.0	3.0
2098	P-CRESIDINE																																			Class 9	C20H12		5.0	0.0	11.0	3.0	3.0
2099	P-CRESOL	(NTP, 1992)		9.59E-11		77		mm Hg													(NTP, 1992)		896		760		(NTP, 1992)					less than 1	mg/mL			Poison	C20H12		9.0	0.0	24.0	3.0	3.0
2100	P-CYMENE																																			Dangerous When Wet	K		6.0	0.0	14.0	3.0	3.0
2101	PENDIMETHALIN																																			Class 9	C22H12		9.0	0.0	30.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2102	PENICILLIN G, SODIUM SALT	AMERICAN PENICILLIN|BENZYLPENICILLIN SODIUM|BENZYLPENICILLIN SODIUM SALT|BENZYLPENICILLINIC ACID SODIUM SALT|2-CARBOXYLIC ACID, MONOSODIUM SALT|CRYSTAPEN|3,3-DIMETHYL-7-OXO-6-(2-PHENYL=ACETAMIDO)-4-THIA-1-AZABICYCLO(3.2.0)HEPTANE-|MONOSODIUM BENZYLPENICILLIN|MYCOFARM|NALPEN G|NOVOCILLIN|PEN-A-BRASIVE|PENICILLIN|PENICILLIN G SODIUM|PENICILLIN G SODIUM SALT|PENICILLIN G, SODIUM SALT|PENICILLIN-G, MONOSODIUM SALT|PENICILLIN-G, SODIUM|PENILARYN|SODIUM 6-(PHENYLACETAMIDO)PENICILLANATE|SODIUM BENZYL	69-57-8	PHYSICAL DESCRIPTION: White to slightly yellow crystalline powder with a faint odor. pH (10% solution) 5.5-7.5. (NTP, 1992)	1.0	2.5	5.0	4034.0	404.0	1399.0	717.0	458.0	962.0	100.0	339.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2103	PENICILLIN VK+	(BLOB)	132-98-9	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Slightly bitter taste. pH (0.5% aqueous solution) 5 to 7.5. (NTP, 1992)	1.0	2.5	5.0	4037.0	404.0	1402.0	717.0	458.0	963.0	100.0	340.0	185.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2104	PENTAERYTHRITE TETRANITRATE	PENTAERYTHRITE TETRANITRATE|PETN	78-11-5	White crystals. Density 1.75 g / cm3. Melting point 138-140Â°C. Detonates at 210Â°C. An extremely dangerous explosive, particularly when dry. Especially sensitive to shock and heat. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	(BLOB)	Special Hazards of Combustion Products: Highly poisonous phosgene gas may be formed in fires. Behavior in Fire: At fire temperatures the compound may react violently with water or steam. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2105	PENTAERYTHRITE TETRANITRATE WITH >= 7 % WAX	PENTAERYTHRITE TETRANITRATE WITH >= 7 % WAX	78-11-5	White crystals mixed with more than 7% wax. The pure compound is a dangerous explosive, particularly when dry, and is especially sensitive to shock and heat. The admixture of wax reduces sensitivity. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	(BLOB)	Special Hazards of Combustion Products: Suffocating smoke evolved Behavior in Fire: May explode (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Do not use hand extinguishers Fire Extinguishing Agents: Difficult to extinguish once ignited. Use water spray to cool surrounding area. (USCG, 1999)
2106	PENTAERYTHRITE TETRANITRATE, [WET WITH >= 25 % WATER OR DESENSITIZED WITH >= 15 % PHLEGMATIZER]	(BLOB)	78-11-5	A thick slurry of white crystals. The pure compound is a dangerous explosive, particularly when dry. Addition of water or phlegmatizer reduces sensitivity to shock and heat. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2102	PENICILLIN G, SODIUM SALT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]							0																				(NTP, 1992)		217 to 226
2103	PENICILLIN VK+	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	ALLETHRIN is incompatible with alkalis.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2104	PENTAERYTHRITE TETRANITRATE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full protective clothing, including full-face respirator for acid gases and organic vapors (yellow GMC canister), close-fitting goggles, nonslip rubber gloves, plastic apron, face shield. (USCG, 1999)	Fumes in air. Decomposes exothermically and rapidly in water to form insoluble benzoic acid and hydrochloric acid (HCl) [Merck 11th ed. 1989]. This is not supported by Argonne experiments which have not observed any gas generation upon mixing with water. Experimental work at Argonne National Laboratory has determined that there is no HCl formation; the substance was quite unreactive in water. This does not prevent HCl formation by a catalytic mechanism, but under normal conditions benzoyl chloride is quite unreactive. (Argonne Report ANL/DIS-00-1, October 2000).	BENZOYL CHLORIDE reacts violently with protic solvents such as alcohols, with amines and amides (for example dimethylformamide [Bretherick 1979 p. 6]) and with inorganic bases. Causes the violent decomposition of dimethyl sulfoxide [Chem. Eng. News 35(9): 87 1957]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Friedel-Crafts acylation of naphthalene using benzoyl chloride, catalyzed by AlCl3, must be conducted above the melting point of the mixture, or the reaction may be violent [Clar, E. et al., Tetrahedron, 1974, 30, 3296].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(NTP, 1992)		162		(NTP, 1992)		1.2		%	(NTP, 1992)		4.9		%			(NTP, 1992)		30.2	
2105	PENTAERYTHRITE TETRANITRATE WITH >= 7 % WAX	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		176												(NTP, 1992)		176		(NTP, 1992)	(decomposes)		217 to 221
2106	PENTAERYTHRITE TETRANITRATE, [WET WITH >= 25 % WATER OR DESENSITIZED WITH >= 15 % PHLEGMATIZER]	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	BENZOYL PEROXIDE [<= 77% WITH WATER] is a strong oxidizing agent mixed with enough moderating water to allow safe transport and use. Does not ignite in air because of the water [McCloskey, C. M. et al., Chem. Abs., 1967, 66, 12613c]. May ignite during reactions with reducing agents. May react violently with inorganic or organic acids, alcohols, amines, metallic naphthenates and polymerization accelerators (e.g., N,N-dimethylaniline). May react explosively or violently with dimethyl sulfide, lithium aluminum hydride and aniline [Bretherick, 5th ed., 1995, p. 1140]. Mixture with carbon tetrachloride and ethylene explodes when exposed to heat [Bolt, R. O. et al., Chem. Eng. News, 1947, 25, p. 1866].	Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2102	PENICILLIN G, SODIUM SALT																									(NTP, 1992)		388.51						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C17H22N2O.C4H6O4	Mineral-Based & Clay-Based Absorbents	7.0	0.0	20.0	3.0	3.0
2103	PENICILLIN VK+																																							Class 9	C19H26O3	Dirt/Earth	8.0	0.0	14.0	3.0	3.0
2104	PENTAERYTHRITE TETRANITRATE	(NTP, 1992)	; 1 mm Hg at 89.8Â° F	0.4		68		mm Hg	(NTP, 1992)		4.88				(USCG, 1999)		1.211		77		(NTP, 1992)		387		760		(NTP, 1992)		140.57						(NTP, 1992)	Decomposes				BZC	Corrosive	C7H5ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	12.0	3.0	3.0
2105	PENTAERYTHRITE TETRANITRATE WITH >= 7 % WAX	(NTP, 1992)		less than 0.1	68		mm Hg								(USCG, 1999)		1.334		59		(NTP, 1992)	Decomposes explosively					(NTP, 1992)		242.23		(NIOSH, 2003)		1500	mg/m3	(NTP, 1992)	at 79Â° F		less than 1	mg/mL	DPO	Organic Peroxide	C14H10O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	12.0	3.0	3.0
2106	PENTAERYTHRITE TETRANITRATE, [WET WITH >= 25 % WATER OR DESENSITIZED WITH >= 15 % PHLEGMATIZER]																															(NIOSH, 2003)		1500	mg/m3						Organic Peroxide	C14H10O4, aqueous	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2107	PENTAERYTHRITOL TRIACRYLATE	ACRYLIC ACID, PENTAERYTHRITOL TRIESTER|ACRYLIC ACID, TRIESTER WITH PENTAERYTHRITOL|ARONIX M 305|GAFGARD 233|KAYARAD PET 30|LIGHT ACRYLATE PE 3A|LIGHT ESTER PE 3A|NK ESTER A-TMM 3|NK ESTER A-TMM 3L|NK ESTER TMM 50T|P 300|P 300 (ACRYLATE)|PE 3A|PENTAERYTHRITOL TRIACRYLATE|PENTAERYTHRITOL TRIACRYLATE|PENTAERYTHRITYL TRIACRYLATE|PETA|PETIA|2-PROPENOIC ACID, (2-HYDROXYMETHYL)-2-((1-OXO-2-PROPENYL)OXY)METHYL)-1,3-PROPANEDIYL ESTER|SARTOMER SR 444|SETALUX UV 2242|SR 444|SR 444C|TETRAMETHYLOLMETHANE TRIACRYLATE	3524-68-3	PHYSICAL DESCRIPTION: Thick clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2108	PENTAFLUOROETHANE	PENTAFLUOROETHANE|REFRIGERANT GAS R-125	354-33-6	A nonflammable gas. Heavier than air. May asphyxiate by the displacement of air in confined spaces. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2109	PENTANOIC ACID	BUTANECARBOXYLIC ACID|1-BUTANECARBOXYLIC ACID|N-PENTANOIC ACID|N-VALERIC ACID|PENTANOIC ACID|PROPYLACETIC ACID|VALERIANIC ACID|VALERIC ACID	109-52-4	A colorless liquid with a penetrating unpleasant odor. Density 0.94 g / cm3. Freezing point -93.2Â°F (-34Â°C). Boiling point 365.7Â°F (185.4Â°C). Flash point 192Â°F (88.9Â° C). Corrosive to metals and tissue.	2.5	5.0	2.5	4040.0	404.0	1402.0	717.0	458.0	964.0	100.0	340.0	185.0	107.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2110	PERMETHRIN	3-(2,2-DICHLOROETHENYL)-2,2-DIMETHYLCYCLOPROPANECARBOXYLIC ACID, (3-PHENOXY-PHENYL)METHYL ESTER|PERMETHRIN	52645-53-1	Pale brown liquid. Relatively water insoluble. Used as an insecticide.	2.5	5.0	2.5	4043.0	404.0	1405.0	717.0	458.0	965.0	100.0	341.0	185.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2111	PHENACETIN	ACET-P-PHENALIDE|ACET-P-PHENETIDIN|ACET-PARA-PHENALIDE|ACETAMIDE,N-(4-ETHOXYPHENYL)-|1-ACETAMIDO-4-ETHOXYBENZENE|ACETANILIDE,4'-ETHOXY-|ACETO-4-PHENETIDINE|ACETO-PARA-PHENALIDE|ACETO-PARA-PHENETIDIDE|ACETOPHENETIDIN|ACETOPHENETIDINE|ACETOPHENETIN|ACETPHENETIDIN|4-(ACETYLAMINO)PHENETOLE|ACETYLPHENETIDIN|BROMO SELTZER|CORICIDIN|DARVON COMPOUND|EMPIRIN COMPOUND|4'ETHOXYACETANILIDE|4'-ETHOXYACETANILIDE|4-ETHOXYACETANILIDE|FENIDINA|FENINA|KALMIN|N-(4-ETHOXYPHENYL)ACETAMIDE|N-ACETYL-4-ETHOXYANILINE|N-ACETYL-P-ETHOXYANILINE|N-ACETYL-P-PHENETIDINE|N-ACETYL-PARA-	62-44-2	PHYSICAL DESCRIPTION: Odorless fine white crystalline solid with a lightly bitter taste. Used as an analgesic medicine.	1.0	2.5	5.0	4046.0	404.0	1405.0	717.0	458.0	966.0	100.0	341.0	185.0	107.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2107	PENTAERYTHRITOL TRIACRYLATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and protect it from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PROBENECID may be light sensitive (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			381 to 385
2108	PENTAFLUOROETHANE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Aromatic nitro compounds, such as TRINITROBENZOIC ACID, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. All heavy metal salts of this compound are explosive on heating or impact.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																														
2109	PENTANOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Water soluble.	PROFLAVINE DIHYDROCHLORIDE reacts as a weak acid.						0																												
2110	PERMETHRIN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A triazine derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
2111	PHENACETIN		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	EMERY has only only low chemical reactivity. May react as a base with very strong acids						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2107	PENTAERYTHRITOL TRIACRYLATE																										(NTP, 1992)		285.39						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C13H19NO4S	Mineral-Based & Clay-Based Absorbents	7.0	0.0	16.0	3.0	3.0
2108	PENTAFLUOROETHANE																																										Explosive 1.1D	C7H3N3O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	16.0	3.0	3.0
2109	PENTANOIC ACID																										(NTP, 1992)		282.16						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C13H11N3.2HCl		7.0	0.0	15.0	3.0	3.0
2110	PERMETHRIN																																									Class 9	C10H19N5S	Mineral-Based & Clay-Based Absorbents	9.0	0.0	38.0	3.0	3.0
2111	PHENACETIN																																										Al2O3		7.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2112	PHENACYL BROMIDE	ACETOPHENONE, 2-BROMO-|ALPHA-BROMOACETOPHENONE|BENZOYLMETHYL BROMIDE|BETA-BROMOACETOPHENONE|2-BROMACETOPHENONE|2-BROMO-1-PHENYLETHAN-1-ONE|2-BROMO-1-PHENYLETHANONE|BROMOACETOPHENONE|2-BROMOACETOPHENONE|BROMOMETHYL PHENYL KETONE|OMEGA-BROMACETOPHENONE|OMEGA-BROMOACETOPHENONE|PHENACYL BROMIDE|PHENYL BROMOMETHYL KETONE|STAUFFER 4644	70-11-1	A crystalline solid or a liquid with a sharp odor. Toxic by inhalation, ingestion and skin absorption. A severe eye irritant (a lachrymator). Used to make other chemicals.	1.0	2.5	5.0	4049.0	404.0	1405.0	717.0	458.0	967.0	100.0	341.0	185.0	107.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2113	PHENANTHRENE	[3]HELICENE|PHENANTHRENE|PHENANTHRENE|RAVATTITE	85-01-8	PHYSICAL DESCRIPTION: Colorless monoclinic crystals with a faint aromatic odor. Solutions exhibit a blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	4052.0	404.0	1405.0	717.0	458.0	968.0	100.0	341.0	185.0	107.0	(BLOB)	This chemical is combustible. (NTP, 1992)	
2114	PHENAZOPYRIDINE HYDROCHLORIDE	(BLOB)	136-40-3	PHYSICAL DESCRIPTION: Brick-red microcrystals with a slight violet luster or a purple powder. Aqueous solutions are yellow to brick-red and slightly acidic; they may be stabilized by the addition of 10% glucose. Slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	4052.0	404.0	1405.0	717.0	458.0	968.0	100.0	341.0	185.0	107.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of chlorides, hydrogen chloride and oxides of nitrogen. Turns yellow on exposure to light or heat (EPA, 1998)	Procedures for alkaloid salts include the following. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Emetine is an alkaloid. Extinguishing methods for alkaloid salts are as follows. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2115	PHENIRAMINE MALEATE	2-(ALPHA-(2-(DIMETHYLAMINO)ETHYL) BENZYL)PYRIDINE, BIMALEATE|2-(ALPHA-(2-(DIMETHYLAMINO)ETHYL) BENZYL)PYRIDINE, MALEATE (1:1)|2-(ALPHA-(2-(DIMETHYLAMINO)ETHYL) BENZYL)PYRIDINE, MALEATE|2-[ALPHA-(2-(DIMETHYLAMINO)ETHYL] BENZYL]PYRIDINE BIMALEATE|AVIL-RETARD|DANERAL|HO 1151|INHISTON|METRON|NAPHCON A|PHENIRAMINE HYDROGEN MALEATE|PHENIRAMINE MALEATE|PHENYL(2-PYRIDYL)(BETA-N,N-DIMETHYLAMINOMETHYL) METHANE MALEATE|1-PHENYL-1-(2-PYRIDYL)-3-DIMETHYLAMINOPROPANE MALEATE|PM 241|PROPHENPYRIDAMINE MALEATE|PYRIDINE, 2-[ALPHA-[2-(DIMETHYLAMINO)ETHYL]	132-20-7	PHYSICAL DESCRIPTION: White powder with a faint amine-like odor. Melting point 107Â°C. pH (1% solution) 4.5-5.5. Used medicinally as an antihistamine.	1.0	2.5	5.0	4052.0	404.0	1405.0	717.0	458.0	968.0	100.0	341.0	185.0	107.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2116	PHENOBARBITAL	(BLOB)	50-06-6	PHYSICAL DESCRIPTION: Odorless white crystalline powder or colorless crystals. A saturated aqueous solution is acid to litmus (approximately pH 5). Slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	4055.0	404.0	1405.0	717.0	458.0	969.0	100.0	341.0	185.0	107.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2112	PHENACYL BROMIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Readily hydrolyzed by strong base or acid.	TRIALLATE is an organochlorine carbamate derivative. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2113	PHENANTHRENE		Neoprene gloves; chemical safety goggles (USCG, 1999)	Slightly soluble in water.	(BLOB)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		213		(NTP, 1992)		1.3		%	(NTP, 1992)		13		%	(USCG, 1999)		817		(NTP, 1992)		4.5	
2114	PHENAZOPYRIDINE HYDROCHLORIDE	The following procedures should be used for alkaloid salts. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	When heated to decomposition, EMETINE, DIHYDROCHLORIDE emits very toxic fumes of chlorides, hydrogen chloride and oxides of nitrogen. Turns yellow on exposure to light or heat [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)	decomposes		455 to 491
2115	PHENIRAMINE MALEATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZYL PHENYLACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is sensitive to excessive light and heat. (NTP, 1992)						0		(NTP, 1992)			greater than 200																		
2116	PHENOBARBITAL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Endosulfan slowly hydrolyzes to form sulfur dioxide and diol; hydrolyzes more rapidly under basic or acidic conditions.	An organochlorine, cyclodiene derivative. It is also a sulfite ester. Halogenated aliphatic or cyclic alkane compounds are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. As endosulfan is rather highly substituted it may be resistant to reaction. However, materials in this group are incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. As an ester, it will hydrolyze to form sulfur dioxide and diol; reaction is more rapid under basic conditions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_unit	molwgt_value	molwgt_range	tdlh_source	tdlh_note	tdlh_value	tdlh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chirls_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2112	PHENACYL BROMIDE																																							Poison	C10H16C l3NO5	Dirt/Earth	8.0	0.0	15.0	3.0	3.0
2113	PHENANTHRENE	(NTP, 1992)	1 mm Hg at 138Â° F;	0.1		68		mm Hg	(NTP, 1992)		3.72				(USCG, 1999)		1.05		1515		(NTP, 1992)		401		760		(NTP, 1992)		108.13						(NTP, 1992)	at 70Â° F						C7H8O	Cellulose-Based Absorbents	8.0	0.0	14.0	3.0	3.0
2114	PHENAZOPYRIDINE HYDROCHLORIDE																											(EPA, 1998)	553.63					(NTP, 1992)	Soluble (>=10 mg/mL at 70Â° F)						C19H40N 2O4.2ClH	Poison		7.0	0.0	14.0	3.0	3.0
2115	PHENIRAMINE MALEATE														(NTP, 1992)		1.1				(NTP, 1992)						(NTP, 1992)		226.28						(NTP, 1992)	at 68Â° F	less than 1	mg/mL				C15H14O 2		7.0	0.0	14.0	3.0	3.0
2116	PHENOBARBITAL																				(NTP, 1992)		401		760																Poison	C9H6Cl6 O3S	Dirt/Earth	9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2117	PHENOL, 3-(1-METHYLETHYL)-, METHYLCARBAMATE	AC 5727|CARBAMIC ACID, METHYL-, M-CUMENYL ESTER|CARBAMIC ACID, N-METHYL-, 3-ISOPROPYLPHENYL ESTER|COMPOUND 10854|ENT 25,500|ENT 25,543|ENT 25590|H 5727|H 8757|HER. 5727|HERCULES 5727|HERCULES AC 5727|HIP|3-ISOPROPYLPHENYL METHYLCARBAMATE|3-ISOPROPYLPHENYL N-METHYLCARBAMATE|M-CUMENOL METHYLCARBAMATE|M-CUMENYL METHYLCARBAMATE|M-ISOPROPYLPHENOL METHYLCARBAMATE|M-ISOPROPYLPHENOL N-METHYLCARBAMATE|M-ISOPROPYLPHENYL METHYLCARBAMATE|M-ISOPROPYLPHENYL N-METHYLCARBAMATE|N-METHYL 3-ISOPROPYLPHENYL	64-00-6	Pure white solid without appreciable odor. Used as an insecticide to protect cotton, fruit, vegetables and field crops. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	4058.0	404.0	1405.0	720.0	458.0	970.0	100.0	341.0	186.0	107.0	INHALATION: remove victim from exposure; if breathing is difficult, administer oxygen; if breathing has stopped, begin artificial respiration. EYES or SKIN: wash with copious amounts of water for 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic nitrogen oxides may form in a fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Alcohol foam, dry chemical, carbon dioxide (USCG, 1999)
2118	PHENOLSULFONIC ACID, LIQUID	HYDROXYBENZENESULFONIC ACID|PHENOLSULFONIC ACID|PHENOLSULFONIC ACID, LIQUID|PHENOLSULFONIC ACID, [LIQUID]|PHENOLSULPHONIC ACID, LIQUID|SULFOCARBOLIC ACID	1333-39-7	A yellowish liquid that becomes brown on exposure to air. Soluble in alcohol. Irritating to mucous membranes, skin, and eyes. Moderately toxic by ingestion. Used as a laboratory reagent, in water analysis and in the manufacture of pharmaceuticals. A mixture of ortho and para isomers.	2.5	5.0	2.5	4061.0	404.0	1408.0	720.0	458.0	971.0	100.0	342.0	186.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2119	PHENOXYACETIC ACID	GLYCOLIC ACID PHENYL ETHER|GLYCOLLIC ACID PHENYL ETHER|O-PHENYLGLYCOLIC ACID|PHENOXYACETIC ACID|PHENOXYETHANOIC ACID|POA	122-59-8	PHYSICAL DESCRIPTION: Light tan powder or white solid. (NTP, 1992)	1.0	2.5	5.0	4064.0	404.0	1408.0	720.0	458.0	972.0	100.0	342.0	186.0	107.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2120	PHENOXYBENZAMINE HYDROCHLORIDE	688A|BENSYLYT NEN|BENZENEMETHANAMINE,N-(2-CHLOROETHYL)-N-(1-METHYL-2-PHENOXYETHYL)-HYDROCHLORIDE|BENZYL(2-CHLOROETHYL)(1-METHYL-2-PHENOXYETHYL)AMINE HYDROCHLORIDE|BENZYLAMINE, N-(2-CHLOROETHYL)-N-(1-METHYL-2-PHENOXYETHYL)-HYDROCHLORIDE|BENZYLAMINE, N-(2-CHLOROETHYL)-N-(1-METHYL-2-PHENOXYETHYL)-, HYDROCHLORIDE|BENZYLYT|BLOCADREN|DIBENYLIN|DIBENYLINE|DIBENZYLINE|DIBENZYLINE CHLORIDE|DIBENZYLINE HCL|DIBENZYLINE HYDROCHLORIDE|FENOXYBENZAMIN|N-(2-CHLOROETHYL)-N-(1-METHYL-2-PHENOXYETHYL)BENZENEMETHANAMINE	63-92-3	PHYSICAL DESCRIPTION: White crystalline powder. Melting point 137.5-140Â°C. Used as an antihypertensive drug.	1.0	2.5	5.0	4064.0	404.0	1408.0	720.0	458.0	972.0	100.0	342.0	186.0	107.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Cylinder may explode in heat or fire. Fire and runoff from fire control water may produce irritating or poisonous gases. When heated to decomposition, it emits very toxic fumes of phosphorous oxides and sulfur oxides. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
2121	PHENYL CHLOROFORMATE	CHLOROFORMIC ACID PHENYL ESTER|FORMIC ACID, CHLORO-, PHENYL ESTER|PHENYL CARBONOCHLORIDATE|PHENYL CHLOROCARBONATE|PHENYL CHLOROFORMATE|PHENYL CHLOROFORMATE|PHENYL CHLOROFORMIC ACID|PHENYLOXYCARBONYL CHLORIDE	1885-14-9	A colorless liquid with a strong odor. Toxic by ingestion, inhalation and skin absorption. Very irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4064.0	404.0	1408.0	720.0	458.0	972.0	100.0	342.0	186.0	107.0	(BLOB)	Special Hazards of Combustion Products: Acrid smoke, fumes (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2117	PHENOL, 3-(1-METHYLETHYL)-, METHYLCARBAMATE	Neutralizing Agents for Acids and Caustics: Flush with water. (USCG, 1999)	Self-contained breathing apparatus: goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	In presence of moisture, BENZYLAMINE may weakly corrode some metals. Liquid will attack some plastics (USCG, 1999). Neutralize acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		168														(USCG, 1999)			-51	
2118	PHENOLSULFONIC ACID, LIQUID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed by acid and alkaline media.	PROPANIL is incompatible with carbamates and organophosphates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2119	PHENOXYACETIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Stable up to 90Â°C, above which it undergoes slow hydrolysis.	A phthalic acid derivative.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2120	PHENOXYBENZAMINE HYDROCHLORIDE	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as ENDOTHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		194 to 205
2121	PHENYL CHLOROFORMATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Less dense than water and soluble in water.	(BLOB)	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	3	6		(NTP, 1992)		91														(NTP, 1992)		-54	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2117	PHENOL, 3-(1-METHYLETHYL)-, METHYLCARBAMATE														(USCG, 1999)		0.98		68		(USCG, 1999)		364.1		760		(USCG, 1999)		107.16																				
2118	PHENOLSULFONIC ACID, LIQUID																																										Class 9	C9H9Cl2NO		8.0	0.0	14.0	3.0	3.0
2119	PHENOXYACETIC ACID																																									Poison	C8H10O5		7.0	0.0	17.0	3.0	3.0
2120	PHENOXYBENZAMINE HYDROCHLORIDE																										(EPA, 1998)		280.24													Poison	C9H13O6PS		6.0	0.0	12.0	3.0	3.0
2121	PHENYL CHLOROFORMATE	(NIOSH, 2003)		12				mm Hg							(USCG, 1999)		0.9485		68		(NTP, 1992)		236.5		760		(NTP, 1992)		56.07						(NIOSH, 2003)	Miscible				PRO	Flammable Liquid	Poison	C3H4O	Mineral-Based & Clay-Based Absorbents	Dirt/Earth	9.0	0.0	26.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2122	PHENYL ISOCYANATE	CARBANIL|ISOCYANATOBENZENE|ISOCYANIC ACID, PHENYL ESTER|MONDUR P|PHENYL CARBONIMIDE|PHENYL ISOCYANATE|PHENYLCARBIMIDE	103-71-9	A colorless liquid. About the same density as water. Very toxic by ingestion, inhalation or skin absorption. Very irritating to skin, eyes and mucous membranes.	2.5	5.0	2.5	4067.0	404.0	1408.0	720.0	458.0	973.0	100.0	342.0	186.0	107.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2123	PHENYL MERCAPTAN	BENZENE, MERCAPTO-|BENZENETHIOL|MERCAPTO BENZENE|PHENOL, THIO-|PHENYL MERCAPTAN|PHENYLTHIOL|THIOPHENOL	108-98-5	A clear liquid with a repulsive odor. Boiling point 168.3Â°C. Insoluble in water and denser than water. Very toxic by ingestion, skin absorption, and by inhalation. Used as a chemical intermediate and in mosquito control.	2.5	5.0	2.5	4070.0	404.0	1411.0	720.0	458.0	974.0	100.0	343.0	186.0	107.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2124	PHENYL SALICYLATE	2-HYDROXYBENZOIC ACID PHENYL ESTER|2-HYDROXYBENZOIC ACID, PHENYL ESTER|MUSOL|PHENOL SALICYLATE|2-PHENOXYCARBONYLPHENOL|PHENYL 2-HYDROXYBENZOATE|PHENYL SALICYLATE|SALICYLIC ACID, PHENYL ESTER|SALOL|SALPHENYL|SEESORB 201|SEESORB K 201	118-55-8	PHYSICAL DESCRIPTION: White crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	4070.0	404.0	1411.0	720.0	458.0	974.0	100.0	343.0	186.0	107.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and hydrochloric acid fumes may form in fires. (USCG, 1999)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2125	PHENYLACETONITRILE, LIQUID	ACETIC ACID, PHENYL-NITRILE|ACETONITRILE, PHENYL-|ALPHA-CYANOTOLUENE|ALPHA-PHENYLACETONITRILE|ALPHA-TOLUNITRILE|BENZENEACETONITRILE|BENZENEACETONITRILE (9CI)|BENZYL CYANIDE|BENZYL NITRILE|(CYANOMETHYL)BENZENE|OMEGA-CYANOTOLUENE|PHENACETONITRILE|PHENYLACETONITRILE|PHENYLACETONITRILE, LIQUID|2-PHENYLACETONITRILE|2-PHENYLETHANENITRILE|TOLUENE, ALPHA-CYANO|USAF KF-21	140-29-4	A colorless oily liquid with an aromatic odor. Insoluble in water and slightly denser than water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	4070.0	404.0	1411.0	720.0	458.0	974.0	100.0	343.0	186.0	107.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents: Water, carbon dioxide, dry chemical, or alcohol foam. (USCG, 1999)
2126	PHENYLBUTAZONE	(BLOB)	50-33-9	PHYSICAL DESCRIPTION: Odorless white or off-white crystalline powder. Tasteless at first, but slightly bitter aftertaste. pH (aqueous solution) 8.2. (NTP, 1992)	1.0	2.5	5.0	4070.0	404.0	1411.0	720.0	458.0	974.0	100.0	343.0	186.0	107.0	(BLOB)	Toxic hydrogen chloride and phosgene may be generated when solution burns. Avoid strong oxidizers, strong acids and parathion. (EPA, 1998)	Use water to keep fire-exposed containers cool. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Use dry chemical, foam, carbon dioxide, water spray for solution. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2127	PHENYLEPHRINE HYDROCHLORIDE	(BLOB)	61-76-7	PHYSICAL DESCRIPTION: Odorless white microcrystalline powder. Bitter taste. pH (1% aqueous solution) about 5. (NTP, 1992)	1.0	2.5	5.0	4073.0	404.0	1411.0	720.0	458.0	975.0	100.0	343.0	186.0	107.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2122	PHENYL ISOCYANATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	An organophosphate derivative. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2123	PHENYL MERCAPTAN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	PROPHAM is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2124	PHENYL SALICYLATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	BENZYLDIMETHYLOCTADECYLAMMONIUM CHLORIDE is a quaternary ammonium compound. Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics. Unlike the ammonium ion, [NH4]+, and the primary, secondary, or tertiary ammonium cations, the quaternary ammonium cations are permanently charged, independent of the pH of their solution.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2125	PHENYLACETONITRILE, LIQUID	Neutralizing Agents for Acids and Caustics: Dilute with water, then neutralize with lime or soda ash. (USCG, 1999)	(BLOB)	Water soluble. Dilution with water causes release of heat.	PROPIONIC ACID is a colorless, oily liquid, moderately toxic, corrosive. Flammable when exposed to heat, flame or oxidizers. When heated to decomposition it emits acrid smoke and irritating fumes [Lewis, 3rd ed., 1993, p. 1090].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		130		(NTP, 1992)		2.9		%	(NTP, 1992)		14.8		%	(USCG, 1999)		870		(NTP, 1992)		-6.7	
2126	PHENYLBUTAZONE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	While a mixture of parathion and ENDRIN was being blended into a petroleum solvent, an exothermic reaction occurred that caused some of the petroleum solvent to vaporize. The solvent-vapor-air mixture exploded. The mechanical agitation possibly initiated the exothermic reaction, Doyle(1973). Toxic hydrogen chloride and phosgene may be generated when solution burns. Avoid strong oxidizers, strong acids and parathion. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	Commercial product may contain flammable liquid with flashpoint 80F.			(EPA, 1998)	commercial product	1.1		%	(EPA, 1998)	commercial productcommercial product	7		%			(EPA, 1998)	Decomposes at 473Â° F.		
2127	PHENYLEPHRINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	ENDRIN ALDEHYDE is a chlorinated aldehyde derivative. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2122	PHENYL ISOCYANATE																																								Poison	C10H20N4PS	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	9.0	0.0	23.0	3.0	3.0
2123	PHENYL MERCAPTAN																																									Class 9	C10H13NO2		8.0	0.0	14.0	3.0	3.0
2124	PHENYL SALICYLATE														(USCG, 1999)			greater than 1.1	68							(NTP, 1992)		424.23						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	BZO	Poison	C27H50N.Cl		9.0	0.0	22.0	3.0	3.0
2125	PHENYLACETONITRILE, LIQUID	(NTP, 1992)	; 10 mm Hg at 103.5Â° F	2.9		68		mm Hg	(NTP, 1992)		2.56				(USCG, 1999)		0.995		68		(NTP, 1992)		285.3		760		(NTP, 1992)		74.09						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	PNA	Corrosive	C3H6O2		8.0	0.0	25.0	3.0	3.0
2126	PHENYLBUTAZONE	(EPA, 1998)		2.00E-07		77		mm Hg							(EPA, 1998)		1.7		68		(NTP, 1992)	Decomposes					(EPA, 1998)		380.9		(NIOSH, 2003)		2	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	EDR	Poison	C12H8Cl6O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	9.0	0.0	19.0	3.0	3.0
2127	PHENYLEPHRINE HYDROCHLORIDE																																								Poison	C12H8Cl6O	Cellulose-Based Absorbents	8.0	0.0	33.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2128	PHENYLHYDRAZINE	HYDRAZINE-BENZENE|HYDRAZINOBENZENE|MONOPHENYLHYDRAZINE|PHENYLHYDRAZINE|PHENYLHYDRAZINE HYDROCHLORIDE|PHENYLHYDRAZINIUM CHLORIDE	100-63-0	Pale yellow crystals. Melting point 66Â°F. Becomes an oily liquid. Toxic by ingestion, inhalation and skin absorption. Flash point 192Â°F. Autoignition temperature 345Â°F. Soluble in alcohol.	2.5	5.0	2.5	4073.0	404.0	1411.0	720.0	458.0	975.0	100.0	343.0	186.0	107.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2129	PHENYLPROPANOLAMINE HYDROCHLORIDE	ALPHA-(1-AMINOETHYL)BENZENEMETHANOL HYDROCHLORIDE|ALPHA-(1-AMINOETHYL)BENZYL ALCOHOL HYDROCHLORIDE|(+-)-ALPHA-(1-AMINOETHYL)BENZYL ALCOHOL HYDROCHLORIDE|ALPHA-HYDROXY-BETA-AMINOPROPYLBENZENE HYDROCHLORIDE|(+-)-2-AMINO-1-PHENYL-1-PROPANOL HYDROCHLORIDE|BENZENEMETHANOL, ALPHA-(1-AMINOETHYL)-, HYDROCHLORIDE, (R*,S*)-|BENZENEMETHANOL, ALPHA-(1-AMINOETHYL)-, HYDROCHLORIDE, (R*,S*)-(+-)-|DL-1-PHENYL-2-AMINO-1-PROPANOL MONOHYDROCHLORIDE|DL-NOREPHEDRINE HYDROCHLORIDE|DL-PHENYLPROPANOLAMINE	154-41-6	PHYSICAL DESCRIPTION: Odorless white to creamy-white crystalline powder. Bitter taste. pH (3% solution):4.5-6. pH (10% solution) 4.2-5.5. (NTP, 1992)	1.0	2.5	5.0	4076.0	404.0	1411.0	720.0	458.0	976.0	100.0	343.0	186.0	107.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
2130	P-HEXYLRESORCINOL	ADROVER|ANTASCARIN|ASCARICID|ASCARINOL|ASCARYL|CAPROKOL|CRYSTOIDS|CRYSTOIDS ANTHELMINTIC|CYSTOIDS ANTHELMINTIC|1,3-DIHYDROXY-4-HEXYLBENZENE|-(2',4'-DIHYDROXYPHENYL)HEXANE|EVERFRESH|GELOVERM|N|4-(1-HEXYL)RESORCINOL|4-HEXYL-1,3-BENZENEDIOL|4-HEXYL-1,3-DIHYDROXYBENZENE|4-HEXYLRESORCINE|HEXYLRESORCINOL|4-HEXYLRESORCINOL|HIDESOL|KOM 14|MYCODERM|4-N-HEXYLRESORCINOL|NCI-C55787|OXANA|P-HEXYLRESORCINOL|PRENSOL|RESORCINOL, 4-HEXYL-|S.T. 37|SUCRETS|WORM-AGEN	136-77-6	PHYSICAL DESCRIPTION: Pale-yellow viscous liquid (that becomes solid on standing at room temperature) or a peach colored powder. Pungent faintly fatty odor. Sharp astringent taste. (NTP, 1992)	1.0	2.5	5.0	4079.0	404.0	1411.0	720.0	458.0	977.0	100.0	343.0	186.0	107.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2131	PHORATE	AC 3911|AMERICAN CYANAMID 3,911|AMERICAN CYANAMID 3911|EI 3911|ENT 24,042|ENT 24,042, ENT 24042|EXPERIMENTAL INSECTICIDE 3911|GRANUTOX|L 11/6|METHANETHIOL,(ETHYLTHIO)-, S-ESTER WITH O,O-DIETHYLPHOSPHORODITHIOATE|O,O-DIETHYL ETHYLTHIOMETHYL PHOSPHORODITHIOATE|O,O-DIETHYL S-(ETHYLTHIO)METHYL DITHIOPHOSPHONATE|O,O-DIETHYL S-(ETHYLTHIO)METHYLPHOSPHORODITHIOATE|O,O-DIETHYL S-ETHYLMERCAPTOMETHYL DITHIOPHOSPHATE|O,O-DIETHYL S-ETHYLMERCAPTOMETHYL DITHIOPHOSPHONATE|O,O-DIETHYL S-ETHYLTHIOMETHYL DITHIOPHOSPHATE|O,O-	298-02-2	Clear liquid with an objectionable odor. Used as an insecticide and acaricide; it is applied to plants and soil. (EPA, 1998)	2.5	5.0	2.5	4082.0	404.0	1411.0	720.0	458.0	978.0	100.0	343.0	186.0	107.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2132	PHOSPHINE	CELPHOS|DELICIA|DETIA|GAS-EX-B|HYDROGEN PHOSPHIDE|PHOSPHINE|PHOSPHINE (PH3)|PHOSPHORATED HYDROGEN|PHOSPHORETTED HYDROGEN|PHOSPHORUS HYDRIDE|PHOSPHORUS HYDRIDE|PHOSPHORUS TRIHYDRIDE	7803-51-2	A colorless gas with a disagreeable odor of fish or garlic. Boiling point -126Â°F; freezing point -209Â°F. Very toxic by inhalation at extremely low concentrations. Prolonged heating may cause containers to rupture violently and rocket. Rate of onset: Immediate & Delayed (Lungs) Persistence: Minutes - hours Odor threshold: 0.9 ppm Source/use/other hazard: Insecticide; used in manufacture of flame retardants and incendiaries.	5.0	1.0	1.0	4082.0	404.0	1411.0	720.0	458.0	978.0	100.0	343.0	186.0	107.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2128	PHENYLHYDRAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	THENYLDIAMINE HYDROCHLORIDE is an acidic salt of an amine. Reacts as an acid to neutralize bases. May react with strong reducing agents to generate toxic flammable hydrogen sulfide. Reacts with strong bases to generate the free base.								0																							
2129	PHENYLPROPANOLAMINE HYDROCHLORIDE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	The material ENFLURANE is incompatible with the following oxidizing materials, peroxides, combustible materials. Although nonflammable, a fire may cause enflurane to decompose to toxic compounds including phosgene, hydrogen chloride, and hydrogen fluoride. Decomposes slowly in the light.							0																							
2130	P-HEXYLRESORCINOL	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Borates, such as TRIALLYL BORATE, behave similarly to esters in that they react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters/borates with alkali metals and hydrides.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
2131	PHORATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable.	PROPIONITRITE is an oxidizing agent. If mixed with reducing agents, including hydrides, sulfides and nitrides, may begin a vigorous reaction that culminates in a detonation. Reacts with inorganic bases to form explosive salts.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
2132	PHOSPHINE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Aromatic nitro compounds, such as TRINITROBENZOIC ACID, WETTED WITH NOT LESS THAN 30% WATER, are oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. All heavy metal salts of this compound are explosive on heating or impact.		Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2128	PHENYLHYDRAZINE																									(NTP, 1992)		297.88						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C14H19N3S.ClH	Dirt/Earth	8.0	0.0	23.0	3.0	3.0
2129	PHENYLPROPANOLAMINE HYDROCHLORIDE	(NIOSH, 2003)		175				mm Hg							(NIOSH, 2003)		1.52		77		(NIOSH, 2003)		134		760		(NIOSH, 2003)		184.5						(NIOSH, 2003)	Low						CHF2OCF2CHClF		7.0	0.0	13.0	3.0	3.0
2130	P-HEXYLRESORCINOL																																							Poison	C9H15BO3	Dirt/Earth	6.0	0.0	15.0	3.0	3.0
2131	PHORATE																																							Poison	C3H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	15.0	3.0	3.0
2132	PHOSPHINE																																							Flammable Solid	C7H3N3O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2133	PHOSPHORUS PENTACHLORIDE	PENTACHLOROPHOSPHORANE|PENTACHLOROPHOSPHORUS|PHOSPHORANE, PENTACHLORO-|PHOSPHORIC CHLORIDE|PHOSPHORIC PERCHLORIDE|PHOSPHOROUS PENTACHLORIDE|PHOSPHORUS CHLORIDE|PHOSPHORUS CHLORIDE (PCL5)|PHOSPHORUS PENTACHLORIDE|PHOSPHORUS PENTACHLORIDE, SOLID|PHOSPHORUS PENTACHLORIDE, [SOLID]|PHOSPHORUS PERCHLORIDE|PHOSPHORUS(V) CHLORIDE	10026-13-8	Phosphorus pentachloride is a greenish-yellow crystalline solid with an irritating odor. It is decomposed by water to form hydrochloric and phosphoric acid and heat. This heat may be sufficient to ignite surrounding combustible material. It is corrosive to metals and tissue. Long term exposure to low concentrations or short term exposure to high concentrations can result in adverse health effects from inhalation.	1.0	2.5	5.0	4082.0	404.0	1411.0	720.0	458.0	978.0	100.0	343.0	186.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2134	PIPERAZINE ADIPATE	ADIPIC ACID, COMPOUND WITH PIPERAZINE (1:1)|ADIPIC ACID, COMPOUNDWITH PIPERAZINE (1:1)|ADIPRAZINA|ADIPRAZINE|ARDUVERMIN|COPOME|DIETELMIN|ENTACYL|HELMIRAZIN|HEXANEDIOIC ACID, COMPOUND WITH PIPERAZINE (1:1)|NOMETAN|OXURASIN|OXYPAAT|OXYZIN|PIPADOX|PIPERASCAT|PIPERASKAT|PIPERAZINE ADIPATE|PIPERAZINE ADIPINATE|PIPERAZINE, ADIPATE (1:1)|PIPERAZINE, HEXANEDIOATE (1:1)|PIPERAZINI ADIPAS|PIPERAZINIUM ADIPATE|PIPERAZINUM ADIPATE|PIPERAZINUM ADIPICUM|VERMICOMPREN|VERMILASS	142-88-1	PHYSICAL DESCRIPTION: Odorless white crystalline powder or solid. Slightly acid taste. Melting point 256-257Â°C. Dissolves slowly. pH (0.2-0.01 molar aqueous solutions) 5.45. pH (5% solution) 5 - 6. (NTP, 1992)	1.0	2.5	5.0	4085.0	404.0	1414.0	720.0	458.0	979.0	100.0	344.0	186.0	107.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2135	P-METHYL BENZYL ALCOHOL	BENZYL ALCOHOL, P-METHYL-|4-(HYDROXYMETHYL)TOLUENE|4-METHYL BENZENEMETHANOL|4-METHYLBENZENEMETHANOL|4-METHYLBENZYL ALCOHOL|(4-METHYLPHENYL)METHANOL|P-METHYL BENZYL ALCOHOL|P-METHYLBENZYL ALCOHOL|P-TOLUALCOHOL|P-TOLUIC ALCOHOL|P-TOLUYL ALCOHOL|P-TOLYLCARBINOL|4-TOLYLCARBINOL	589-18-4	PHYSICAL DESCRIPTION: Needles or off-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4085.0	404.0	1414.0	720.0	458.0	979.0	100.0	344.0	186.0	107.0			
2136	P-METHYLAMINOPHENOL SULFATE	ARMOL|ELON|ELON (DEVELOPER)|GENOL|GRAPHOL|METATYL|METHYL-P-AMINOPHENOL SULFATE|4-(METHYLAMINO)PHENOL SULFATE (2:1 SALT)|4-(METHYLAMINO)PHENOL SULFATE (2:1) SALT|METOL|MONOMETHYL-P-AMINOPHENOL SULFATE|N-METHYL-4-HYDROXYANILINE HEMISULFATE|N-METHYL-P-AMINOPHENOL SULFATE|N-METHYL-P-AMINOPHENOL SULFURIC ACID HEMISALT|N-METHYL-P-AMINOPHENOL SULFURIC ACID SALT (2:1)|P-HYDROXYMETHYLANILINE SULFATE|P-METHYLAMINOPHENOL SULFATE|P-METHYLAMINOPHENOL SULPHATE (2:1)|P-METHYLAMINOPHENOLSULFATE|PHENOL, P-(METHYLAMINO)-, SULFATE (2:1) (SALT)|PHOTO-	55-55-0	PHYSICAL DESCRIPTION: Off-white crystalline solid. Sensitive to light. (NTP, 1992)	1.0	2.5	5.0	4085.0	404.0	1414.0	720.0	458.0	979.0	100.0	344.0	186.0	107.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2137	P-NITROANILINE, [SOLID]	4-AMINO-1-NITROBENZENE|1-AMINO-4-NITROBENZENE|4-AMINONITROBENZENE|ANILINE, P-NITRO-|AZOAMINE RED 2H|AZOAMINE RED ZH|AZOFIX RED GG SALT|AZOIC DIAZO COMPONENT 37|C.I. 37035|C.I. AZOIC DIAZO COMPONENT 37|C.I. DEVELOPER 17|DEVELOPER P|DEVOL RED GG|DIAZO FAST RED GG|FAST RED 2G BASE|FAST RED 2G SALT|FAST RED BASE 2J|FAST RED BASE GG|FAST RED GG BASE|FAST RED GG SALT|FAST RED IG BASE|FAST RED MP BASE|FAST RED P BASE|FAST RED P SALT|FAST RED SALT 2J|FAST RED SALT GG|NAPHTOELAN RED GG BASE|NCI-C60786|4-NITRANILINE|NITRAZOL CF EXTRA|NITROANILINE (PARA NITROANILINE) {P-	100-01-6	Yellow solid with a mild odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	4088.0	404.0	1414.0	726.0	458.0	980.0	100.0	344.0	188.0	107.0	(BLOB)	Special Hazards of Combustion Products: Vapors may travel considerable distance to a source of ignition and flashback. Forms explosive mixtures in air. Emits toxic fumes under fire conditions. (USCG, 1999)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2138	P-NITROBENZAMIDE	BENZAMIDE, P-NITRO-|4-NITROBENZAMIDE|4-NITROBENZOIC ACID, AMIDE|P-NITROBENZAMIDE	619-80-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4091.0	404.0	1414.0	726.0	458.0	981.0	100.0	344.0	188.0	107.0	(BLOB)	Containers may explode. When heated to decomposition, it emits acrid smoke and fumes. Stable when stored at 41F. Avoid storing in areas of exposure to the direct rays of the sun and in areas of high fire hazard. Tends to polymerize on storage. Avoid elevated temperatures. (EPA, 1998)	Wear air mask, goggles or face shield, rubber gloves, and protective clothing to prevent all skin contact. Cool exposed containers with water. Extinguish with alcohol foam, water, dry chemical, foam, or carbon dioxide. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2133	PHOSPHORUS PENTACHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical darkens slowly on exposure to air and light. Water insoluble. Readily soluble in aqueous solutions of inorganic acids. Solutions undergo oxidation in the presence of oxygen.	EPINEPHRINE is incompatible with oxidizers, alkalis, copper, iron, silver, zinc and other metals; gum and tannin. It is also incompatible with acids, acid chlorides and acid anhydrides. It reacts with salts of sulfurous acid (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		412 to 414
2134	PIPERAZINE ADIPATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	TERT-BUTYL METHACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
2135	P-METHYL BENZYL ALCOHOL			Dust is a fire and explosion hazard.	An oxime , carbamate derivative. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.						0																									
2136	P-METHYLAMINOPHENOL SULFATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water in all proportions.	ETHANOL reacts violently with acetyl chloride and acetyl bromide [Rose, (1961); Merck 11th ed., 1989]. Mixtures with concentrated sulfuric acid and strong hydrogen peroxide can cause explosions. Mixtures with concentrated hydrogen peroxide form powerful explosives. Reacts readily with hypochlorous acid and with chlorine to give ethyl hypochlorite, which decomposes in the cold and explodes on exposure to sunlight or heat. Base-catalysed reactions with isocyanates should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer(1969)]. Highly oxidized potassium metal was dropped into a dish of ethyl alcohol, an immediate explosion shattered the dish. Potassium superoxide was considered the cause of the reaction [Health and Safety Inf. 251(1967)]. Ethanol or methanol can ignite on contact with a platinum-black catalyst. (Urben 1794).	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		55		(NTP, 1992)		3.3		%	(NTP, 1992)		19		%	(USCG, 1999)		689		(NTP, 1992)		-173.4	
2137	P-NITROANILINE, [SOLID]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Self contained breathing apparatus, protective clothing, rubber boots, and heavy rubber gloves. (USCG, 1999)	Highly Flammable. Water soluble.	BETA-PICOLINE may react with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		97										(USCG, 1999)		1000		(NTP, 1992)		-0.9	
2138	P-NITROBENZAMIDE	Avoid contact with liquid. Keep people away. Stop discharge. Avoid inhalation. (EPA, 1998)	(BLOB)	Slow reaction with water to form beta-hydroxypropionic acid.	BETA-PROPIOLACTONE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical may be incompatible with alkalis.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(EPA, 1998)		158		(EPA, 1998)		2.9		%									(EPA, 1998)		-27	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2133	PHOSPHORUS PENTACHLORIDE																										(NTP, 1992)		183.21						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C9H13NO3	Mineral-Based & Clay-Based Absorbents	7.0	0.0	17.0	3.0	3.0
2134	PIPERAZINE ADIPATE																																								Flammable Liquid	C8H14O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	13.0	3.0	3.0
2135	P-METHYL BENZYL ALCOHOL																																									C5H10N2O2S		7.0	0.0	13.0	3.0	3.0
2136	P-METHYLAMINOPHENOL SULFATE	(NTP, 1992)	; 50 mm Hg at 77Â° F	40		66		mm Hg	(NTP, 1992)		1.59				(USCG, 1999)		0.79		68		(NTP, 1992)		173.3		760		(NTP, 1992)		46.07		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	3300	ppm	(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	EAL	Flammable Liquid	C2H6O	Cellulose-Based Absorbents	6.0	0.0	20.0	3.0	3.0
2137	P-NITROANILINE, [SOLID]								(NTP, 1992)		3.21				(USCG, 1999)		0.957				(NTP, 1992)			290 to 291	760		(NTP, 1992)		93.12						(NTP, 1992)	Very soluble				MLP	Flammable Liquid	C6H7N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	47.0	3.0	3.0
2138	P-NITROBENZAMIDE	(EPA, 1998)		3.4		77		mm Hg	(NTP, 1992)		2.5				(EPA, 1998)		1.146		68		(EPA, 1998)	decomposes	324		760		(EPA, 1998)		72.06						(NTP, 1992)	at 66Â° F		10 to 50	mg/mL	PLT	Poison	C3H4O2		8.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2139	P-NITROCHLOROBENZENE	BENZENE, 1-CHLORO-4-NITRO|4-CHLORO-1-NITROBENZENE|1-CHLORO-4-NITROBENZENE|4-CHLORONITROBENZENE|4-NITRO-1-CHLOROBENZENE|1-NITRO-4-CHLOROBENZENE|4-NITROCHLOROBENZENE|P-CHLORONITROBENZENE|P-NITROCHLOROBENZENE|P-NITROPHENYL CHLORIDE|PCNB|PNCB	100-00-5	PHYSICAL DESCRIPTION: Light yellow crystalline solid. Density 1.520 g / cm3. Melting point 83Â°C. Sweet odor. Very toxic by inhalation, ingestion, and skin absorption.	1.0	2.5	5.0	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	Inhalation is a route of entry.Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In case of contact with material, immediately flush eyes with running water for at least 15 minutes. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. (EPA, 1998)	May be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. When heated to decomposition, it may emit highly toxic fumes of phosgene. Esters may explode on mixing with nitrates. (EPA, 1998)	Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate one-half mile in all directions if tank car or truck is involved in fire. To extinguish small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. (EPA, 1998)
2140	P-NITROTOLUENE	METHYL NITROBENZENE|4-METHYL NITROBENZENE|4-METHYL-1-NITROBENZENE|1-METHYL-4-NITROBENZENE|4-METHYLNITROBENZENE|NCI-C60537|NITROTOLUENE (PARA)|4-NITROTOLUENE|4-NITROTOLUOL|P-METHYLNITROBENZENE|P-NITROPHENYLMETHANE|P-NITROTOLUENE|PARA-NITROTOLUENE|PNT|TOLUENE, P-NITRO-	99-99-0	A yellow liquid with a weak aromatic odor. Toxic. Insoluble in water. Combustible but may take some effort to ignite. Produces toxic oxides of nitrogen when burned. In a spill, immediate steps should be taken to limit its spread to the environment. Can easily penetrate the soil and contaminate groundwater or nearby streams. Used to make other chemicals.	2.5	5.0	2.5	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2141	POLYPHOSPHORIC ACID	CONDENSED PHOSPHORIC ACID|POLYPHOSPHORIC ACID	8017-16-1	Viscous water-white odorless liquid. The commerical acid consists of a mixture of orthophosphoric acid, pyrophosphoric (diphosphoric) acid, triphosphoric and higher polymeric phosphoric acids. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	(BLOB)		
2142	PORTLAND CEMENT	CEMENT|HYDRAULIC CEMENT|PORTLAND CEMENT|PORTLAND CEMENT SILICATE	65997-15-1	A gray to white, odorless powder. A finely ground (powdered) mixture of mainly 3CaO.SiO2 (tricalcium silicate), 2CaO.SiO2 (dicalcium silicate), CaO.Al2O3 (tricalcium aluminate), 4CaO.Al2O3.Fe2O3 (tetracalcium aluminoferrite) and CaSO4.2H2O (calcium sulfate dihydrate).	1.0	2.5	5.0	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2143	POTASSIUM BOROHYDRIDE	POTASSIUM BOROHYDRIDE|POTASSIUM BOROHYDRIDE (KBH4)|POTASSIUM TETRAHYDROBORATE|POTASSIUM TETRAHYDROBORATE (KBH4)|POTASSIUM TETRAHYDROBORATE(1-)	13762-51-1	Potassium borohydride is a white crystalline or powdered solid. When exposed to water it may react violently and start a fire. It is toxic by ingestion. It is used to make other chemicals.	1.0	2.5	5.0	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2144	POTASSIUM DIMETHYLDITHIOCARBAMATE	POTASSIUM DIMETHYLDITHIOCARBAMATE	128-03-0	A concentrated aqueous solution. A green liquid.	2.5	5.0	2.5	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	(BLOB)	Material may produce irritating or poisonous gases in fire. Runoff from fire control water may give off irritating or poisonous gases. (EPA, 1998)	Wear positive pressure self-contained breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance possible. Control runoff water with dikes and prevent material from scattering. The material may burn but will not ignite easily. To extinguish use dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2145	POTASSIUM METAVANADATE	POTASSIUM M-VANADATE|POTASSIUM METAVANADATE|POTASSIUM METAVANADATE (KVO3)|POTASSIUM TRIOXOVANADATE|POTASSIUM VANADATE (KVO3)|POTASSIUM VANADATE(V) (KVO3)|POTASSIUM VANADIUM TRIOXIDE|VANADIC ACID (HVO3), POTASSIUM SALT	13769-43-2	A colorless to pale green colored crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make dyes, inks and laundry compounds.	1.0	2.5	5.0	4094.0	404.0	1414.0	726.0	458.0	982.0	100.0	344.0	188.0	107.0	Flush eyes with water for at least 15 min. Wash skin well with water. Get medical attention. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents: Carbon dioxide or dry chemical for small fires; alcohol foam and water for large fires (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2139	P-NITROCHLOROBENZENE	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	ETHANOL, 1,2-DICHLORO-, ACETATE is a halogenated ester. React with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		307		(EPA, 1998)	Combustible.				(EPA, 1998)	Combustible.								(EPA, 1998)	Less than 26Â° F		
2140	P-NITROTOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, protect from moisture and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. May be sensitive to moisture.	P-TOLUIDINE HYDROCHLORIDE reacts with oxidizing and alkali materials. (NTP, 1992).							0																			(NTP, 1992)		469	
2141	POLYPHOSPHORIC ACID		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PYRAZINAMIDE is an amide derivative. Incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. May react with active metals or nitrides to produce flammable gaseous hydrogen. Incompatible with strongly oxidizing acids, peroxides, and hydroperoxides.						0																			(NTP, 1992)			376 to 379
2142	PORTLAND CEMENT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids, bases and oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIS(2-ETHYLHEXYL) SEBACATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react with oxidizing materials. It will hydrolyze under acidic or basic conditions. (NTP, 1992)						0		(NTP, 1992)		410															(NTP, 1992)		-54	
2143	POTASSIUM BOROHYDRIDE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL MONOPEROXYMALEATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2144	POTASSIUM DIMETHYLDITHIOCARBAMATE	Keep unnecessary people away; isolate the hazardous area and deny entry. Stay upwind. Do not touch spilled material; stop leak if possible without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PYRIDINE, 4-AMINO- neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		328															(EPA, 1998)		318	
2145	POTASSIUM METAVANADATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Plastic gloves, goggles (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ETHOXYLATED PENTADECANOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		470															(USCG, 1999)		59	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2139	P-NITROCHLOROBENZENE														(EPA, 1998)		1.296		68		(EPA, 1998)			136 to 149		13	(EPA, 1998)		157													Combustible Liquid	C4H6Cl2O2		6.0	0.0	25.0	3.0	3.0
2140	P-NITROTOLUENE																				(NTP, 1992)		495.5		760		(NTP, 1992)		143.63						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C7H9N.ClH		7.0	0.0	19.0	3.0	3.0
2141	POLYPHOSPHORIC ACID																				(NTP, 1992)	SUB					(NTP, 1992)		123.13						(NTP, 1992)	Soluble						C5H5N3O	Mineral-Based & Clay-Based Absorbents	9.0	0.0	26.0	3.0	3.0
2142	PORTLAND CEMENT														(NTP, 1992)		0.912		77		(NTP, 1992)		478		4		(NTP, 1992)		426.68						(NTP, 1992)	Insoluble						C26H50O4		7.0	0.0	13.0	3.0	3.0
2143	POTASSIUM BOROHYDRIDE																																								Organic Peroxide	C8H12O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	19.0	3.0	3.0
2144	POTASSIUM DIMETHYLDITHIOCARBAMATE														(USCG, 1999)		1.2607		77.54		(EPA, 1998)		524.3		760		(EPA, 1998)		94.13											APY	Poison	C5H6N2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0
2145	POTASSIUM METAVANADATE														(USCG, 1999)		1.007		59		(USCG, 1999)	Very high					(USCG, 1999)		660											EOP	Class 9		Cellulose-Based Absorbents	7.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2146	POTASSIUM PERCHLORATE	PEROIDIN|POTASSIUM PERCHLORATE|POTASSIUM PERCHLORATE (KCLO4)|SPECTREX FIRE EXTINGUISHANT FORMULATION A	7778-74-7	A white crystalline solid. Forms explosive mixtures wilh certain combustible materials. Difficult to burn, but will accelerate burning of combustible materials. Prolonged exposure to fire or heat may result in an explosion. Used in explosives, pyrotechnics, photography.	1.0	2.5	5.0	4097.0	404.0	1414.0	726.0	458.0	983.0	100.0	344.0	188.0	107.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2147	P-QUINONE DIOXIME	ACTOR Q|BENZOQUINONE DIOXIME|1,4-BENZOQUINONE DIOXIME|2,5-CYCLOHEXADIENE-1,4-DIONE, DIOXIME|DIBENZO PQD|DIOXIME 1,4-CYCLOHEXADIENEDIONE|DIOXIME 2,5-CYCLOHEXADIENE-1,4-DIONE|DIOXIME P-BENZOQUINONE|G-M-F|NCI-C03850|P-BENZOQUINONE, DIOXIME|P-QUINONE DIOXIME|P-QUINONE OXIME|PARA-QUINONE DIOXIME|PQD|QDO|QUINONE DIOXIME|VULNOC GM	105-11-3	PHYSICAL DESCRIPTION: Pale yellow crystals or brown powder. (NTP, 1992)	1.0	2.5	5.0	4100.0	404.0	1414.0	726.0	458.0	984.0	100.0	344.0	188.0	107.0	INHALATION: only fumes from fire need be considered; metal-fume fever is not critical and lasts less than 36 hrs.; irritation of nose and throat by acid vapors may require treatment by a physician. EYES: flush gently with water for 15 min.; treat burns if fire occurred; get medical attention. SKIN: wash with water; treat burns caused by fire; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Intense smoke may cause metal-fume fever. Irritating hydrogen chloride also formed. Behavior in Fire: Contact with water from adjacent fires will cause formation of irritating smoke containing aluminum oxide and hydrogen chloride. (USCG, 1999)	(BLOB)
2148	PREDNISONE	17-ALPHA-21-DIHYDROXYPREGNA-1,4-DIENE-3,11,20-TRIONE|ANCORTONE|BICORTONE|COLISONE|CORTANCYL|CORTIDELT|DACORTIN|DECORTANCYL|DECORTIN|DECORTISYL|DEHYDROCORTISONE|1,2-DEHYDROCORTISONE DELTA (1)-CORTISONE|1,2-DEHYDROCORTISONE|1-DEHYDROCORTISONE|DEKORTIN|DELTA E|DELTA(1)-CORTISONE|DELTA(SUP1)-CORTISONE|DELTA-CORTELAN|DELTA-CORTISONE|DELTA1-CORTISONE|DELTA1-DEHYDROCORTISONE|DELTACORTISONE|DELTACORTONE|DELTASONE|DELTISON|DELTISONE|DELTRA|DELTRAPRENOVIS|DI-ADRESON|17,21-DIHYDROXYPREGNA-1,4-DIENE-3,11,20-TRIONE|ENCORTON|ENCORTONE|ENKORTON|FERNISONE	53-03-2	PHYSICAL DESCRIPTION: Odorless white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4103.0	404.0	1414.0	726.0	458.0	985.0	100.0	344.0	188.0	107.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water. Where there is evidence of skin irritation, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2149	PRIMACLONE	CYRAL|2-DEOXYPHENOBARBITAL|2-DESOXYPHENOBARBITAL|DESOXYPHENOBARBITONE|5-ETHYLDIHYDRO-5-PHENYL-4,6(1H,5H)PYRIMIDINEDIONE|5-ETHYLHEXAHYDRO-4,6-DIOXO-5-PHENYLPYRIMIDINE|5-ETHYLHEXAHYDRO-5-PHENYLPYRIMIDINE-4,6-DIONE|HEXADIONA|HEXAMIDINE|HEXAMIDINE (ANTIEPILEPTIC)|HEXAMIDINE (THE ANTISPASMODIC)|HEXAMYDIN|LEPIMIDIN|LEPSIRAL|LISKANTIN|MAJSOLIN|MIDONE|MILEPSIN|MISODINE|MISOLYNE|MIZODIN|MIZOLIN|MYLEPSIN|MYLEPSINUM|MYSEDON|MYSOLINE|NCI-C56360|5-PHENYL-5-ETHYLHEXAHYDROPYRIMIDINE-4,6-DIONE|PRILEPSIN|PRIMACIONE|PRIMACLONE|PRIMACONE|PRIMAKTON|PRIMIDON|PRIMIDONE|PRIMOLINE|PRYSO	125-33-7	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Slightly bitter taste. No acidic properties. (NTP, 1992)	1.0	2.5	5.0	4103.0	404.0	1414.0	726.0	458.0	985.0	100.0	344.0	188.0	107.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2150	PROFENOFOS	O-(4-BROMO-2-CHLOROPHENYL)-O-ETHYL-S-PROPYLPHOSPHOROTHIOATE|PROFENOFOS	41198-08-7	Pale yellow liquid with garlic-like odor. Corrosive. Used as an insecticide.	2.5	5.0	2.5	4103.0	404.0	1414.0	726.0	458.0	985.0	100.0	344.0	188.0	107.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is a solid pesticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. This compound is a solid pesticide. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
2151	PROMETRYN	N,N'-BIS(1-METHYLETHYL)-6-METHYLTHIO-1,3,5-TRIAZINE-2,4-DIAMINE|PROMETRYN	7287-19-6	Colorless crystals. Used as an herbicide.	1.0	2.5	5.0	4103.0	404.0	1414.0	726.0	458.0	985.0	100.0	344.0	188.0	107.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or a Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2146	POTASSIUM PERCHLORATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	ETHYL 3-HYDROXYBUTYRATE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		148																				
2147	P-QUINONE DIOXIME	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full protective clothing, preferably of aluminized glass cloth; goggles, face shield, gloves; in case of fire, all-purpose canister or self-contained breathing apparatus. (USCG, 1999)	Spontaneously flammable in air (Douda 1966). Reacts violently with water forming hydrogen chloride and flammable ethane gas (Rose 1961).	Organometallics, such as ETHYL ALUMINUM SESQUICHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water. A mixture of this material with carbon tetrachloride exploded when warmed to room temperature [Bretherick, 5th Ed., 1995].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3052 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	3	6	No Water																	(USCG, 1999)		-4	
2148	PREDNISONE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	Ketones, such as ETHYL AMYL KETONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		115																	(NIOSH, 2003)		-70	
2149	PRIMACLONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound should be protected from air and light. Insoluble in water.	ETHYL ANTHRANILATE may hydrolyze under acidic and basic conditions. (NTP, 1992)							0																		(NTP, 1992)		55	
2150	PROFENOFOS	This compound is a solid pesticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal, Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)	Decomposes at 433Â° F		
2151	PROMETRYN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2146	POTASSIUM PERCHLORATE														(NTP, 1992)		1.017				(NTP, 1992)		338		760		(NTP, 1992)		132.16						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Combustible Liquid	C6H12O3	Cellulose-Based Absorbents	7.0	0.0	27.0	3.0	3.0
2147	P-QUINONE DIOXIME														(USCG, 1999)		1.092		77		(USCG, 1999)		399		760		(USCG, 1999)		247.5											EAS	Spontaneously Combustible(Dangerous When Wet	C6H15Al2Cl3		9.0	0.0	16.0	3.0	3.0
2148	PREDNISONE	(NIOSH, 2003)		2				mm Hg							(USCG, 1999)		0.822				(USCG, 1999)			332.6 to 334.4	760		(USCG, 1999)		128.22		(NIOSH, 2003)		100	ppm	(NIOSH, 2003)	Insoluble				EAK	Flammable Liquid	C8H16O		8.0	0.0	24.0	3.0	3.0
2149	PRIMACLONE														(NTP, 1992)		1.117		68		(NTP, 1992)		514		760		(NTP, 1992)		165.19						(NTP, 1992)	Insoluble						C9H11NO2		8.0	0.0	15.0	3.0	3.0
2150	PROFENOFOS																										(EPA, 1998)		272.29											Poison	C13H12N4O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	21.0	3.0	3.0
2151	PROMETRYN																										(NTP, 1992)		576.08						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C32H16CuN8	Mineral-Based & Clay-Based Absorbents	5.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2152	PROPANE SULTONE	3-HYDROXY-1-PROPANESULFONIC ACID SULTONE|3-HYDROXY-1-PROPANESULPHONIC ACID SULTONE|1,2-OXATHROLANE|PROPANE SULTONE|1,3-PROPANE SULTONE	1120-71-4	White crystalline solid or a colorless liquid. Melting point 86Â°F. Releases a foul odor when melting. (NIOSH, 1997)	1.0	2.5	5.0	4106.0	404.0	1417.0	726.0	458.0	986.0	100.0	345.0	188.0	107.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2153	PROPARGITE	BPPS|COMITE|CYCLOSULFYNE|D 014|DO 14|KELARAN|NAUGATUCK D 014|NAUGATUCK DO 14|OMITE|OMITE 57E|OMITE 85E|2-(P-TERT-BUTYLPHENOXY)CYCLOHEXYL 2-PROPYNYL SULFITE|2-(P-TERT-BUTYLPHENOXY)CYCLOHEXYL PROPARGYL SULFITE|PROPARGIL|PROPARGITE|SULFUROUS ACID, 2-(P-TERT-BUTYLPHENOXY)CYCLOHEXYL 2-PROPYNYL ESTER	2312-35-8	Propargite is a dark colored liquid. It is a wettable powder or water emulsifiable liquid. It can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used as a pesticide. Practically insoluble in water (10.5 mg/L). Used as an acaricide.	2.5	5.0	2.5	4109.0	404.0	1420.0	726.0	458.0	987.0	100.0	346.0	188.0	107.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2154	PROPARGYL ALCOHOL	CARBINOL, ETHYNYL-|ETHYNYL CARBINOL|ETHYNYL METHANOL|ETHYNYLCARBINOL|3-HYDROXY-1-PROPYNE|1-HYDROXY-2-PROPYNE|HYDROXYMETHYLACETYLENE|METHANOL, ETHYNYL-|PROPARGYL ALCOHOL|PROPIOLIC ALCOHOL|2-PROPYN-1-OL|1-PROPYN-3-OL|1-PROPYN-3-YL ALCOHOL|1-PROPYNE-3-OL|2-PROPYNOL|3-PROPYNOL|PROPYNYL ALCOHOL|2-PROPYNYL ALCOHOL	107-19-7	A clear colorless liquid with a geranium-like odor. Flash point 97Â°F. Vapors are heavier than air. Used to make other chemicals, as a corrosion inhibitor and a soil fumigant.	2.5	5.0	2.5	4112.0	404.0	1420.0	726.0	458.0	988.0	100.0	346.0	188.0	107.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
2155	PROPARGYL ALCOHOL, FATTY ACID DERIVED AMINES (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	PROPARGYL ALCOHOL, FATTY ACID DERIVED AMINES (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	107-19-7	A dark liquid with a "fishlike" odor. Less dense than water. Corrosive and contact may severely irritate skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4112.0	404.0	1420.0	726.0	458.0	988.0	100.0	346.0	188.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2156	PROPICONAZOLE	DESMEL|1-(2-(2,4-DICHLOROPHENYL)-4-PROPYL-1,3-DIOXOLAN-2-YL)-METHYL-1H-1,2,4,-TRIAZOLE|FORDO|LUNASA|PROPICONAZOLE|TILT	60207-90-1	Yellowish odorless liquid. Non corrosive. Used as a fungicide.	2.5	5.0	2.5	4115.0	404.0	1420.0	726.0	458.0	989.0	100.0	346.0	188.0	107.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2152	PROPANE SULTONE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable.	TRIAZINE PESTICIDE may be incompatible with isocyanates, halogenated organics, peroxides, acids, phenols, epoxides, anhydrides, and acid halides. Incompatible with alkalis [Farm Chemicals Handbook].	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2153	PROPARGITE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	THIAZOLE, An organosulfide amine derivative. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2154	PROPARGYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Rubber gloves; safety goggles; dust mask (USCG, 1999)	Turns gray on exposure to light or air. Water soluble.	PYROGALLIC ACID is a strong reducing agent. Reacts with alkalis, NH3, antipyrine, camphor, phenol, iron and lead salts, iodine, lime water, menthol and KMnO4. (NTP, 1992)	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		271 to 273
2155	PROPARGYL ALCOHOL, FATTY ACID DERIVED AMINES (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	PYROLAN is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.	Explosive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		122	
2156	PROPICONAZOLE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Decomposes violently and exothermically in water or moist air to form sulfuric acid and hydrochloric acid [Merck, 11th ed. 1989].	PYROSULFURYL CHLORIDE is strongly acidic. Incompatible with strong oxidizing agents, alcohols, amines and other bases. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Red and white forms of phosphorus react vigorously with the chloride.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2152	PROPANE SULTONE																																								Flammable Liquid|Poison	C9-H5-Cl3-N4		9.0	0.0	16.0	3.0	3.0
2153	PROPARGITE														(NTP, 1992)		1.1998				(NTP, 1992)		242.2		760		(NTP, 1992)		85.13						(NTP, 1992)	Slightly soluble					Combustible Liquid	C3H3NS	Mineral-Based & Clay-Based Absorbents	6.0	0.0	23.0	3.0	3.0
2154	PROPARGYL ALCOHOL	(NTP, 1992)		10		333.9		mm Hg							(USCG, 1999)		1.45		68		(NTP, 1992)	(Decomposes at 559Â° F)	588		760		(NTP, 1992)		126.11						(NTP, 1992)	at 77Â° F		greater than or equal to 100	mg/mL	PGA	Poison	C6H6O3		9.0	0.0	19.0	3.0	3.0
2155	PROPARGYL ALCOHOL, FATTY ACID DERIVED AMINES (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)																				(NTP, 1992)		320 to 324	0.2		(NTP, 1992)		245.31						(NTP, 1992)	Soluble					Poison	C13H15N3O2		9.0	0.0	19.0	3.0	3.0
2156	PROPICONAZOLE																																								Corrosive	Cl2OSS2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	44.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2157	PROPIONIC ANHYDRIDE	METHYLACETIC ANHYDRIDE|PROPANOIC ANHYDRIDE|PROPIONIC ACID ANHYDRIDE|PROPIONIC ANHYDRIDE|PROPIONYL OXIDE	123-62-6	Colorless liquid with a pungent odor. Flash point 165Â°F. Density 8.4 lb /gal. Corrosive to metals and tissue.	2.5	5.0	2.5	4115.0	404.0	1420.0	726.0	458.0	989.0	100.0	346.0	188.0	107.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2158	PROPIONITRILE	CYANOETHANE|ETHER CYANATUS|ETHYL CYANIDE|ETHYLCYANIDE|HYDROCYANIC ETHER|N-PROPANENITRILE|PROPANENITRILE|PROPIONIC NITRILE|PROPIONITRILE|PROPIONONITRILE|PROPYLNITRILE	107-12-0	A colorless liquid with an ether-like odor. Density 0.683 g / cm3. Flash point 61Â°F. Toxic by inhalation, skin absorption, and ingestion. Vapors are heavier than air. Used as a solvent, and to make other chemicals.	2.5	5.0	2.5	4115.0	404.0	1420.0	729.0	458.0	989.0	100.0	346.0	189.0	107.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2159	PROPIONITRILE, 3-CHLORO-	BETA-CHLOROPROPIONITRILE|1-CHLORO-2-CYANOETHANE|3-CHLOROPROPANENITRILE|3-CHLOROPROPANONITRILE|3-CHLOROPROPIONITRILE|2-CYANOETHYL CHLORIDE|PROPANENITRILE, 3-CHLORO-|PROPIONITRILE, 3-CHLORO-|USAF A-8798	542-76-7	Colorless liquid with a characteristic acrid odor. Used in pharmaceutical and polymer synthesis. (EPA, 1998)	2.5	5.0	2.5	4115.0	404.0	1420.0	729.0	458.0	989.0	100.0	346.0	189.0	107.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2160	PROPIONYL CHLORIDE	CHLORO ETHYL KETONE|PROPIONIC ACID CHLORIDE|PROPIONYL CHLORIDE	79-03-8	A colorless liquid with a pungent odor. Corrosive and very irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4115.0	404.0	1420.0	729.0	458.0	989.0	100.0	346.0	189.0	107.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical may be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
2161	PROPOXUR	APROCARBÃ®N-METHYL-2-ISOPROPOXYPHENYL-CARBAMATE|O-ISOPROPOXYPHENYL-N-METHYLCARBAMATE|PHENOL, 2-(1-METHYLETHOXY)-, METHYLCARBAMATE|PROPOXUR	114-26-1	White to tan crystalline powder with a faint, characteristic odor. Used as an insecticide. (NIOSH, 1997)	1.0	2.5	5.0	4118.0	404.0	1420.0	729.0	458.0	990.0	100.0	346.0	189.0	107.0	INHALATION: remove patient to fresh air; get medical attention. EYES: flush with copious quantities of water for at least 15 min.; get medical attention if irritation persists. SKIN: wash with soap and water. INGESTION: give large amount of water and induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Irritating, toxic hydrogen chloride and phosgene may be generated in fires. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2157	PROPIONIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to exposure to air and light. Insoluble in water.	QUERCETIN is a strong antioxidant and a metal chelator. Promotes the formation of nitrosamines (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			601 to 603
2158	PROPIONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	QUINACRINE DIHYDROCHLORIDE is an acidic salt of an amine. React as a weak acid to neutralize bases.						0																					(NTP, 1992)	(Decomposes)		478 to 482
2159	PROPIONITRILE, 3-CHLORO-	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]						0																								
2160	PROPIONYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)			482 to 486
2161	PROPOXUR	(BLOB)	Organic canister mask; rubber gloves; chemical goggles. (USCG, 1999)	Highly flammable. Slow hydrolysis to acidic products will cause slow corrosion of common metals. No hazard involved. (USCG, 1999).	ETHYL CHLOROACETATE is a chlorinated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		100																(USCG, 1999)		-15	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2157	PROPIONIC ANHYDRIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		302.24						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C15H10O7		8.0	0.0	14.0	3.0	3.0
2158	PROPIONITRILE																									(NTP, 1992)		472.93						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL			C23H30ClN3O.2HCl.2H2O	Mineral-Based & Clay-Based Absorbents	3.0	0.0	14.0	3.0	3.0
2159	PROPIONITRILE, 3-CHLORO-																									(NTP, 1992)		468.89													C23H28ClI3N3O	Mineral-Based & Clay-Based Absorbents	7.0	0.0	12.0	3.0	3.0
2160	PROPIONYL CHLORIDE																									(NTP, 1992)		289.74						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C10H12ClN3O3S		8.0	0.0	25.0	3.0	3.0
2161	PROPOXUR															(USCG, 1999)		1.15		68		(USCG, 1999)		289		760	(USCG, 1999)		122.6										ECA	Poison|Flammable Liquid	C4H7ClO2		7.0	0.0	16.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2162	PROPYLENE	METHYLETHENE|METHYLETHYLENE|NCI-C50077|PROPENE|1-PROPENE|PROPYLENE|1-PROPYLENE|R 1270	115-07-1	Propylene is a colorless gas with a faint petroleum like odor. It is shipped as a liquefied gas under its own vapor pressure. For transportation it may be stenched. Contact with the liquid can cause frostbite. It is easily ignited. The vapors are heavier than air. Any leak can either be liquid or vapor. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket. It is used to make other chemicals. Can cause explosion.	5.0	1.0	1.0	4121.0	404.0	1420.0	729.0	458.0	991.0	100.0	346.0	189.0	107.0	INHALATION: move to fresh air. INGESTION: if large amount has been swallowed, induce vomiting followed by prompt and complete gastric lavage, cathartics, and demulcents. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating oxides of sulfur may form in fires. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2163	PROPYLENE GLYCOL METHYL ETHER ACETATE	1-METHOXY-2-PROPANOL ACETATE|PROPYLENE GLYCOL METHYL ETHER ACETATE	108-65-6	Colorless liquid with a sweet ether-like odor. (USCG, 1999)	2.5	5.0	2.5	4121.0	404.0	1420.0	729.0	458.0	991.0	100.0	346.0	189.0	107.0	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Call 911 or emergency medical service. Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Substance does not burn. The material may react violently with fuels. Containers in protective overpacks (horizontal cylindrical shape with short legs for tie-downs), are identified with "AF", "H(U)F" or "H(U)" on shipping papers or by markings on the overpacks. They are designed and evaluated to withstand severe conditions including total engulfment in flames at temperatures of 800Â°C (1475Â°F) for a period of 30 minutes. Bare filled cylinders, identified with UN2978 as part of the marking (may also be marked H(U) or H(M)), may rupture in heat of engulfing fire; bare empty (except for residue) cylinders will not rupture in fires. Radioactivity does not change flammability or other properties of materials. (ERG, 2012)	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: DO NOT USE WATER OR FOAM ON MATERIAL ITSELF. Move containers from fire area if you can do it without risk. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out. If this is impossible, withdraw from area and let fire burn. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2164	P-TERPHENYL	1,1'-BIPHENYL, 4-PHENYL-|1,4-DIPHENYLBENZENE|NSC 6810|P-DIPHENYLBENZENE|P-TERPHENYL|P-TRIPHENYL|PARA-TERPHENYL|4-PHENYLBIPHENYL|PT|PTP|SANTOWAX P|1,4-TERPHENYL|TERPHENYL; P-|TP|TP (SCINTILLATOR)	92-94-4	White or light-yellow needles or leaves. mp: 212-213Â° C, bp 376Â°C. Density: 1.23 g/cm3. Insoluble in water. Soluble in hot benzene. Very soluble in hot ethyl alcohol. Usually shipped as a solid mixture with its isomers o-terphenyl and m-terphenyl that is used as a heat-transfer fluid.	1.0	2.5	5.0	4121.0	404.0	1420.0	729.0	458.0	991.0	100.0	346.0	189.0	107.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÃ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2165	P-TERT-BUTYLTOLUENE	1-(1,1-DIMETHYLETHYL)-4-METHYLBENZENE|1-METHYL-4-TERT-BUTYLBENZENE|4-METHYL-TERT-BUTYLBENZENE|P-METHYL-TERT-BUTYLBENZENE|P-TERT-BUTYLTOLUENE|TBT|4-TERT-BUTYL-1-METHYLBENZENE|1-TERT-BUTYL-4-METHYLBENZENE|4-TERT-BUTYLTOLUENE|TOLUENE, P-TERT-BUTYL-	98-51-1	PHYSICAL DESCRIPTION: Clear colorless liquid with an aromatic gasoline-like odor. (NTP, 1992)	2.5	5.0	2.5	4121.0	407.0	1420.0	729.0	461.0	991.0	101.0	346.0	189.0	108.0	(BLOB)	When heated to decomposition, it emits toxic fumes of phosphorus and zinc oxides. Irritating oxides of phosphorus may be formed in fires. May ignite in presence of moisture. Contact with water produces flammable gas. Runoff to sewer may create fire or explosion hazard. Decomposed slowly by water giving off phosphine, a flammable poison gas. Reacts violently with concentrated sulfuric acid, nitric acid, and other oxidizing agents. Reacts with hydrochloric acid or sulfuric acid with the evolution of spontaneously flammable phosphine. May ignite in the presence of moisture, or evolve flammable gas. Stable unless exposed to moisture; toxic phosphine gas may then be released and collected in closed spaces. Hazardous polymerization may not occur. (EPA, 1998)	Wear boots, protective gloves, and goggles. Wear self-contained breathing apparatus when fighting fires involving this material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Move container from fire area if you can do so without risk. Do not use water or foam. Small fires, use dry chemical, soda ash or lime. Large fires, withdraw from area and let burn. Do not use any agent with an acid reaction (i.e., carbon dioxide or halogenated agents) as phosphine will be liberated. (EPA, 1998)
2166	P-TOLUIC ACID	CRITHMINIC ACID|4-METHYLBENZOIC ACID|P-CARBOXYTOLUENE|P-METHYLBENZOIC ACID|P-TOLUIC ACID|P-TOLUYLIC ACID|P-TOLYLCARBOXYLIC ACID|4-TOLUIC ACID	99-94-5	PHYSICAL DESCRIPTION: White powder. Sublimes. (NTP, 1992)	1.0	2.5	5.0	4124.0	407.0	1420.0	729.0	461.0	992.0	101.0	346.0	189.0	108.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic fumes of the chemical or hydrogen bromide may form in fires. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2162	PROPYLENE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water. Turns pink on exposure to air.	ZINC PHENOLSULFONATE behaves as a weak acid in solution. Therefore, it would react with bases in neutralization reactions that would generate heat.		Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2163	PROPYLENE GLYCOL METHYL ETHER ACETATE	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Do not touch damaged packages or spilled material. Without fire or smoke, leak will be evident by visible and irritating vapors and residue forming at the point of release. Use fine water spray to reduce vapors; do not put water directly on point of material release from container. Residue buildup may self-seal small leaks. Dike far ahead of spill to collect runoff water. (ERG, 2012)	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts vigorously with water to form uranyl fluoride (UO2F2) and corrosive hydrogen fluoride (hydrofluoric acid). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	URANIUM HEXAFLUORIDE in which the uranium has been depleted of the isotope U-235. Naturally occurring uranium contains 0.7% U-235 and 99.3% U-238 (lower radioactivity). Thus, a depleted uranium material with some U-235 removed by the enrichment process is less radioactive. Emits fumes of highly toxic metallic uranium and uranium fluorides when heated to decomposition [Lewis, 3rd ed., 1993, p. 1301]. Reacts vigorously with aromatic hydrocarbons (benzene, toluene, xylenes), undergoes a violent reaction with water or alcohols (methanol, ethanol) [Bretherick, 5th ed., 1995, p. 1439]. Reacts with most metals.	Water-Reactive; Radioactive Material	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2978 datasheet. FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																									
2164	P-TERPHENYL	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	BORNEOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2																									
2165	P-TERT-BUTYLTOLUENE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Experiments conducted at Argonne showed that no gas is generated upon mixing with water. "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ZINC PHOSPHIDE is a reducing agent. They slowly generate flammable or noxious gases in contact with water. Phosphides react quickly upon contact with moisture or acids to give the very toxic gas phosphine; phosphides also can react vigorously with oxidizing materials. In general, materials in this group are incompatible with oxidizers such as atmospheric oxygen. They are violently incompatible with acids, particularly oxidizing acids.	Strong Reducing Agent	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4																							(EPA, 1998)		788	
2166	P-TOLUIC ACID	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Fumes in air, evolving hydrobromic acid. Reacts vigorously with water or explosively [Mellor 5:124 1946-47]. Borob Tribromide reacts vigorously with water to generate gaseous HBr. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Bromide gas will be created in 0.18 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	BORON TRIBROMIDE strongly attacks wood and rubber with generation of flammable hydrogen gas. Reacts exothermically and violently with water. Mixing tungsten trioxide and boron tribromide caused an explosion when the reaction was not cooled in an ice bath.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2692 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																							(USCG, 1999)		-51	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2162	PROPYLENE														(USCG, 1999)			greater than 1	68		(USCG, 1999)	(decomposes)	248		760		(USCG, 1999)		555.8											ZPS	Dangerous When Wet	Zn(C6H5O4S)2		9.0	0.0	16.0	3.0	3.0
2163	PROPYLENE GLYCOL METHYL ETHER ACETATE																												352		(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3							Radioactive|Corrosive	F6U	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	9.0	0.0	33.0	3.0	3.0
2164	P-TERPHENYL																																									Flammable Solid	C10H18O	Cellulose-Based Absorbents	8.0	0.0	14.0	3.0	3.0
2165	P-TERT-BUTYLTOLUENE														(EPA, 1998)		4.55				(EPA, 1998)		2012		760		(EPA, 1998)		258.09											ZPP	Dangerous When Wet|Poison	P2Zn3		8.0	0.0	11.0	3.0	3.0
2166	P-TOLUIC ACID	(NIOSH, 2003)		40		57		mm Hg							(USCG, 1999)		2.645		68		(USCG, 1999)		196		760		(USCG, 1999)		250.5						(NIOSH, 2003)	Decomposes				BTB	Corrosive|Poison Inhalation Hazard	BBr3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2167	P-TOLUNITRILE	1-CYANO-4-METHYLBENZENE|4-CYANOTOLUENE|4-METHYLBENZONITRILE|4-METHYLCYANOBENZENE|4-METHYLPHENYL CYANIDE|P-CYANOTOLUENE|P-METHYLBENZONITRILE|P-TOLUENENITRILE|P-TOLUICNITRILE|P-TOLUNITRILE|P-TOLUONITRILE|P-TOLYL CYANIDE|P-TOLYLNITRILE|4-TOLUENITRILE|4-TOLUNITRILE	104-85-8	PHYSICAL DESCRIPTION: Beige solid at 62.6Â° F. (NTP, 1992)	1.0	2.5	5.0	4127.0	407.0	1420.0	729.0	461.0	993.0	101.0	346.0	189.0	108.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2168	PUROMYCIN DIHYDROCHLORIDE	ADENOSINE, 3'-(ALPHA-AMINO-P-METHOXYHYDROCINNAMAMIDO)-3'-DEOXY-N,N-DIMETHYL-, DIHYDROCHLORIDE, L-|ADENOSINE, 3'-[[2-AMINO-3-(4-METHOXYPHENYL)-1-OXOPROPYL]AMINO]-3'-DEOXY-N,N-DIMETHYL-, DIHYDROCHLORIDE, (S)-|CL 16,536|L-3'-(ALPHA-AMINO-P-METHOXYHYDROCINNAMAMIDO)-3'-DEOXY-N,N-DIMETHYLADENOSINE DIHYDROCHLORIDE|PDH|PUROMYCIN DIHYDROCHLORIDE|PUROMYCIN HYDROCHLORIDE|(S)-3'-[[2-AMINO-3-(4-METHOXYPHENYL)-1-OXOPROPYL]AMINO]-3'-DEOXY-N,N-DIMETHYL-ADENOSINE DIHYDROCHLORIDE	58-58-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4130.0	407.0	1420.0	729.0	461.0	994.0	101.0	346.0	189.0	108.0	(BLOB)	Fire may produce irritating or poisonous gases. Flammable/combustible material which may be ignited by heat spark or flame. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors, or in sewer. Runoff to sewer may create fire or explosion hazard. When heated to decomposition, it emits toxic fumes of fluorides. (EPA, 1998)	Wear self-contained, positive- pressure breathing apparatus and full protective clothing. Move containers from fire area if possible. Do not get water inside containers. Spray cooling water on containers that are exposed to flame until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. This material may react violently with water. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
2169	PYRANTEL PAMOATE	(BLOB)	22204-24-6	PHYSICAL DESCRIPTION: Odorless light yellow to tan crystalline powder. Tasteless. Used medicinally against nematodes in animals.	1.0	2.5	5.0	4133.0	407.0	1420.0	729.0	461.0	995.0	101.0	346.0	189.0	108.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2170	PYRENE	BENZO(DEF)PHENANTHRENE|BENZO[D,E,F]PHENANTHRENE|BENZO[DEF]PHENANTHRENE|BETA-PYRENE|PYRENE	129-00-0	Colorless solid, solid and solutions have a slight blue fluorescence. Used in biochemical research. (EPA, 1998)	1.0	2.5	5.0	4136.0	407.0	1420.0	729.0	461.0	996.0	101.0	346.0	189.0	108.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2171	PYRIDINE, 4-NITRO-, 1-OXIDE	4-NITRO- PYRIDINE-N-OXIDE|4-NITROPYRIDINE 1-OXIDE|4-NITROPYRIDINE N-OXIDE|4-NITROPYRIDINE-OXIDE|P-NITROPYRIDINE N-OXIDE|PYRIDINE, 4-NITRO-, 1-OXIDE	1124-33-0	Solid. (EPA, 1998)	1.0	2.5	5.0	4136.0	407.0	1420.0	729.0	461.0	996.0	101.0	346.0	189.0	108.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2167	P-TOLUNITRILE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	In moist air forms dense white fumes pungent, corrosive to skin, avoid inhalation [Merck 11th ed. 1989]. Reacts in water.	A very corrosive, moisture-sensitive liquid, when heated to decomposition it emits toxic fumes of fluoride and oxides of boron [Lewis, 3rd ed., 1993, p. 189].	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2168	PUROMYCIN DIHYDROCHLORIDE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. In moist air forms dense white pungent fumes, corrosive to skin, avoid inhalation [Merck 11th ed. 1989]. Upon exposure to water may emit flammable and corrosive vapors.	BORON TRIFLUORIDE DIMETHYL ETHERATE is a flammable, corrosive, and toxic liquid, moisture-sensitive. Emits toxic fluoride fumes when heated to decomposition [Lewis, 3rd ed., 1993, p. 189].	Highly Flammable; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2169	PYRANTEL PAMOATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	1	2		(NFPA, 2010)		230																		
2170	PYRENE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	In moist air forms dense white fumes pungent, corrosive to skin, avoid inhalation [Merck 11th ed. 1989].	BORON TRIFLUORIDE is a colorless, strongly irritating, liquid. Upon contact with water, steam or when heated to decomposition, it will produce toxic fluoride fumes. Incompatible with alkyl nitrates, calcium oxide. Reaction with alkali metals or alkaline earth metals (except magnesium) will cause incandescence [Bretherick, 5th ed., 1995, p. 65].	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2171	PYRIDINE, 4-NITRO-, 1-OXIDE			No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]								0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2167	P-TOLUNITRILE																																									Corrosive	C2H3BF3O2.H	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	14.0	3.0	3.0
2168	PUROMYCIN DIHYDROCHLORIDE																				(EPA, 1998)		258.8		760		(EPA, 1998)		113.89													Dangerous When Wet|Corrosive|Flammable Liquid	C2H6O.BF3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	6.0	0.0	12.0	3.0	3.0
2169	PYRANTEL PAMOATE																																								Poison	C5H7NO2		8.0	0.0	18.0	3.0	3.0
2170	PYRENE																																								Corrosive	BF3.2H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	7.0	0.0	12.0	3.0	3.0
2171	PYRIDINE, 4-NITRO-, 1-OXIDE																																									C9H12BrN2O2.Li	Dirt/Earth	9.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2172	PYRILAMINE MALEATE	AH|ANISOPYRADAMINE|ANTHISAN MALEATE|ANTIHIST|DIAMINIDE MALEATE|2-((2-(DIMETHYLAMINO)ETHYL)(P-METHOXYBENZYL)AMINO) PYRIDINE BIMALEATE|2-((2-(DIMETHYLAMINO)ETHYL)(P-METHOXYBENZYL)AMINO) PYRIDINE MALEATE|2-[[2-(DIMETHYLAMINO)ETHYL](P-METHOXYBENZYL)AMINO] PYRIDINE BIMALEATE|2-[(2-DIMETHYLAMINOETHYL)(P-METHOXYBENZYL)AMINO]-PYRIDINE MALEATE|1,2-ETHANEDIAMINE, N-[(4-METHOXYPHENYL)METHYL]-N',N'-DIMETHYL-N-2-PYRIDINYL-, (Z)-2-BUTENEDIOATE (1:1)|HISTATEX|MEPYRAMINE HYDROGEN MALEINATE|MEPYRAMINE MALEATE|MINIHIST|N-DIMETHYLAMINOETHYL-N-BW 50-63|CD|CHLORIDIN|CHLORIDINE|CHLORIDYN|5-(4'-CHLOROPHENYL)-2,4-DIAMINO-6-ETHYLPYRIMIDINE|5-(4-CHLOROPHENYL)-2,4-DIAMINO-6-ETHYLPYRIMIDINE|5-(4-CHLOROPHENYL)-6-ETHYL-2,4-PYRIMIDINEDIAMINE|DARACHLOR|DARACLOR|DARAPRAM|DARAPRIM|DARAPRIME|2,4-DIAMINO-5-(4-CHLOROPHENYL)-6-ETHYLPYRIMIDINE|2,4-DIAMINO-5-P-CHLOROPHENYL-6-ETHYLPYRIMIDINE|DIAMINOPYRITAMIN|ERBAPRELINA|KHLORIDIN|MALACID|MALOCID|MALOCIDE|MALOPRIM|NCI-C01683|NSC 3061|5-(P-CHLOROPHENYL)-6-ETHYL-2,4-DIAMINOPYRIMIDINE|5-(P-CHLOROPHENYL)-6-ETHYL-2,4-PYRIMIDINEDIAMINE|PIRIM	59-33-6	White crystals or powder. Melting point 100-101Â°C. Bitter saline taste. An antihistamine.	1.0	2.5	5.0	4136.0	407.0	1420.0	729.0	461.0	996.0	101.0	346.0	189.0	108.0	INHALATION: Remove victim to fresh air; if breathing stops, apply artificial respiration and administer oxygen. SKIN OR EYE CONTACT: Remove contaminated clothing and gently flush affected areas with water for at least 15 minutes; call a physician. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective against fire Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)
2173	PYRIMETHAMINE		58-14-0	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Tasteless. An antimalarial drug.	1.0	2.5	5.0	4136.0	407.0	1420.0	729.0	461.0	996.0	101.0	346.0	189.0	108.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2174	PYROGALLIC ACID	1,2,3-BENZENETRIOL|C.I. 76515|C.I. OXIDATION BASE 32|2,3-DIHYDROXYPHENOL|FOURAMINE BASE AP|FOURAMINE BROWN AP|FOURRINE 85|FOURRINE PG|PYROGALLIC ACID|PYROGALLOL|1,2,3-TRIHYDROXYBENZENE	87-66-1	Odorless white to gray solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4136.0	407.0	1420.0	729.0	461.0	996.0	101.0	346.0	189.0	108.0	(BLOB)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution water may cause pollution. When heated to decomposition, it emits toxic fumes of bromine containing compounds. (EPA, 1998)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. (Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Small fires: dry chemicals, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
2175	QUINALDINE	ALPHA-METHYLQUINOLINE|CHINALDINE|KHINALDIN|2-METHYLQUINOLINE|QUINALDINE|QUINELINE, 2-METHYL	91-63-4	A colorless oily liquid darkening to red-brown on exposure to air. Flash point 175Â°F. Denser than water and slightly soluble in water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used to make dyes, pharmaceuticals and other chemicals.	2.5	5.0	2.5	4139.0	407.0	1420.0	729.0	461.0	997.0	101.0	346.0	189.0	108.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
2176	REFRIGERANT GAS R-14, COMPRESSED	ARCTON 0|CARBON FLUORIDE (CF4)|CARBON TETRAFLUORIDE|CARBON TETRAFLUORIDE (CF4)|CFC 14|FC 14|FREON 14|FREON R 14|KHLADON 14|PERFLUOROMETHANE|R 14|R 14 (REFRIGERANT)|REFRIGERANT 14|REFRIGERANT GAS R-14, COMPRESSED|REFRIGERANT R 14|TETRAFLUOROMETHANE|TETRAFLUOROMETHANE, COMPRESSED	75-73-0	Tetrafluoromethane is a colorless nonflammable gas. It is shipped as a liquid under pressure. It may be narcotic at high concentrations. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. It is used as a refrigerant.	5.0	1.0	1.0	4142.0	407.0	1420.0	729.0	461.0	998.0	101.0	346.0	189.0	108.0	(BLOB)	Literature sources indicate that this compound is not flammable. (NTP, 1992)	Fire Extinguishing Agents: Water (USCG, 1999)
2177	RESERPINE	(BLOB)	50-55-5	PHYSICAL DESCRIPTION: White or cream to slightly yellow crystals or crystalline powder. Odorless with a bitter taste. (NTP, 1992)	1.0	2.5	5.0	4142.0	407.0	1420.0	729.0	461.0	998.0	101.0	346.0	189.0	108.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2172	PYRILAMINE MALEATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Hydrocarbon vapor canister, supplied-air or hose mask, hydrocarbon-insoluble rubber or plastic gloves, chemical goggles or face splash shield, hydrocarbon-insoluble rubber or plastic apron. (USCG, 1999)	Highly flammable.	ETHYL CYCLOHEXANE may be incompatible with strong oxidizing agents such as nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		95		(USCG, 1999)		0.9		%	(USCG, 1999)		6.6		%	(USCG, 1999)		460		(USCG, 1999)		-168	
2173	PYRIMETHAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble. Slowly decomposes in water to form carbon disulfide and propyl amine. Such decompositions are accelerated by acids.	ETHYL DIPROPYLTHIOCARBAMATE may generate flammable gases with aldehydes, nitrides, and hydrides. Incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2174	PYROGALLIC ACID	(Non-Specific -- Coumarin Derivative, Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		392 to 410
2175	QUINALDINE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	RHODIUM FUME is flammable. Acts as a reducing agent. Reacts violently with BrF5, ClF3 and OF2. Reacts with fluorine, with chlorine (when heated), hydrogen peroxide, sulfur dioxide (when heated), and nitrogen dioxide. Also incompatible with Zn. May catalyze reactions between other materials. Reactivity may be altered by the presence of insoluble rhodium compounds depending on the specific compounds and their proportions in the mixture.	Highly Flammable; Strong Reducing Agent; Known Catalytic Activity	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		3571	
2176	REFRIGERANT GAS R-14, COMPRESSED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Respirator, gloves, glasses and protective clothing. (USCG, 1999)	Insoluble in water	ZINC POTASSIUM CHROMATE is an oxidizing agent.	Strong Oxidizing Agent						0																							
2177	RESERPINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly oxidized in air	ETHYL LINOLENATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is sensitive to light. This chemical is incompatible with strong oxidizers, strong acids and strong bases. (NTP, 1992)						0		(NTP, 1992)		greater than 235																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2172	PYRILAMINE MALEATE	(USCG, 1999)		31.02				mm Hg							(USCG, 1999)		0.788		68		(USCG, 1999)		269		760		(USCG, 1999)		112.22											ECY	Flammable Liquid	C8H16		7.0	0.0	18.0	3.0	3.0
2173	PYRIMETHAMINE	(NTP, 1992)		0.034		95		mm Hg							(NTP, 1992)		0.955				(NTP, 1992)		261		20		(NTP, 1992)		189.35						(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL		Poison	C9H19NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	15.0	3.0	3.0
2174	PYROGALLIC ACID																										(EPA, 1998)		527.44											Poison	C30H23BrO4	Cellulose-Based Absorbents	9.0	0.0	27.0	3.0	3.0
2175	QUINALDINE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(metal)	12.41				(NIOSH, 2003)		6741		760		(NIOSH, 2003)		102.9		(NIOSH, 2003)	(as Rh)	100	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	Rh (metal)		7.0	0.0	21.0	3.0	3.0
2176	REFRIGERANT GAS R-14, COMPRESSED														(USCG, 1999)			3.40 to 3.60									(NTP, 1992)		418.85		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	ZPC		3ZnCrO4 K2CrO4. Zn(OH)2. 2H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	14.0	3.0	3.0
2177	RESERPINE														(NTP, 1992)		0.8919		77		(NTP, 1992)		424		15		(NTP, 1992)		306.49												C20H34O2	Dirt/Earth	7.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2178	RHEIN	2-ANTHRAQUINONECARBOXYLIC ACID, 4,5-DIHYDROXY-|2-ANTHROIC ACID, 9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO-|CASSIC ACID|CHRYSAZIN-3-CARBOXYLIC ACID|9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO-2-ANTHRACENECARBOXYLIC ACID|9,10-DIHYDRO-4,5-DIHYDROXY-9,10-DIOXO-2-ANTHROIC ACID|4,5-DIHYDROXY-2-ANTHRAQUINONECARBOXYLIC ACID|1,8-DIHYDROXY-3-CARBOXYANTHRAQUINONE|1,8-DIHYDROXYANTHRAQUINONE-3-CARBOXYLIC ACID|MONORHEIN|RHEIC ACID|RHEIN|RHUBARB YELLOW	478-43-3	PHYSICAL DESCRIPTION: Yellow needles (from methanol) or yellow-brown powder. (NTP, 1992)	1.0	2.5	5.0	4145.0	407.0	1420.0	729.0	461.0	999.0	101.0	346.0	189.0	108.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2179	RHODANINE	4-OXO-2-THIAZOLIDINETHIONE|4-OXO-2-THIONOTHIAZOLIDINE|4-OXO-2-THIOXOTHIAZOLIDINE|RHODANIC ACID|RHODANINE|RHODANINIC ACID|4-THIAZOLIDINONE-2-THIONE|2-THIO-2,4-THIAZOLIDINEDIONE|2-THIO-4-KETOTHIAZOLIDINE|2-THIOXO-4-THIAZOLIDINONE|USAF HA-2	141-84-4	Light yellow crystals. Density 0.868 g / cm3. Melting point 168.5Â°C. May explode on rapid heating.	1.0	2.5	5.0	4148.0	407.0	1420.0	729.0	461.0	1000.0	101.0	346.0	189.0	108.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2180	SALICYLALDEHYDE	2-FORMYLPHENOL|O-HYDROXYBENZALDEHYDE|SALICYLAL|SALICYLALDEHYDE|SALICYLIC ALDEHYDE	90-02-8	Liquid; colorless or pale yellow; bitter almond odor. Sinks and mixes slowly in water. (USCG, 1999)	2.5	5.0	2.5	4151.0	407.0	1420.0	729.0	461.0	1001.0	101.0	346.0	189.0	108.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2181	SEBACIC ACID	DECANEDIOC ACID|1,10-DECANEDIOIC ACID|N-DECANEDIOIC ACID|1,8-OCTANEDCARBOXYLIC ACID|1,8-OCTANEDICARBOXYLIC ACID|SEBACIC ACID|USAF HC-1	111-20-6	PHYSICAL DESCRIPTION: White granular powder. Melting point 153Â°F. Slightly soluble in water. Sublimes slowly at 750 mm Hg when heated to melting point.	1.0	2.5	5.0	4154.0	407.0	1423.0	729.0	461.0	1002.0	101.0	347.0	189.0	108.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2182	SEC-BUTYL ACETATE	ACETIC ACID, SEC-BUTYL ESTER|1-METHYLPROPYL ACETATE|SEC-BUTYL ACETATE|SEC-BUTYL ESTER OF ACETIC ACID	105-46-4	Watery colorless liquid with a pleasant, fruity odor. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	4154.0	407.0	1423.0	729.0	461.0	1002.0	101.0	347.0	189.0	108.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2178	RHEIN	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent [Hawley]. Water soluble.	(BLOB)		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2179	RHODANINE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	(BLOB)		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2180	SALICYLALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Extremely hygroscopic. Absorbs carbon dioxide from the air. May generate sufficient heat when dissolved in water to cause the solution to boil.	A strong base. Forms caustic solution in water with heat generation [Merck 11th ed. 1989]. May generate sufficient heat when dissolved in water to cause the solution to boil.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2181	SEBACIC ACID	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	BROMOFLUOROBENZENE may be incompatible with strong oxidizing and reducing agents. May be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2182	SEC-BUTYL ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water.	An amide. Acid to litmus. pH of 0.35% aqueous solution: 2.0. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																								(NTP, 1992)	(decomposes)	444	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2178	RHEIN																																									Corrosive	C2H3BrO2		7.0	0.0	14.0	3.0	3.0
2179	RHODANINE																																									Corrosive	C2H3BrO2 (aqueous)		8.0	0.0	11.0	3.0	3.0
2180	SALICYLALDEHYDE																																								Corrosive	HORb	Cellulose-Based Absorbents;Mineral-Based & Clay-Based Absorbents	9.0	0.0	26.0	3.0	3.0
2181	SEBACIC ACID																																								Flammable Liquid	C6H4BrF		9.0	0.0	31.0	3.0	3.0
2182	SEC-BUTYL ACETATE															(NTP, 1992)		0.828			(NTP, 1992)	Sublimes						(NTP, 1992)		183.19					(NTP, 1992)	at 75Â° F		greater than or equal to 100	mg/mL			C7H5NO3S		7.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2183	SELENIC ACID	SELENIC ACID|SELENIC ACID, LIQUID	7783-08-6	A white crystalline solid. Very corrosive to skin, eyes and mucous membranes. Corrosive to metal. Toxic by skin absorption and by ingestion.	1.0	2.5	5.0	4154.0	407.0	1423.0	729.0	461.0	1002.0	101.0	347.0	189.0	108.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2184	SELENIOUS ACID	MONOHYDRATED SELENIUM DIOXIDE|MONOHYDRATED SELENUIM DIOXIDE|SELENIOUS ACID|SELENIOUS ACID (H2SEO3)|SELENOUS ACID	7783-00-8	Colorless solid, transparent, colorless crystals. Used as a reagent for alkaloids and as an oxidizing agent. Isotope is used in labeling radiopharmaceuticals. (EPA, 1998)	1.0	2.5	5.0	4154.0	407.0	1423.0	729.0	461.0	1002.0	101.0	347.0	189.0	108.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
2185	SELENIUM DISULFIDE	EXSEL|NCI-C50033|NCI-C54546|SEL-O-RINSE|SELENEX|SELENIUM (IV) DISULFIDE (1:2)|SELENIUM DISULFIDE|SELENIUM DISULPHIDE|SELENIUM SULFIDE|SELSUN|SELSUN BLUE	7488-56-4	Selenium disulfide is a bright orange colored powder. It is insoluble in water. It is toxic by ingestion and inhalation, and is irritating to skin and eyes. It is used to make medicated shampoos.	1.0	2.5	5.0	4154.0	407.0	1423.0	735.0	461.0	1002.0	101.0	347.0	191.0	108.0	(BLOB)	Flash point data for this chemical are not available. It is probably flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2186	SENNA (POWDERED)	CASSIA/GROUND SENNA PODS|CASSIA|SENNA|SENNA (CASSIA)|SENNA (POWDERED)|SENNAE FOLIUM|SENOKOT	8013-11-4	PHYSICAL DESCRIPTION: Yellow-brown powder with a slight odor and taste. (NTP, 1992)	1.0	2.5	5.0	4154.0	407.0	1426.0	735.0	461.0	1002.0	101.0	348.0	191.0	108.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2187	SILICON TETRACHLORIDE	PERCHLOROSILANE|SILICON CHLORIDE|SILICON CHLORIDE (SICL4)|SILICON TETRACHLORIDE|TETRACHLOROSILANE|TETRACHLOROSILICON	10026-04-7	Silicon tetrachloride is a colorless, fuming liquid with a pungent odor. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue in the presence of moisture. It is used in smoke screens, to make various silicon containing chemicals, and in chemical analysis.	2.5	5.0	2.5	4154.0	407.0	1426.0	735.0	461.0	1002.0	101.0	348.0	191.0	108.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2188	SILICON TETRAFLUORIDE	PERFLUOROSILANE|SILICON FLUORIDE|SILICON FLUORIDE (SIF4)|SILICON TETRAFLUORIDE|SILICON TETRAFLUORIDE, COMPRESSED|TETRAFLUOROSILANE	7783-61-1	A colorless, nonflammable, corrosive and toxic gas with a pungent odor similar to that of hydrochloric acid. Very toxic by inhalation. Vapor is heavier than air. Under prolonged exposure to heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4154.0	407.0	1426.0	735.0	461.0	1002.0	101.0	348.0	191.0	108.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2183	SELENIC ACID	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.							0																						
2184	SELENIOUS ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.					0		(NTP, 1992)		235																			
2185	SELENIUM DISULFIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Insoluble in water.	BROMOPICRIN decomposes with explosive violence if heated rapidly. Incompatible with oxidizing agents. (NTP, 1992)	Explosive						0																		(NTP, 1992)		50.4	
2186	SENNA (POWDERED)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Not soluble in water.	BUTANE is incompatible with strong oxidizing agents such as nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. Not affected by aqueous solutions of nonoxidizing acids, by alkalis, most oxidizing agents, and most reducing agents. When ignited or heated sufficiently in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4																						
2187	SILICON TETRACHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Water soluble.	SARCOSINE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical is incompatible with acids. (NTP, 1992).					0																						(NTP, 1992)	(Decomposes)	406	
2188	SILICON TETRAFLUORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Aromatic nitro compounds, such as TRINITRORESORCINOL, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2183	SELENIC ACID																									(NTP, 1992)		329.41															C22H19NO2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	14.0	3.0	3.0
2184	SELENIOUS ACID														(NTP, 1992)		1.055		77		(NTP, 1992)	(decomposes)		500 to 518	760		(NTP, 1992)		174.2						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C11H10O2	Dirt/Earth	9.0	0.0	22.0	3.0	3.0
2185	SELENIUM DISULFIDE	(NTP, 1992)		15		187		mm Hg							(NTP, 1992)		2.793		68		(NTP, 1992)			192 to 194	20		(NTP, 1992)		297.75						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			CBr3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	11.0	3.0	3.0
2186	SENNA (POWDERED)																																								Flammable Gas	C4H10		6.0	0.0	14.0	3.0	3.0
2187	SILICON TETRACHLORIDE																									(NTP, 1992)		89.09						(NTP, 1992)	at 61Â° F		greater than or equal to 100	mg/mL			C3H7NO2		7.0	0.0	24.0	3.0	3.0
2188	SILICON TETRAFLUORIDE																																								Explosive 1.1D	C6H3N3O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2189	SILVER FLUORIDE	ARGENTOUS FLUORIDE|SILVER FLUORIDE|SILVER MONOFLUORIDE	7775-41-9	Odorless yellow to gray solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4154.0	407.0	1426.0	735.0	461.0	1002.0	101.0	348.0	191.0	108.0	(BLOB)	Special Hazards of Combustion Products: May produce phosgene gas in fire (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2190	SIMAZINE	A 2079|AKTINIT S|AQUAZINE|AZOTOP|BATAZINA|BATAZINA FLO|4,6-BIS(ETHYLAMINO)-2-CHLOROTRIAZINE|2,4-BIS(ETHYLAMINO)-6-CHLORO-S-TRIAZINE|BITEMOL|BITEMOL S 50|CAT|CAT (PESTICIDE)|CAT|HERBICIDE)|CDT|CEKUSAN|CEKUZINAS|CET|1-CHLORO,3,5-BIS|ETHYLAMINO-2,4,6-TRIAZINE|2-CHLORO-4,6-BIS(ETHYLAMINO)-1,3,5-TRIAZINE|2-CHLORO-4,6-BIS(ETHYLAMINO)-S-TRIAZINE|FRAMED|G 27692|GEIGY 27,692|GESARAN|GESATOP|GESATOP 50|GESATOP D|H 1803|HERBATOXOL S|HERBAZIN|HERBAZIN 50|HERBEX|HERBEX (PESTICIDE)|HERBOXY|HUNGAZIN DT|PERMAZINE|PREMAZINE|PRIMATOL S|PRINCEP|PRINTOP|RADOC	122-34-9	White to off-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4157.0	407.0	1426.0	735.0	461.0	1003.0	101.0	348.0	191.0	108.0	INHALATION: remove victim from exposure; if his breathing has stopped, start artificial respiration, call a doctor. EYES: flush with water for at least 15 min.; get medical attention for burns. SKIN: flush with water; get medical attention for burns. INGESTION: do NOT induce vomiting; give large amounts of water, followed by milk or milk of magnesia. (USCG, 1999)	Special Hazards of Combustion Products: Irritating fumes of hydrogen chloride and phosphoric acid may be formed. Behavior in Fire: Contact with water applied to adjacent fires produces irritating fumes of hydrogen chloride. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2191	SODA LIME, WITH MORE THAN 4% SODIUM HYDROXIDE	SODA LIME|SODA LIME, WITH MORE THAN 4% SODIUM HYDROXIDE|SODA LIME, [SOLID]|SODASORB|SODASORB HP|SODIUM HYDROXIDE, MIXT. WITH LIME|SOFNOLIME	8006-28-8	Soda lime, solid is generally a white to grayish white colored solid. It is the mixture of calcium hydroxide and sodium or potassium hydroxide, both corrosive materials. It is noncombustible and soluble in water with release of heat. It is corrosive to metals and tissue.	1.0	2.5	5.0	4160.0	407.0	1429.0	735.0	461.0	1004.0	101.0	349.0	191.0	108.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2192	SODIUM 2-MERCAPTOBENZOTHIAZOL SOLUTION	BENZOTHIAZOLE, 2-MERCAPTO-, SODIUM DERIV.|2-BENZOTHIAZOLETHIOL SODIUM SALT|2-BENZOTHIAZOLETHIOL, SODIUM DERIV.|2-BENZOTHIAZOLETHIOL, SODIUM SALT|DUODEX|2(3H)-BENZOTHIAZOLETHIONE, SODIUM SALT|2-(3H)-BENZOTHIAZOLETHIONE, SODIUM SALT|2-MERCAPTO-BENZOTHIAZOLE, SODIUM DERIV.|2-MERCAPTO-BENZOTHIAZOLE, SODIUM|MERCAPTOBENZOTHIAZOLE SODIUM SALT|2-MERCAPTOBENZOTHIAZOLE SODIUM SALT|2-MERCAPTOBENZOTHIAZOLE, SODIUM SALT|NACAP|SODIUM 2-BENZOTHIAZOLETHIOATE|SODIUM 2-BENZOTHIAZOLETHIOLATE|SODIUM 2-MERCAPTOBENZOTHIAZOL	2492-26-4	An amber liquid with an odor of old rubber. A 50% aqueous solution. Denser than water. (USCG, 1999)	2.5	5.0	2.5	4160.0	407.0	1429.0	735.0	461.0	1004.0	101.0	349.0	191.0	108.0	(BLOB)	Non-flammable. Acidic conditions produce hydrogen fluoride; alkaline conditions produce isopropyl alcohol and polymers. When heated to decomposition or reacted with steam, it emits very toxic fumes of fluorides and oxides of phosphorus. Slightly corrosive to steel. Hydrolyzed by water. (EPA, 1998)	Protective clothing and respiratory protection. Extinguish with foam, carbon dioxide, and dry chemical (EPA, 1998)
2193	SODIUM AMIDE	SODAMIDE|SODIUM AMIDE	7782-92-5	Odorless colorless solid. Denser than water.	1.0	2.5	5.0	4160.0	407.0	1429.0	735.0	461.0	1004.0	101.0	349.0	191.0	108.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2189	SILVER FLUORIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical safety goggles, rubber gloves, other protective clothing. (USCG, 1999)	Highly flammable. May react with atmospheric moisture over prolonged periods of exposure. Slighlty soluble in water.	BUTYL CHLORIDE is incompatible with oxidizing agents and strong bases. Reacts with aluminum powder, magnesium, liquid oxygen, potassium and sodium (NTP, 1992). Emits phosgene gas when heated to decomposition. May be sensitive to heat.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		20		(NTP, 1992)		1.8		%	(NTP, 1992)		10.1		%	(USCG, 1999)		860		(NTP, 1992)		-189.6	
2190	SIMAZINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles and face shield; self-contained or air-line respirator; rubber gloves, boots, and clothing. (USCG, 1999)	Reacts with water to form hydrogen chloride(hydrochloric acid)	Organophosphates, such as ETHYL PHOSPHORODICHLORIDATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4	3	2	5																								
2191	SODA LIME, WITH MORE THAN 4% SODIUM HYDROXIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	BUTYL NITRITE is an oxidizing agent but can serve as a reducing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides, nitrides, ammonium salts, cyanides, and many fuels.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	0	0																								
2192	SODIUM 2-MERCAPTOBENZOTHIAZOL SOLUTION	Rapidly hydrolyzed by dilute aqueous sodium hydroxide or sodium carbonate forming relatively non-toxic products. Water alone removes the fluorine atom producing a non-toxic acid. Decontaminants include bleach slurry, dilute alkali, hot soapy water, steam and ammonia. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzed by water to form hydrogen fluoride and the nontoxic phosphonic acid derivative. It is rapidly hydrolyzed by dilute aqueous sodium hydroxide [Merck 11th ed. 1989].	Acidic conditions produce hydrogen fluoride; alkaline conditions produce isopropyl alcohol and polymers. When heated to decomposition or reacted with steam, it emits very toxic fumes of fluorides and oxides of phosphorus. Slightly corrosive to steel. Hydrolyzed by water [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2	0	0	0		(EPA, 1998)	Non-flammable															(EPA, 1998)		-71	
2193	SODIUM AMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it at ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BUTYLATED HYDROXYANISOLE degrades with prolonged exposure to sunlight. Exhibits antioxidant properties and synergism with acids, BHT, propyl gallate, hydroquinone, methionine, lecithin and thiodipropionic acid. It exhibits antioxidant properties as a scavenger of free radicals. It is incompatible with oxidizing agents and ferric salts. (NTP, 1992)			3	0	2	2		(NTP, 1992)		313														(NTP, 1992)		118 to 131	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2189	SILVER FLUORIDE	(NTP, 1992)	; 80.1 mm Hg at 68Â° F	40		41		mm Hg	(NTP, 1992)		3.2				(USCG, 1999)		0.8862		68		(NTP, 1992)		173.3		760		(NTP, 1992)		92.57						(NTP, 1992)	at 59Â° F		less than 1	mg/mL	BYC	Flammable Liquid	C4H9Cl		7.0	0.0	12.0	3.0	3.0
2190	SIMAZINE														(USCG, 1999)		1.35		66.2		(USCG, 1999)		333		760		(USCG, 1999)		162.9											EPP	Poison Inhalation Hazard|Corrosive	C2H5Cl2O2P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	14.0	3.0	3.0
2191	SODA LIME, WITH MORE THAN 4% SODIUM HYDROXIDE																																							Flammable Liquid	C4H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	16.0	3.0	3.0
2192	SODIUM 2-MERCAPTOBENZOTHIAZOL SOLUTION	(EPA, 1998)		2.9		77		mm Hg	(EPA, 1998)		4.86				(EPA, 1998)		1.1		68		(EPA, 1998)		297		760		(EPA, 1998)		140.11											Poison	C4H10FO2P		8.0	0.0	14.0	3.0	3.0
2193	SODIUM AMIDE																				(NTP, 1992)			507 to 518	733		(NTP, 1992)		180.27						(NTP, 1992)	at 65.3Â° F		less than 1	mg/mL			C11H16O2		6.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2194	SODIUM ASCORBATE	ASCORBIC ACID SODIUM DERIVATIVE|ASCORBIC ACID SODIUM SALT|ASCORBIC ACID, SODIUM DERIV.|ASCORBICIN|ASCORBIN|ASK-P 10KR|CEBITATE|CENOLATE|HBL 508|ISKIA-C|L-ASCORBIC ACID MONOSODIUM SALT|L-ASCORBIC ACID SODIUM SALT|MONOSODIUM ASCORBATE|NATRASCORB|NATRI-C|3-OXO-L-GULOFURANOL-LACTONE SODIUM|SODASCORBATE|SODIUM ASCORBATE|SODIUM L-ASCORBATE|VITAMIN C|VITAMIN C SODIUM	134-03-2	PHYSICAL DESCRIPTION: Minute crystals or white powder. pH of aqueous solutions 5.6 to 7.0 or even higher (a 10% solution, made from a commercial grade, may have a pH of 7.4 to 7.7). (NTP, 1992)	1.0	2.5	5.0	4160.0	407.0	1429.0	735.0	461.0	1004.0	101.0	349.0	191.0	108.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2195	SODIUM AZIDE	AZIDE|AZIUM|HYDRAZOIC ACID, SODIUM SALT|KAZOE|NCI-C06462|NEMAZYD|NSC 3072|SMITE|SODIUM AZIDE|SODIUM AZIDE (NA(N3))|SODIUM AZIDE(NA(N3))|SODIUM SALT OF HYDRAZOIC ACID|U-3886	26628-22-8	A colorless crystalline solid. Density 1.85 g / cm3. Burns in air and may explode if large quantities are involved. Toxic by ingestion. Toxic oxides of nitrogen are produced in fires.	1.0	2.5	5.0	4160.0	407.0	1432.0	735.0	461.0	1004.0	101.0	350.0	191.0	108.0	INHALATION: Call for medical aid. Remove the victim to fresh air. Give artificial respiration, if not breathing. Give oxygen if breathing difficult. INGESTION: Do not induce vomiting. If spontaneous vomiting occurs keep victim's head below his hips to prevent his breathing the vomit. EYES: Flush with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with plenty of soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water spray, dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)
2196	SODIUM CHLOROACETATE	CHLOROACETIC ACID SODIUM SALT|MONOCHLOROACETIC ACID SODIUM SALT|SMA|SMA (HERBICIDE)|SODIUM 2-CHLOROACETATE|SODIUM ALPHA-CHLOROACETATE|SODIUM CHLOROACETATE|SODIUM CHLOROETHANOATE|SODIUM MONOCHLOROACETATE	3926-62-3	Sodium chloroacetate is a white colored powdered solid. It is soluble in water. It may be toxic ingestion or inhalation. It is used to make weed killers, dyes and pharmaceuticals.	1.0	2.5	5.0	4163.0	407.0	1432.0	735.0	461.0	1005.0	101.0	350.0	191.0	108.0	Get medical attention following all exposures to this compound. INHALATION: remove to fresh air; give artificial respiration if required. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give large amounts of water, followed by milk or milk of magnesia. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene gases may be formed. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires produces irritating hydrogen chloride fumes and flammable hydrogen gas. (USCG, 1999)	(BLOB)
2197	SODIUM CYCLAMATE	ASSUGRIN|ASSURGRIN FEINSUSS|ASSURGRIN VOLLSUSS|ASUGRYN|CYCLAMATE|CYCLAMATE SODIUM|CYCLAMATE, SODIUM SALT|CYCLAMIC ACID SODIUM SALT|CYCLOHEXANESULFAMIC ACID, MONOSODIUM SALT|CYCLOHEXANESULPHAMIC ACID, MONOSODIUM SALT|CYCLOHEXYLSULFAMATE SODIUM|CYCLOHEXYLSULFAMIC ACID SODIUM SALT|CYCLOHEXYLSULPHAMATE SODIUM|CYCLOHEXYLSULPHAMIC ACID, MONOSODIUM SALT|DULZOR-ETAS|HACHI-SUGAR|IBIOSUC|N-CYCLOHEXYLSULFAMIC ACID SODIUM SALT|NATREEN|SODIUM CYCLAMATE|SODIUM CYCLOHEXANESULFAMATE|SODIUM CYCLOHEXANESULPHAMA	139-05-9	PHYSICAL DESCRIPTION: Odorless or almost odorless white crystals or crystalline powder. Intensely sweet taste, even in dilute solution. pH (10% solution in water): 5.5-7.5. Used as a non-nutritive sweetener.	1.0	2.5	5.0	4166.0	410.0	1432.0	738.0	464.0	1006.0	102.0	350.0	192.0	109.0	(BLOB)	Its decomposition products will react with water or steam to produce toxic and corrosive fumes of phosgene and hydrogen chloride. Vapors are heavier than air and may flash back to a source of ignition. (EPA, 1998)	Do not breathe fumes from burning material. Air purifying respirator or self-contained breathing apparatus, coat, pants, gloves, and boots should be worn. No skin surface should be exposed. Bands around legs, arm and waist should be provided. Water spray may be used to extinguish the fire because the material can be cooled below its flash point. Alcohol foam, carbon dioxide, and dry chemical may be used. (EPA, 1998)
2198	SODIUM ERYTHORBATE	ARABOASCORBIC ACID, MONOSODIUM SALT, D-|D-ERYTHRO-HEX-2-ENONIC ACID, GAMMA-LACTONE, MONOSODIUM SALT|ERIBATE N|ERYTHORBIC ACID SODIUM SALT|ISOASCORBIC ACID, SODIUM SALT|ISONA|MERCATE 20N|NEO-CEBITATE|OZOBAN|SODIUM D-ISOASCORBATE|SODIUM ERYTHORBATE|SODIUM ISOASCORBATE	6381-77-7	PHYSICAL DESCRIPTION: Almost odorless fluffy, white to off-white crystalline powder. Used as an antioxidant and preservative.	1.0	2.5	5.0	4169.0	410.0	1432.0	738.0	464.0	1007.0	102.0	350.0	192.0	109.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2194	SODIUM ASCORBATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Peroxides, such as ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1	0	0	0																								
2195	SODIUM AZIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber boots, rubber gloves, rubber apron, and self-contained breathing apparatus or a supplied air respirator. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	ETHYL-3-ETHOXYPROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4	1	3	4		(USCG, 1999)		138							(USCG, 1999)		1.05		%					(USCG, 1999)		-148	
2196	SODIUM CHLOROACETATE	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other equipment as necessary to protect skin and eyes. (USCG, 1999)	Highly flammable. Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides (ClxSiHy) are spontaneously flammable in air [NFPA 1991]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.34 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney. Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as ETHYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1183 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	0	0	No Water	(USCG, 1999)		30		(USCG, 1999)		2.9		%									
2197	SODIUM CYCLAMATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. It is soluble in water.	Mixing ethylene chlorohydrin in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, ethylene diamine, and sodium hydroxide, [NFPA 1991]. Ethylenediamine reacts violently with ethylene chlorohydrin. (Lewis, R.J., Sr. 1992. Sax's Dangerous Properties of Industrial Materials, 8th Edition. New York: Van Nostrand Reinhold. pp. 1554.).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1135 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	0	0		(EPA, 1998)		140		(EPA, 1998)		4.9		%	(EPA, 1998)		15.9		%	(USCG, 1999)		797		(EPA, 1998)		-89.5	
2198	SODIUM ERYTHORBATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Methyl bromide reacts very slowly with water to generate hydrobromic acid and methanol.	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1647 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethylene dibromide, CAS number 106-93-4	3	0	0	0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2194	SODIUM ASCORBATE																																								Organic Peroxide	C14H28O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	28.0	3.0	3.0
2195	SODIUM AZIDE														(USCG, 1999)		0.95				(USCG, 1999)		338		760		(USCG, 1999)		146.21											EEP	Combustible Liquid	C7H14O3		8.0	0.0	35.0	3.0	3.0
2196	SODIUM CHLOROACETATE														(USCG, 1999)		1.092		68		(USCG, 1999)		165		760		(USCG, 1999)		129.1											ECS	Dangerous When Wet(Corrosive|Flammable Liquid	C2H6Cl2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	19.0	3.0	3.0
2197	SODIUM CYCLAMATE	(EPA, 1998)		4.9				mm Hg	(EPA, 1998)		2.78				(EPA, 1998)		1.197				(EPA, 1998)		262		760		(EPA, 1998)		80.52		(NIOSH, 2003)		7	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	ECH	Poison Inhalation Hazard|Flammable Liquid	C2H5ClO	Cellulose-Based Absorbents	8.0	0.0	16.0	3.0	3.0
2198	SODIUM ERYTHORBATE																																							Poison Inhalation Hazard	C2H4Br2 (ethylene dibromide)|CH3Br (methyl bromide)		6.0	0.0	20.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2199	SODIUM FERROCYANIDE	SODIUM FERROCYANIDE	13601-19-9	Odorless yellow solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4172.0	410.0	1432.0	744.0	464.0	1008.0	102.0	350.0	194.0	109.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes of chlorine gas (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2200	SODIUM PERCHLORATE	CPL 46|SODIUM PERCHLORATE	7601-89-0	White crystalline solid. Noncombustible but will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Used in chemical analysis and in explosives.	1.0	2.5	5.0	4172.0	410.0	1435.0	744.0	464.0	1008.0	102.0	351.0	194.0	109.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2201	SODIUM PICRAMATE	2-AMINO-4,6-DINITROPHENOL, SODIUM SALT|SODIUM PICRAMATE|SODIUM PICRAMINATE	831-52-7	A yellow solid. Toxic by inhalation and skin absorption. Primary hazard is fire with either a minor blast or projection hazard or both, but no mass explosion hazard. May explode under prolonged exposure to heat.	1.0	2.5	5.0	4175.0	410.0	1435.0	744.0	464.0	1009.0	102.0	351.0	194.0	109.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2202	SODIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER	PICRAMIC ACID, SODIUM DERIV.|SODIUM 6-AMINO-2,4 DINITROPHENOLATE|SODIUM PICRAMATE|SODIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER|SODIUM PICRAMATE, [WET, WITH >= 20% WATER]|SODIUM, (2-AMINO-4,6-DINITROPHENOXY)-	831-52-7	A slurry of dark red crystals. Highly explosive. Burns vigorously when dry. May explode if in large quantities. Burns when wet, but difficult to ignite. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	4178.0	410.0	1435.0	744.0	464.0	1010.0	102.0	351.0	194.0	109.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2203	SODIUM SELENATE	DISODIUM SELENATE|P-40|SEL-TEX SS02|SEL-TOX SS02 AND SS-20|SELENIC ACID (H2SEO4), DISODIUM SALT|SELENIC ACID(H2SEO4), DISODIUM SALT|SELENIC ACID, DISODIUM SALT|SODIUM SELENATE|SODIUM SELENATE (NA2SEO4)|SODIUM SELENIUM OXIDE|SODIUM SELENIUM OXIDE (NA2SEO4)	13410-01-0	Colorless rhombic crystals. Used as an insecticide in some horticultural applications. (EPA, 1998)	1.0	2.5	5.0	4178.0	410.0	1435.0	744.0	464.0	1010.0	102.0	351.0	194.0	109.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2204	SODIUM VANADATE	MONOSODIUM TRIOXOVANADATE(1-)|NAVO3|SODIUM METAVANADATE|SODIUM METAVANADATE (NAVO3)|SODIUM TRIOXOVANADATE(1-)|SODIUM VANADATE|SODIUM VANADATE (NAVO3)|SODIUM VANADATE(V) (NAVO3)|SODIUM VANADIUM OXIDE (NAVO3)|VANADIC ACID (HVO3), SODIUM SALT|VANADIC ACID, MONOSODIUM SALT	13718-26-8	PHYSICAL DESCRIPTION: Colorless to yellow crystals or cream colored solid. Melting point 630Â°C.	1.0	2.5	5.0	4181.0	410.0	1435.0	744.0	464.0	1011.0	102.0	351.0	194.0	109.0	(BLOB)	(BLOB)	Move container from fire area if you can do so without risk. Stay away from ends of tanks. Fight fire from maximum distance. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1 mile in all directions if tank car or truck is involved in fire. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and full protective clothing. Evacuate area endangered by gas. Extinguish with alcohol foam, carbon dioxide, dry chemical or water spray, fog, or foam. Let burn unless leak can be stopped immediately. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2199	SODIUM FERROCYANIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. (USCG, 1999)	Highly flammable. Fumes in air. Decomposes exothermically in water to give corrosive hydrochloric acid. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.47 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	BUTYRYL CHLORIDE slowly dissolves in water with decomposition and formation of a weakly acidic solution. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2353 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		71													(NTP, 1992)		-128	
2200	SODIUM PERCHLORATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	This chemical is sensitive to air and light. Slightly soluble in water.	ETHYLENE GLYCOL N-BUTYL ETHER may react with bases, aluminum and oxidizing materials. It is liable to form peroxides on exposure to air and light. It attacks some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		141		(NTP, 1992)		1.1		%	(NTP, 1992)		10.6		%	(USCG, 1999)		472		(NTP, 1992)		-94	
2201	SODIUM PICRAMATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very soluble in water.	C.I. BASIC GREEN 4 neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2202	SODIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations.Slightly soluble in water.	C.I. BASIC ORANGE 2 is an azo compound. Toxic gases are formed by mixing compounds containing azo groups with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents. (NTP, 1992)	Explosive						0																						(NTP, 1992)		244 to 245	
2203	SODIUM SELENATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	C.I. BASIC VIOLET 14 neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Easily reduced to colorless leuco-bases (NTP, 1992).					0																						(NTP, 1992)	(decomposes)		greater than 392
2204	SODIUM VANADATE	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Highly flammable. Flammable over a wide vapor-air concentration range. Must be diluted on the order of 24 to 1 with water to lose flammability. Soluble in water.	(BLOB)	Highly Flammable; Explosive; Polymerizable	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1040 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7		(EPA, 1998)		-0.4 to 0		(EPA, 1998)		3		%	(EPA, 1998)		100		%	(USCG, 1999)		804		(EPA, 1998)		-170.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2199	SODIUM FERROCYANIDE	(NTP, 1992)	; 41.7 mm Hg at 77Â° F; 95.2 mm Hg at 108Â° F	18.8		28		mm Hg							(USCG, 1999)		1.0277		68		(NTP, 1992)		216		760		(NTP, 1992)		106.56						(NTP, 1992)	Reaction				BUC	Flammable Liquid|Corrosive	C4H7ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	21.0	3.0	3.0
2200	SODIUM PERCHLORATE	(NTP, 1992)	; 0.88 mm Hg at 77Â° F; 300 mm Hg at 284Â° F	0.76		68		mm Hg	(NTP, 1992)		4.07				(USCG, 1999)		0.902		68		(NTP, 1992)		340		743		(NTP, 1992)		118.18		(NIOSH, 2003)		700	ppm	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	EGM	Flammable Liquid	C6H14O2	Cellulose-Based Absorbents	9.0	0.0	24.0	3.0	3.0
2201	SODIUM PICRAMATE																																								Poison	C23H25ClN2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	15.0	3.0	3.0
2202	SODIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER																											(NTP, 1992)		248.72						(NTP, 1992)	at 73Â° F		1 to 10	mg/mL			C12H12N4.ClH		6.0	0.0	15.0	3.0	3.0
2203	SODIUM SELENATE														(NTP, 1992)		1.22		68								(NTP, 1992)		337.88						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C20H19N3.HCl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	27.0	3.0	3.0
2204	SODIUM VANADATE	(EPA, 1998)		1095		68		mm Hg	(EPA, 1998)		1.49				(EPA, 1998)		0.8222		50		(EPA, 1998)		51.3		760		(EPA, 1998)		44.06		(NIOSH, 2003)	; A potential human carcinogen.	800	ppm	(NTP, 1992)	Miscible				EOX	Poison Gas|Flammable Gas	C2H4O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2205	SORBIC ACID	ALPHA-TRANS-GAMMA-TRANS-SORBIC ACID|(2-BUTENYLIDENE)ACETIC ACID|CROTYLIDENE ACETIC ACID|E 200|2E,4E-HEXADIENOIC ACID|(E,E)-1,3-PENTADIENE-1-CARBOXYLIC ACID|(E,E)-2,4-HEXADIENOIC ACID|HEXADIENIC ACID|HEXADIENOIC ACID|2,4-HEXADIENOIC ACID, (E,E)-|2,4-HEXADIENOIC ACID|PANOSORB|1,3-PENTADIENE-1-CARBOXYLIC ACID|PRESERVASTAT|2-PROPENYLACRYLIC ACID|SORBIC ACID|SORBISTAT|TRANS,TRANS-2,4-HEXADIENOIC ACID|TRANS,TRANS-SORBIC ACID	110-44-1	PHYSICAL DESCRIPTION: White powder or crystals. Melting point 134.5Â°C. Slightly acidic and astringent taste with a faint odor.	1.0	2.5	5.0	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2206	STANNIC CHLORIDE, ANHYDROUS	LIBAVIUS FUMING SPIRIT|STANNIC CHLORIDE|STANNIC CHLORIDE {TIN TETRACHLORIDE}|STANNIC CHLORIDE, ANHYDROUS|STANNIC TETRACHLORIDE|TETRACHLOROSTANNANE|TETRACHLOROTIN|TIN CHLORIDE (SNCL4)|TIN TETRACHLORIDE|TIN TETRACHLORIDE, [ANHYDROUS]|TIN(IV) CHLORIDE|TIN(IV) TETRACHLORIDE	7646-78-8	Stannic chloride, anhydrous is a colorless fuming liquid with a pungent odor. It is soluble in cold water and decomposed by hot water to form hydrochloric acid with the evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2207	STANNIC CHLORIDE, PENTAHYDRATE	STANNIC CHLORIDE {TIN TETRACHLORIDE}|STANNIC CHLORIDE, PENTAHYDRATE|STANNIC TETRACHLORIDE PENTAHYDRATE|TETRACHLOROSTANNANE PENTAHYDRATE|TIN CHLORIDE (SNCL4), PENTAHYDRATE|TIN TETRACHLORIDE PENTAHYDRATE|TIN TETRACHLORIDE, PENTAHYDRATE|TIN TETRACHLORIDE, [HYDRATED]	10026-06-9	Stannic chloride pentahydrate is a white colored solid. It is soluble in water. It is toxic by ingestion, inhalation and skin absorption. It is used to make perfumes and dyes.	1.0	2.5	5.0	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2208	STANNOUS FLUORIDE	FLUORISTAN|STANNOUS FLUORIDE|TIN DIFLUORIDE	7783-47-3	White crystalline solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	(BLOB)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2209	STREPTOMYCIN SULFATE (2:3) (SALT)	AGRI-MYCIN|AGRI-STREP|AGRIMYCIN 17|AGRISTREP|AMBISTRYNS|AS-15|PHYTOMYCIN|STREPGRAN|STREPCIN|STREPTOBRETTIN|STREPTOMYCIN A SULFATE|STREPTOMYCIN SESQUISULFATE|STREPTOMYCIN SESQUISULPHATE|STREPTOMYCIN SULFATE|STREPTOMYCIN SULFATE (2:3) (SALT)|STREPTOMYCIN SULFATE B.P.|STREPTOMYCIN SULPHATE|STREPTOMYCIN, SULFATE (2:3) (SALT)|STREPTONEX|STREPTOREX|STREPUET|STRYCIN|VETSTREP	3810-74-0	An antibacterial. White to light gray or pale buff powder with faint amine-like odor.	1.0	2.5	5.0	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2210	STRONTIUM PEROXIDE	STRONTIUM DIOXIDE|STRONTIUM OXIDE (SRO2)|STRONTIUM PEROXIDE	1314-18-7	A white powder. Insoluble in water and slowly decomposed by water. Noncombustible, but accelerates the burning of combustible material.	1.0	2.5	5.0	4181.0	410.0	1438.0	744.0	464.0	1011.0	102.0	352.0	194.0	109.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2205	SORBIC ACID	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2206	STANNIC CHLORIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	SELENIUM DISULFIDE may react vigorously with acids to release hydrogen sulfide gas. May react with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			less than 212
2207	STANNIC CHLORIDE, PENTAHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	C.I. DIRECT BLUE 8 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																								
2208	STANNOUS FLUORIDE	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1040 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethylene oxide, CAS number 75 21-8.	3	4	2	6																						
2209	STREPTOMYCIN SULFATE (2:3) (SALT)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at certain concentrations. Insoluble in water.	C.I. DISPERSE YELLOW 3 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents and strong acids (NTP, 1992).	Explosive					0																							(NTP, 1992)			514 to 518
2210	STRONTIUM PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	C.I. FOOD RED 5 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents and strong acids (NTP, 1992).	Explosive					0																							(NTP, 1992)			greater than 572

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2205	SORBIC ACID																																								Non-Flammable Gas	C2H4O|C2HF5	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	42.0	3.0	3.0
2206	STANNIC CHLORIDE, ANHYDROUS																				(NTP, 1992)	Decomposes					(NTP, 1992)		143.09						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL		Poison	S2Se		9.0	0.0	34.0	3.0	3.0
2207	STANNIC CHLORIDE, PENTAHYDRATE																										(NTP, 1992)		758.69						(NTP, 1992)	at 64Â° F		1 to 10	mg/mL			C34H26N4O10S2.2Na		9.0	0.0	34.0	3.0	3.0
2208	STANNOUS FLUORIDE																																								Poison Gas|Flammable Gas	C2H4O|N2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	14.0	3.0	3.0
2209	STREPTOMYCIN SULFATE (2:3) (SALT)																										(NTP, 1992)		269.31						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C15H15N3O2		8.0	0.0	26.0	3.0	3.0
2210	STRONTIUM PEROXIDE																										(NTP, 1992)		480.43						(NTP, 1992)	at 68Â° F		1 to 10	mg/mL			C18H16N2O7S2.2Na		7.0	0.0	14.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2211	STYRENE OXIDE	ALPHA,BETA-EPOXYSTYRENE|BENZENE, (EPOXYETHYL)-|(EPOXYETHYL)BENZENE|EPOXYETHYLBENZENE|1,2-EPOXYETHYLBENZENE|EPOXYSTYRENE|ETHANE, 1,2-EPOXY-1-PHENYL-|NCI-C54977|PHENETHYLENE OXIDE|1-PHENYL-1,2-EPOXYETHANE|PHENYLETHYLENE OXIDE|(.+-.)-PHENYLETHYLENE OXIDE|PHENYLOXIRANE|(.+-.)-PHENYLOXIRANE|1-PHENYLOXIRANE|2-PHENYLOXIRANE|STYRENE 1',2'-OXIDE|STYRENE 7,8-OXIDE|STYRENE EPOXIDE|STYRENE OXIDE|(.+-.)-STYRENE OXIDE|STYRENE-7,8-OXIDE|STYRYL OXIDE	96-09-3	PHYSICAL DESCRIPTION: Clear colorless straw-colored liquid with a sweet pleasant odor. (NTP, 1992)	2.5	5.0	2.5	4184.0	410.0	1438.0	744.0	467.0	1012.0	102.0	352.0	194.0	110.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2212	SUCCINIC ACID 2,2-DIMETHYLHYDRAZIDE	ALAR|ALAR 85|ALAR-85|AMINOZID|AMINOZIDE|B995|B-9|B-NINE|BUTANEDIOIC ACID MONO(2,2-DIMETHYLHYDRAZIDE)|DAMINOZIDE|DAZIDE|DIAMINOZIDE|DIMAS|DIMETHYLAMINOSUCCINAMIC ACID|2,2-DIMETHYLHYDRAZIDE SUCCINIC ACID|DIMG|DMASA|DMSA|DYAK|KYLAR|MONO(2,2-DIMETHYLHYDRAZIDE)SUCCINIC ACID|N-(DIMETHYLAMINO)SUCCINAMIC ACID|N-DIMETHYLAMINO-BETA-CARBAMYL PROPIONIC ACID|NCI-C03827|SADH|SUCCINIC 1,1-DIMETHYL HYDRAZIDE|SUCCINIC ACID 2,2-DIMETHYLHYDRAZIDE|SUCCINIC ACID N,N-DIMETHYLHYDRAZIDE|SUCCINIC ACID, MONO(2,2-DIMETHYLHYDRAZIDE)|SUCCINIC N',N'-	1596-84-5	PHYSICAL DESCRIPTION: Odorless white crystals or powder. (NTP, 1992)	1.0	2.5	5.0	4187.0	410.0	1441.0	744.0	467.0	1013.0	102.0	353.0	194.0	110.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
2213	SUCCINONITRILE	BUTANEDINITRILE|1,4-BUTANEDINITRILE|DEPRELINIDICIAN|1,2-DICYANOETHANE|DINILE|DISUXYL|ETHANE, 1,2-DICYANO-|1,2-ETHANEDICARBONITRILE|ETHYLENE CYANIDE|ETHYLENE DICYANIDE|EVANEX|S-DICYANOETHANE|SUCCINIC ACID DINITRILE|SUCCINIC ACID NITRILE|SUCCINIC DINITRILE|SUCCINIL|SUCCINODINITRILE|SUCCINONITRILE|SUXIL|SYM-DICYANOETHANE|USAF-A-9442	110-61-2	PHYSICAL DESCRIPTION: Colorless to light brown crystals. Colorless waxy solid melting at 57Â°C. Highly toxic.	1.0	2.5	5.0	4187.0	410.0	1441.0	744.0	467.0	1013.0	102.0	353.0	194.0	110.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. INGESTION: Have the victim drink water or milk. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2214	SULFACETAMIDE	A-500|ACETAMIDE, N-SULFANILYL-|ACETOCID|ACETOSULFAMIN|ACETOSULFAMINE|4-(ACETYLAMINOSULFONYL)ANILINE|ALBAMINE|ALBUCID|ALESTEN|FORMOSULFACETAMIDE|N-ACETYLSULFANILAMIDE|N(SUP 1)-ACETYL-4-AMINOPHENYLSULFONAMIDE|N-(4-AMINOPHENYL)SULFONYL)ACETAMIDE|N-(4-AMINOBENZENESULFONYL)ACETAMIDE|N-(P-AMINOPHENYLSULFONYL)ACETAMIDE|N-ACETYL-4-AMINOBENZENESULFONAMIDE|N-ACETYL-4-AMINOBENZENESULFONIC ACID AMIDE|N-ACETYLSULFANILAMIDE|N-ACETYLSULFANILAMINE|N-SULFANILYLACETAMIDE|N1 ACETYLSULFANILAMIDE|P-AMINOBENZENESULFONACETAMIDE|P-AMINOBENZENESULFONOA	144-80-9	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4187.0	410.0	1441.0	744.0	470.0	1013.0	102.0	353.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2215	SULFAMETHAZINE	(BLOB)	57-68-1	PHYSICAL DESCRIPTION: Odorless sticky, white or creamy-white crystalline powder. Slightly bitter taste. An antibacterial.	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2211	STYRENE OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Ignition takes place when this compound is ground with silver oxide. (NTP, 1992). Inorganic sulfides, such as SELENIUM SULFIDE, are generally basic and therefore incompatible with acids. Many of these compounds are reducing agents and therefore react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Simple salts of sulfides (such as sodium, potassium, and ammonium sulfide) react vigorously with acids to release hydrogen sulfide gas.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)		231.9		
2212	SUCCINIC ACID 2,2-DIMETHYLHYDRAZIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves; safety goggles or face shield (USCG, 1999)	Spontaneously flammable in air. [Steele and Dugan, Chem. Eng. 66:160(1960)]. Insoluble in water.	ETHYLHEXALDEHYDES are aldehydes. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Highly Flammable; Pyrophoric; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NTP, 1992)		125												(USCG, 1999)		387					
2213	SUCCINONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Impervious clothing and gloves should be used to prevent skin contact. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	ETHYLHEXYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Contact with strong oxidizers may cause vigorous reaction (USCG, 1999).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		160		(USCG, 1999)	at 200Â°F	0.76		%	(USCG, 1999)	at 300Â°F	8.14		%								
2214	SULFACETAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% sodium carbonate, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% sodium carbonate to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% sodium carbonate followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	C.I. PIGMENT RED 23 is sensitive to light and may be sensitive to heat. This compound is incompatible with strong oxidizing agents. (NTP, 1992). It is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							(NTP, 1992)	(exothermic)		626 to 644
2215	SULFAMETHAZINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	ETHYLIDENE NORBORNENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		79																		(USCG, 1999)		-112	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2211	STYRENE OXIDE														(NTP, 1992)		3.056		32		(NTP, 1992)	Decomposes at 244-246Â° F					(NTP, 1992)		111.02						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	SSe		6.0	0.0	11.0	3.0	3.0
2212	SUCCINIC ACID 2,2-DIMETHYLHYDRAZIDE	(NTP, 1992)		1.8		68		mm Hg	(NTP, 1992)		4.42				(USCG, 1999)		0.82		68		(NTP, 1992)		326.1		760		(NTP, 1992)		128.2						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	EHA	Flammable Liquid	C8H16O	Cellulose-Based Absorbents	7.0	0.0	12.0	3.0	3.0
2213	SUCCINONITRILE														(USCG, 1999)		0.873		68		(USCG, 1999)		378		760		(USCG, 1999)		172.27											EHC	Combustible Liquid	C10H20O2		5.0	0.0	12.0	3.0	3.0
2214	SULFACETAMIDE														(NTP, 1992)		1.45										(NTP, 1992)		487.46						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C24H17N5O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	12.0	3.0	3.0
2215	SULFAMETHAZINE	(USCG, 1999)		11.89				mm Hg							(USCG, 1999)		0.896		68		(USCG, 1999)		297.7		760		(NTP, 1992)		120.21						(NTP, 1992)	at 64Â° F		less than 1	mg/mL	ENB	Flammable Liquid	C9H12	Dirt/Earth	8.0	0.0	25.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2216	SULFAN BLUE	(BLOB)	129-17-9	PHYSICAL DESCRIPTION: Dark greenish-black powder. (NTP, 1992)	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2217	SULFAPYRIDINE	A-499|ADIPLON|4-AMINO-N-(2-PYRIDINYL)BENZENESULFONAMIDE|4-AMINO-N-2-PYRIDINYLBENZENESULFONAMIDE|BENZENESULFONAMIDE, 4-AMINO-N-(2-PYRIDINYL)-|COCCOCLASE|DAGENAN|EUBASIN|EUBASINUM|HAPTOCIL|M AND B 693|M+B 693|N(SUP 1)-2-PYRIDYLSULFANILAMIDE|N-2-PYRIDYLSULFANILAMIDE|N1-2(1H)-PYRIDYLIDENESULFANILAMIDE|N1-2-PYRIDYLSULFANILAMIDE|2-(P-AMINOBENZENESULPHONAMIDO)PYRIDINE|PIRIDAZOL|PLURAZOL|PYRAMID|PYRIDAZOL|4-((2-PYRIDYLAMINO)SULFONYL)ANILINE|4-[(2-PYRIDYLAMINO)SULFONYL]ANILINE|RELBAPIRIDINA|RONIN|SEPTIPULMON|STREPT	144-83-2	PHYSICAL DESCRIPTION: Odorless or almost odorless white or yellowish-white crystalline powder. Very slightly bitter taste. Aqueous solution is neutral. (NTP, 1992)	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2218	SULFATHIAZOLE	4-AMINO-N-(THIAZOL-2-YL)BENZENESULFONAMIDE|4-AMINO-N-2-THIAZOLYLBENZENESULFONAMIDE|AZOQUIMIOL|AZOSEPTALE|CHEMOSEPT|CIBA 3714|CIBAZOL|DUATOK|DULANA|ELEUDRON|ESTAFILOL|M&B 760|N(SUP1)-2-THIAZOYLSULFANILAMIDE|N1-(2-THIAZOLYL)SULFANILAMIDE|NEOSTREPSAN|NORSULFASOL|NORSULFAZOL|NORSULFAZOLE|2-(P-AMINOBENZENESULFONAMIDO)THIAZOLE|2-(P-AMINOBENZENESULPHONAMIDO)THIAZOLE|PLANOMIDE|POLISEPTIL|2090 R.P.|SANOTIAZOL|STREPTOSIL|THIAZOLE|SULFANILAMIDE, N1-2-THIAZOLYL-|SULFANILAMIDE, N1-4-THIAZOLIN-2-YLIDENE-|SULFANILAMIDOTHIAZOLE|2-SULFANILAMIDOTHIAZOLE|2-	72-14-0	PHYSICAL DESCRIPTION: White crystalline powder. Is dimorphous: form I is consists of prismatic rods and form II of six-sided plates and prisms. Insoluble in water and soluble in dil aqueous acid and aqueous base.	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes under fire conditions. (USCG, 1999)	Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
2219	SULFOLANE	SULFOLANE|SULFOLANE-W|TETRAHYDROTHIOPHENE 1,1-DIOXIDE|TETRAMETHYLENE SULFONE	126-33-0	Colorless oily liquid with a weak oily odor. Solidifies (freezing point is 79Â° F) and sinks on first contact with water, then mixes with water. (USCG, 1999)	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Container may explode in heat of fire. When heated to decomposition, it emits very toxic fumes of nitrogen and sulfur oxides. Stable at normal storage temperature; reasonably stable to hydrolysis at less than 86F at pH 5-9. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering. Use water spray, fog or foam. Move container from fire area (only without risk). Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter material. (EPA, 1998)
2220	SULFUR MONOCHLORIDE	CHLOROSULFANE|DICHLORODISULFANE|DISULFUR DICHLORIDE|SULFUR CHLORIDE|SULFUR CHLORIDES|SULFUR MONOCHLORIDE|SULFUR MONOCHLORIDE (S2CL2)|SULFUR SUBCHLORIDE|SULPHUR CHLORIDE (S2CL2)|SULPHUR CHLORIDES|THIOSULFUROUS DICHLORIDE	12771-08-3	A yellow-red, oily, fuming liquid with a sharp odor. Contact or ingestion causes irritation or chemical burns to skin, eyes, and mucous membranes. Also poisonous by inhalation of vapors.	2.5	5.0	2.5	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and hydrogen chloride. (EPA, 1998)	(Non-Specific -- Poisonous Solid, n.o.s.) Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Poisonous Solid, n.o.s.) This material may burn, but does not ignite readily. For small fires use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
2221	SULFUR TRIOXIDE	SULFAN|SULFUR OXIDE (SO3)|SULFUR TRIOXIDE|SULFUR TRIOXIDE, INHIBITED|SULFUR TRIOXIDE, STABILIZED|SULFUR TRIOXIDE, UNINHIBITED|SULFUR TRIOXIDE, [INHIBITED]|SULFURIC ANHYDRIDE|SULFURIC OXIDE|SULPHUR TRIOXIDE|SULPHUR TRIOXIDE, INHIBITED|SULPHUR TRIOXIDE, STABILIZED|SULPHUR TRIOXIDE, UNINHIBITED	7446-11-9	Sulfur trioxide, is a colorless to white crystalline solid which will fume in air. Often shipped with inhibitor to prevent polymerization. It reacts violently with water to form sulfuric acid with the release of heat. It is corrosive to metals and tissue. It causes eye and skin burns. Ingestion causes severe burns of mouth esophagus and stomach. The vapor is very toxic by inhalation. It is a fire risk when in contact with organic materials such as wood, cotton, fiberboard, etc.	1.0	2.5	5.0	4190.0	410.0	1441.0	744.0	470.0	1014.0	102.0	353.0	194.0	111.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of oxides of nitrogen and sulfur. (EPA, 1998)	(Non-Specific -- Pesticide, Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2216	SULFAN BLUE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	[[Details on specifics of reactivity not yet available.]]							0																							
2217	SULFAPYRIDINE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	ETHYL-P-ETHOXYBENZAL-P'-AMINOCINNAMATE is an ester derivative. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. It is also an amine and may be reactive at that functional group.							0																							
2218	SULFATHIAZOLE	Neutralizing Agents for Acids and Caustics: Dry lime or soda ash. (USCG, 1999)	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	ETHYLPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992). Weakly acidic.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		173																(NTP, 1992)		-18	
2219	SULFOLANE	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak (only without risk). Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	THIOFANOX is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0					(EPA, 1998)	Non-flammable.				(EPA, 1998)	Non-flammable.								(EPA, 1998)		133.7 to 135.5	
2220	SULFUR MONOCHLORIDE	(Non-Specific -- Poisonous Solid, n.o.s.) Isolate hazard area. Stay upwind; keep out of low areas. Do not touch spilled material. Absorb small spills with sand or other noncombustible absorbent material and place into containers for later disposal. Take up small, dry spills with clean shovel; place material into clean, dry container and cover; move containers from spill area. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble. Acid reaction in water. (NTP, 1992)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and hydrogen chloride. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																				(EPA, 1998)	decomposes at 347-365Â° F		342 to 347
2221	SULFUR TRIOXIDE	(Non-Specific -- Pesticide, Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. For small spills, absorb with sand or other noncombustible absorbent material and place into containers for later disposal. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Nitric acid violently oxidized a thiocyanate solution [Bretherick, 1979 p. 121]. Caution should be exercised in treating a thiocyanate with an oxidizing agent such as a peroxide or chlorate as such mixtures have been known to explode.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																				(EPA, 1998)		-122	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2216	SULFAN BLUE																																	(NTP, 1992)	at 65.3Â° F		1 to 5	mg/mL			C112H126MoN8O23PW	Mineral-Based & Clay-Based Absorbents	8.0	0.0	31.0	3.0	3.0
2217	SULFAPYRIDINE																									(NTP, 1992)		323.4													C20H21N3O3	Mineral-Based & Clay-Based Absorbents	8.0	0.0	11.0	3.0	3.0
2218	SULFATHIAZOLE	(NTP, 1992)	; 5 mm Hg at 164.1Â° F; 10 mm Hg at 188.6Â° F	1		115.2		mm Hg							(USCG, 1999)		1.037				(NTP, 1992)		400.14		760		(NTP, 1992)		122.17						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	EPL	Corrosive	C8H10O		9.0	0.0	18.0	3.0	3.0
2219	SULFOLANE	(EPA, 1998)		0.00017		77		mm Hg													(EPA, 1998)						(EPA, 1998)		218.35											Poison	C9H18N2O2S		9.0	0.0	21.0	3.0	3.0
2220	SULFUR MONOCHLORIDE																				(NTP, 1992)	DECOMPOSES		347 to 365	760		(EPA, 1998)		111.54						(NTP, 1992)	Very soluble					Poison	CH5N3O.ClH|CH5N3O.xClH		8.0	0.0	15.0	3.0	3.0
2221	SULFUR TRIOXIDE														(EPA, 1998)		1.007		73.4		(EPA, 1998)		295		760		(EPA, 1998)		87.15											Poison|Flammable Liquid	C3H5NS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2222	SULFURYL CHLORIDE	SULFONYL CHLORIDE|SULFONYL DICHLORIDE|SULFUR CHLORIDE OXIDE (SCL2O2)|SULFUR CHLORIDE OXIDE (SO2CL2)|SULFUR OXYCHLORIDE (SO2CL2)|SULFURIC DICHLORIDE|SULFURIC OXYCHLORIDE|SULFURYL CHLORIDE|SULFURYL CHLORIDE (SO2CL2)|SULFURYL DICHLORIDE|SULPHURYL CHLORIDE	7791-25-5	A colorless fuming liquid with a pungent odor. Very toxic by inhalation. Corrosive to metals and tissue.	2.5	5.0	2.5	4190.0	410.0	1444.0	744.0	470.0	1014.0	102.0	354.0	194.0	111.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2223	T-BUTYL BROMIDE	2-BROMO-2-METHYLPROPANE|2-BROMOISOBUTANE|BROMOMETHYLPROPANE|BROMOMETHYLPROPANES|BROMOTRIMETHYLMETHANE|1,1-DIMETHYLETHYL BROMIDE|2-METHYL-2-BROMOPROPANE|T-BUTYL BROMIDE|TERT-BUTYL BROMIDE|TRIMETHYLBROMOMETHANE	507-19-7	A colorless liquid. Slightly denser than water and insoluble in water. Harmful if inhaled.	2.5	5.0	2.5	4190.0	410.0	1444.0	744.0	470.0	1014.0	102.0	354.0	194.0	111.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2224	TEBUTHIURON	N-(5-(1,1-DIMETHYLETHYL)-1,3,4-THIADIAZOL-2-YL)-N,N'-DIMETHYLUREA|TEBUTHIURON	34014-18-1	Colorless odorless crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	4190.0	410.0	1444.0	744.0	470.0	1014.0	102.0	354.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2225	TEMEPHOS	ABATEÂ®0,0,0',0'-TETRAMETHYL 0,0'-THIODI-P-PHENYLENE PHOSPHOROTHIOATE|TEMEFOS|TEMEPHOS	3383-96-8	White crystalline solid or liquid. Boiling point 87ÂºF. Used as an insecticide. Technical grade is a viscous brown liquid. (NIOSH, 1997)	1.0	2.5	5.0	4190.0	410.0	1444.0	744.0	470.0	1014.0	102.0	354.0	194.0	111.0	(BLOB)	This is an organophosphate pesticide. Some of these materials may burn but none of them ignite readily. Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Degraded by acids and alkalis. (EPA, 1998)	This is an organophosphate pesticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2226	TERT-AMYL ALCOHOL	AMYLENE HYDRATE|1,1-DIMETHYL-1-PROPANOL|DIMETHYLETHYLCARBINOL|2-ETHYL-2-PROPANOL|ETHYLDIMETHYLCARBINOL|2-HYDROXY-2-METHYLBUTANE|2-METHYL-2-BUTANOL|2-METHYL-2-HYDROXYBUTANE|TERT-AMYL ALCOHOL|TERT-PENTANOL|TERT-PENTYL ALCOHOL	75-85-4	A clear, colorless liquid with an odor of camphor. Slightly soluble in water.	2.5	5.0	2.5	4193.0	410.0	1444.0	744.0	470.0	1015.0	102.0	354.0	194.0	111.0	INHALATION: move to fresh air. INGESTION: give large amount of water, induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water, wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2227	TERT-BUTYL ACETATE	ACETIC ACID, TERT-BUTYL ESTER|TERT-BUTYL ACETATE|TERT-BUTYL ESTER OF ACETIC ACID	540-88-5	Colorless liquid with a mild odor. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	4193.0	410.0	1444.0	744.0	470.0	1015.0	102.0	354.0	194.0	111.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2222	SULFURYL CHLORIDE	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Pure state ignites in air, the first seven to eight of the series 6H2n+1 ignite spontaneously in air at room temperature or slightly elevated temperatures [Mellor 1:376 1946-47]. Slowly reacts with water to form silicon hydroxides and hydrogen gas.	Slowly reacts with water to form silicon hydroxides and hydrogen gas [Hydrides of the Elements of Main Groups I - IV 1971 p.513]. Silane burns in contact with bromine, chlorine or covalent chlorides (carbonyl chloride, antimony pentachloride, tin(IV) chloride). Even traces of the free halogens may cause violent explosions, when handling silane, extreme caution should be taken, [Mellor, 1940, Vol. 6, 220]. Mixtures of silane and nitrogen oxides, nitrous oxide, detonate very easily, [Chem. Abs., 1990, 112, 121711].	Highly Flammable; Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	3	7																						(NIOSH, 2003)		-301	
2223	T-BUTYL BROMIDE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Decomposed exothermically by water or moisture in the air to hydrofluoric acid and silicic acid [Merck 11th ed. 1989; Handling Chemicals Safely 1980 p. 821].	When heated to decomposition SILICON TETRAFLUORIDE emits toxic fluoride fumes [Lewis, 3rd ed., 1993, p. 1138]. Reacts violently with alcohols to form HF. Attacks many metals in the presence of moisture. Reacts violently to explosively with lithium nitride [Porritt, L. J., Chem. Brit., 1979, 15, p. 282]. Mixtures with sodium are shock-sensitive explosives [Leleu, Cahiers, 1975, (79), p. 270].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1859 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																										
2224	TEBUTHIURON	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at certain concentrations. Insoluble in water.	C.I. SOLVENT YELLOW 14 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with strong oxidizing agents and strong acids (NTP, 1992).	Explosive					0																								(NTP, 1992)		268 to 271	
2225	TEMEPHOS	Avoid inhalation and skin contact. This is an organophosphate pesticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as TRIAZOFOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)	for technical grade		32 to 41
2226	TERT-AMYL ALCOHOL	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Explosive reaction between silver iodate and several different metal sulfides, hydrides etc., aided by the presence of water [Bretherick 1995, vol. 2, p. 207].	SILVER IODATE reacts explosively with alkali metals [Bretherick 1979 p. 1028]. Intimate mixture of silver iodate with finely divided aluminum, arsenic, copper, carbon, phosphorus, sulfur, hydrides of alkali and alkaline earth-metals; sulfides of antimony, arsenic, copper or zinc; metal cyanides, thiocyanates; or impure magnesium dioxide may react explosively, either spontaneously (especially in the presence of moisture).	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2227	TERT-BUTYL ACETATE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble [Hawley].	SILVER PICRATE, WETTED WITH NOT LESS THAN 30% WATER may be ignited by heat, sparks or flames. The DRIED OUT material may explode if exposed to heat, flame, friction or shock.	Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2222	SULFURYL CHLORIDE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-169		760		(NIOSH, 2003)		32.1						(NIOSH, 2003)	Decomposes					Flammable Gas	H4Si		7.0	0.0	17.0	3.0	3.0
2223	T-BUTYL BROMIDE																																									Poison Gas|Corrosive	SiF4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	22.0	3.0	3.0
2224	TEBUTHIURON														(NTP, 1992)		0.18				(NTP, 1992)	(sublimes)		greater than 212	760		(NTP, 1992)		248.3						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C16H12N2O		5.0	0.0	11.0	3.0	3.0
2225	TEMEPHOS	(EPA, 1998)		1.00E-05				mm Hg							(EPA, 1998)		1.247		68		(EPA, 1998)	Decomposes before boiling					(EPA, 1998)		313.34											Poison	C12H16N3O3PS	Mineral-Based & Clay-Based Absorbents	6.0	0.0	14.0	3.0	3.0
2226	TERT-AMYL ALCOHOL														(USCG, 1999)		5.53		68								(USCG, 1999)		282.1										SVI	Oxidizer	AgIO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	15.0	3.0	3.0
2227	TERT-BUTYL ACETATE																															(NIOSH, 2003)	(as Ag)	10	mg/m3							Flammable Solid	C6H3N3O7.Ag	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	17.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2228	TERT-BUTYL CUMENE PEROXIDE	BCP[CUMYL TERT-BUTYL PEROXIDE]KAYABUTYL C]LUPEROX 801]LUPERSOL 801]PERBUTYL C]PEROXIDE, TERT-BUTYL ALPHA,ALPHA-DIMETHYLBENZYL]PEROXIMON 166[TERT-BUTYL 1-METHYL-1-PHENYLETHYL PEROXIDE[TERT-BUTYL ALPHA,ALPHA-DIMETHYLBENZYL PEROXIDE[TERT-BUTYL CUMENE PEROXIDE[TERT-BUTYL CUMYL PEROXIDE[TERT-BUTYL CUMYL PEROXIDE, [TECHNICALLY PURE]]7-(TERT-BUTYLPEROXY)CUMENE]TRIGONOX T]TRIGONOX T 40	3457-61-2		1.0	2.5	5.0	4196.0	410.0	1444.0	744.0	470.0	1016.0	102.0	354.0	194.0	111.0	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2229	TERT-BUTYL ISOCYANATE	1,1-DIMETHYLETHYL ISOCYANATE|2-ISOCYANATO-2-METHYLPROPANE|ISOCYANIC ACID, TERT-BUTYL ESTER|T-BUTYLISOCYANATE|TERT-BUTYL ISOCYANATE	1609-86-5	A clear colorless liquid with a pungent odor. Very toxic by ingestion, may also be toxic by skin absorption and inhalation. Vapors heavier than air. Less dense than water and insoluble in water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2230	TERT-BUTYL METHACRYLATE (FLAMMABLE LIQUIDS, N.O.S.)	1,1-DIMETHYLETHYL METHACRYLATE|METHACRYLIC ACID, TERT-BUTYL ESTER|TERT-BUTYL ALPHA-METHACRYLATE|TERT-BUTYL METHACRYLATE|TERT-BUTYL METHACRYLATE (FLAMMABLE LIQUIDS, N.O.S.)	585-07-9	A colorless liquid with an ester like odor. Less dense than water and insoluble in water.	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	INGESTION: induce vomiting and follow with gastric lavage. SKIN: wash off with water. (USCG, 1999)	Behavior in Fire: May produce irritating vapors. (USCG, 1999)	
2231	TERT-BUTYL MONOPEROXYMALEATE	MALEIC MONOPEROXYACID, 1-TERT-BUTYL ESTER|MALEIC MONOPEROXYACID, OO-TERT-BUTYL ESTER|PERBUTYL MA 25|2-PROPENEPEROXOIC ACID, 3-CARBOXY-, 1-(1,1-DIMETHYLETHYL) ESTER, (Z)-|TERT-BUTYL MONOPERMALEATE|TERT-BUTYL MONOPEROXYMALEATE|TERT-BUTYL PEROXYMALEATE|TERT-BUTYL PEROXYMALEATE, [TECHNICALLY PURE]|TERT-BUTYL PEROXYMALEIC ACID	1931-62-0	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with an inert solid.	1.0	2.5	5.0	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2232	TERT-BUTYLAMINE	1-AMINO-1,1-DIMETHYLETHANE|2-AMINO-2-METHYLPROPANE|2-AMINOISOBUTANE|1,1-DIMETHYLAMINOMETHANE|1,1-DIMETHYLETHANAMINE|1,1-DIMETHYLETHYLAMINE|ERBUMINE|2-METHYL-2-AMINOPROPANE|2-METHYL-2-PROPANAMINE|2-METHYL-2-PROPYLAMINE|T-BUTYLAMINE|TBA|TERT-BUTYLAMINE|TERTIARY-BUTYLAMINE|TRIMETHYLAMINOMETHANE|TRIMETHYLAMINOMETHANE	75-64-9	A clear colorless liquid with an ammonia-like odor. Flash point 70Â°F. Less dense (at 6.2 lb / gal) than water. Vapors heavier than air. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	Get medical attention. EYES: Flush with water for 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water and neutralize with weak vinegar. INGESTION: Dilute by drinking water or milk. Neutralize by drinking fruit juice. Do not induce vomiting. (USCG, 1999)	Behavior in Fire: Containers may burst when exposed to heat. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2233	TETRABROMOPHTHALIC ANHYDRIDE	BROMPHTHAL|FG 4000|FIREMASTER PHT 4|PHT 4|PHTHALIC ANHYDRIDE, TETRABROMO-|SAYTEX RB 49|4,5,6,7-TETRABROMO-1,3-ISOBENZOFURANDIONE|3,4,5,6-TETRABROMOPHTALIC ANHYDRIDE|TETRABROMO PHTHALIC ACID ANHYDRIDE|TETRABROMO PHTHALIC ANHYDRIDE|3,4,5,6-TETRABROMOPHTHALIC ANHYDRIDE	632-79-1	PHYSICAL DESCRIPTION: Pale yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2228	TERT-BUTYL CUMENE PEROXIDE	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	An explosion occurred upon heating 1'-pentol and 1-pentol under hydrogen pressure. It appears that this acetylenic compound under certain conditions suddenly breaks down to form elemental carbon, hydrogen, and carbon monoxide with the release of sufficient energy to develop pressures in excess of 1000 atmospheres [AIChE Loss Prevention 1967. p. 1].	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2229	TERT-BUTYL ISOCYANATE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. SODIUM 2-DIAZO-1-NAPHTHOL-5-SULFONATE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2230	TERT-BUTYL METHACRYLATE (FLAMMABLE LIQUIDS, N.O.S.)		Goggles or face shield; rubber gloves. (USCG, 1999)	Water soluble.	Salts, basic, such as SODIUM ALKYL SULFATES, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																		(USCG, 1999)	Not flammable						
2231	TERT-BUTYL MONOPEROXYMALEATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	C.I. VAT BROWN 3 is incompatible with oxidizing and reducing agents. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)	(decomposes)	356				
2232	TERT-BUTYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full, impervious chemical protective clothing and gloves, goggles, and approved respirator. (USCG, 1999)	Sodium aluminate will dissolve in water and produce a strong corrosive alkaline solution. May generate heat when water is added.	SODIUM ALUMINATE generates a strong base in water; reacts violently with acids and corrosive to metals. Not compatible with copper, tin, zinc, aluminum, acids, phosphorus, or chlorocarbons.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		32				
2233	TETRABROMOPHTHALIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		514																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2228	TERT-BUTYL CUMENE PEROXIDE																																								Corrosive	C18H33O2CH2C(CH2OH)3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	15.0	3.0	3.0
2229	TERT-BUTYL ISOCYANATE																																							Flammable Solid	C10H6N2O4S.Na	Cellulose-Based Absorbents	7.0	0.0	15.0	3.0	3.0
2230	TERT-BUTYL METHACRYLATE (FLAMMABLE LIQUIDS, N.O.S.)																																						SAS				6.0	0.0	11.0	3.0	3.0
2231	TERT-BUTYL MONOPEROXYMALEATE																										(NTP, 1992)		665.67						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C42H23N3O6	Mineral-Based & Clay-Based Absorbents	9.0	0.0	13.0	3.0	3.0
2232	TERT-BUTYLAMINE															(USCG, 1999)		1.55		77		(USCG, 1999)		239		760	(USCG, 1999)		81.97										SAU	Corrosive	Na2Al2O3 or NaAlO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	16.0	3.0	3.0
2233	TETRABROMOPHTHALIC ANHYDRIDE	(NTP, 1992)	Negligible			68										(NTP, 1992)		1.02																	(NTP, 1992)	at 64Â° F		less than 1	mg/mL				Cellulose-Based Absorbents	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2234	TETRACHLOROETHANE	ACETYLENE TETRACHLORIDE|BONOFORM|CELLON|F 130|F 130 (HALOCARBON)|S-TETRACHLOROETHANE|SYM-TETRACHLOROETHANE|TCA|1,1,2,2-TCE|1,1,2,2-TETRACHLORETHANE|TETRACHLOROETHANE|1,1,1,2-TETRACHLOROETHANE|1,1,2,2-TETRACHLOROETHANE	79-34-5	A colorless dense liquid with a sweet chloroform-like odor. Irritated skin, eyes and mucous membranes. Used as a solvent, insecticide and in paint removers.	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	INGESTION: give water or milk followed by dilute vinegar or fruit juice; do NOT induce vomiting; call a doctor. SKIN OR EYES: flood all affected areas with copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating ammonia gas may be formed. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water Fire Extinguishing Agents: Dry soda ash, graphite, salt, or other recommended dry powder, such as dry limestone. (USCG, 1999)
2235	TETRACHLOROPHTHALIC ANHYDRIDE	1,3-DIOXY-4,5,6,7-TETRACHLOROISOBENZOFURAN|NCI-C61585|NIAGATHAL|PHTHALIC ANHYDRIDE, TETRACHLORO-|TETRACHLORO-1,2-BENZENEDICARBOXYLIC ACID ANHYDRIDE|4,5,6,7-TETRACHLORO-1,3-ISOBENZOFURANDIONE|TETRACHLOROPHTHALIC ACID ANHYDRIDE|TETRACHLOROPHTHALIC ANHYDRIDE|3,4,5,6-TETRACHLOROPHTHALIC ANHYDRIDE	117-08-8	PHYSICAL DESCRIPTION: Odorless needle-like crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2236	TETRAETHYLENE GLYCOL	BIS-[2-(2-HYDROXYETHOXY) ETHYL ETHER|HI-DRY|TEG|TETRAETHYLENE GLYCOL|3,6,9-TRIOXAUNDECAN-1, 11-DIOL	112-60-7	Colorless to straw-colored liquid with a mild odor. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	(BLOB)	This material may burn but does not ignite readily. When heated it emits toxic fumes of arsenic and sodium oxide. Slowly converted in solution to arsenates by atmospheric oxygen; in dry state it is decomposed by carbon dioxide. (EPA, 1998)	Keep unnecessary people away; stay upwind; keep out of low areas. Wear self-contained breathing apparatus and full protective clothing. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2237	TETRAETHYLENEPENTAMINE	D.E.H. 26|DEH 26|1,11-DIAMINO-3,6,9-TRIAZAUNDECANE|1,2-ETHANEDIAMINE, N-(2-AMINOETHYL)-N'-[2-[(2-AMINOETHYL)AMINO]ETHYL]-|N-(2-AMINOETHYL)-N'-(2-((2-AMINOETHYL)AMINO)ETHYL)|1,2-ETHANEDIAMINE|1,4,7,10,13-PENTAAZATRIDECANE|TEP|TETRAETHYLENEPENTAMINE|TETRAETHYLPENTYLAMINE|TETREN|3,6,9-TRIAZA-1,11-DIAMINOUNDECANE|3,6,9-TRIAZAUNDECANE-1,11-DIAMINE	112-57-2	A viscous liquid. Slightly less dense than water. Vapors heavier than air. Corrosive to the eyes, skin, mouth, throat and stomach. Vapors irritate the eyes and corrosive to the upper respiratory tract. Vapors may irritate the eyes. Flash point 325Â°F.	2.5	5.0	2.5	4199.0	410.0	1444.0	744.0	470.0	1017.0	102.0	354.0	194.0	111.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides; explosive. Forms explosive-sensitive materials with some metals such as lead, silver, mercury or copper. May form toxic hydrazoic acid fumes in fire. Containers may explode in fire. Avoid acids, benzoyl chloride and potassium hydroxide; bromine; carbon disulfide; copper; lead; nitric acid; barium carbonate; sulfuric acid; chromium (II) hypochlorite, dimethyl sulfate, water, dibromomalononitrile, lead, silver, copper, mercury. Hazardous polymerization may not occur. (EPA, 1998)	(BLOB)
2238	TETRAHYDROFURFURYL ALCOHOL	FURFURYL ALCOHOL, TETRAHYDRO-|2-(HYDROXYMETHYL)|TETRAHYDROFURAN|QO THFA|TETRAHYDRO-2-FURANCARBINOL|TETRAHYDRO-2-FURANMETHANOL|TETRAHYDRO-2-FURANYLMETHANOL|TETRAHYDRO-2-FURYLMETHANOL|TETRAHYDROFURFURYL ALCOHOL|THFA	97-99-4	A clear colorless liquid with a mild odor. Vapors are heavier than air.	2.5	5.0	2.5	4202.0	410.0	1444.0	744.0	470.0	1018.0	102.0	354.0	194.0	111.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray, LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2239	TETRAHYDROFURFURYLAMINE	2-(AMINOMETHYL)TETRAHYDROFURAN|FURFURYLAMINE, TETRAHYDRO-|(TETRAHYDROFURAN-2-YL)METHYL)AMINE|2-TETRAHYDROFURANMETHANAMINE|TETRAHYDROFURFURYLAMINE|(.+-.)-TETRAHYDROFURFURYLAMINE|2-TETRAHYDROFURFURYLAMINE	4795-29-3	A colorless to light yellow liquid. Insoluble in water and less dense than water. Used to make other chemicals and as a photographic chemical.	2.5	5.0	2.5	4202.0	410.0	1444.0	744.0	470.0	1018.0	102.0	354.0	194.0	111.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2234	TETRACHLOROETHANE	Neutralizing Agents for Acids and Caustics: Caustic solution formed by reaction with water can be diluted with water and/or neutralized by acetic acid. (USCG, 1999)	Goggles or face shield; dust respirator; rubber gloves and shoes. (USCG, 1999)	Highly flammable. Reacts violently with water and bursts into flame.	SODIUM AMIDE is a powerful reducing agent. Reacts violently with oxidizing agents. Reacts violently with steam and water to form caustic NaOH and NH3 vapors [Bergstrom et al., Chem. Reviews, 12:6 1932]. May form explosive compounds in the presence of water and carbon dioxide [Handling Chemicals Safely 1980 p 826]. Liable to deflagration upon heating and friction. Forms an explosive peroxide on storage. When sodium amide and chromic anhydride are mixed together a vigorous reaction results; the same occurs with other oxidizing agents including dinitrogen tetraoxide, potassium chlorate, sodium nitrite. [Mellor 11:234 1946-47]. Reaction with 1,1-diethoxy-2- chloroethane produces sodium ethoxyacetylide, which is extremely pyrophoric [Rutledge 1968 p. 35]. Reactions with halogenated hydrocarbons may be violently explosive. Sodium amide forms toxic and flammable H2S gas with CS2. (714).	Highly Flammable; Strong Reducing Agent; Water-Reactive; Peroxidizable Compound	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		410	
2235	TETRACHLOROPHTHALIC ANHYDRIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Incompatible with strong oxidizers. (NTP, 1992)							0		(NTP, 1992)			greater than 400																	
2236	TETRAETHYLENE GLYCOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water. Slowly converted in solution to arsenates by atmospheric oxygen; in dry state it is decomposed by carbon dioxide. [EPA, 1998].	Salts, basic, such as SODIUM ARSENITE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		1139	
2237	TETRAETHYLENEPENTAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water. Addition of water to sodium azide which was heated caused a violent reaction. [Angew. Chem. 1952, 64, 169]. Dust may form an explosive mixture in air.	SODIUM AZIDE is unstable. Decomposes rapidly or explosively at about 300Â°C [Hawley]. May explode if shocked. Forms violently explosive products if exposed to carbon disulfide. Can be sensitized toward decomposition by metal salts (especially heavy metal salts such as silver chloride) or by traces of strong acids [Sax, 9th ed., 1996, p. 298].	Explosive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	Not flammable															(EPA, 1998)	Decomposes at 527Â° F to sodium and nitrogen		
2238	TETRAHYDROFURFURYL ALCOHOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with water liberating heat and forming a corrosive solution. The reaction is not violent.	Acidic salts, such as SODIUM BIFLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2239	TETRAHYDROFURFURYLAMINE			Dissolves in water to give strongly acidic solutions.	Acidic salts, such as SODIUM BISULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. The presence of the acid salt with ethanol, during the preparation of ethyl acetate, caused a violent boiling vapor to ignite and explode, [Angew. Chem., 1922, 35, 667]. The combination of calcium hypochlorite, sodium hydrogen sulfate, starch, and sodium carbonate, when compressed, caused the materials to incandescence, followed by explosion, [Ind. Eng. Chem., 1937, 15, 282].						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2234	TETRACHLOROETHANE														(USCG, 1999)		1.39		68		(USCG, 1999)		752		760		(USCG, 1999)		39.01											SAM	Dangerous When Wet	NaNH2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	12.0	3.0	3.0
2235	TETRACHLOROPHTHALIC ANHYDRIDE																				(NTP, 1992)		greater than 212	760											(NTP, 1992)	at 68Â° F		50 to 100	mg/mL				Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	13.0	3.0	3.0
2236	TETRAETHYLENE GLYCOL														(EPA, 1998)		1.87										(EPA, 1998)		129.91											SAR	Poison	AsHO2.Na		8.0	0.0	11.0	3.0	3.0
2237	TETRAETHYLENEPENTAMINE														(EPA, 1998)		1.846		68		(EPA, 1998)	Decomposes in vacuum					(EPA, 1998)		65.02						(NTP, 1992)	at 72Â° F		50 to 100	mg/mL	SAZ	Poison	N3Na		7.0	0.0	15.0	3.0	3.0
2238	TETRAHYDROFURFURYL ALCOHOL																																								Corrosive	NaHF2 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	8.0	0.0	19.0	3.0	3.0
2239	TETRAHYDROFURFURYLAMINE																																									HO4S.Na		7.0	0.0	13.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2240	TETRAISOPROPYL TITANATE (FLAMMABLE LIQUIDS, N.O.S.)	A 1|A 1 (TITANATE)|ISOPROPYL ALCOHOL, TITANIUM(4+) SALT|ISOPROPYL ORTHOTITANATE|ISOPROPYL TITANATE(IV) ((C3H7O)4TI)|ORGATIX TA 10|TETRAISOPROPANOLATO TITANIUM|TETRAISOPROPOXYTITANIUM|TETRAISOPROPYL ORTHOTITANATE|TETRAISOPROPYL TITANATE|TETRAISOPROPYL TITANATE (FLAMMABLE LIQUIDS, N.O.S.)|TETRAKIS(ISOPROPOXY)TITANIUM|TETRAKIS[ISOPROPYLATO)TITANIUM(IV)|TETRAKIS(ISOPROPYLOXY)TITANIUM|TILCOM TIPT|TITANIUM ISOPROXIDE|TITANIUM ISOPROPOXIDE (TI(OC3H7)4)|TITANIUM ISOPROPYLATE|TITANIUM TETRAISOPROPOXIDE|TITANIUM TETRAISOPROPYLATE|TITA	546-68-9	A water-white to pale-yellow liquid with an odor like isopropyl alcohol. About the same density as water. Vapors heavier than air.	2.5	5.0	2.5	4205.0	410.0	1444.0	744.0	470.0	1019.0	102.0	354.0	194.0	111.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2241	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE	NCI-C55061|PYROSET TKC|TETRAHYDROXYMETHYLPHOSPHONIUM CHLORIDE|TETRAKIS(HYDROXYMETHYL)PHOSPHOCHLORIDE|TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE|TETRAMETHYLOLPHOSPHONIUM CHLORIDE|THPC	124-64-1	PHYSICAL DESCRIPTION: Clear slightly viscous,colorless to yellow liquid (20% H2O solution). (NTP, 1992)	2.5	5.0	2.5	4208.0	410.0	1444.0	744.0	470.0	1020.0	102.0	354.0	194.0	111.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2242	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE	BIS[TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM] SULFATE|NCI-C55050|OCTAKIS(HYDROXYMETHYL)DIPHOSPHONIUM SULFATE|PROBAN NX|PYROSET TKO|RETARDOL S|TETRAKIS(HYDROXYMETHYL,PHOSPHONIUM SULFATE|TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE (2:1)|TETRAKISHYDROXYMETHYLPHOSPHONIUM SULFATE|THPS|THPS 75|TOLCIDE PS	55566-30-8	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4208.0	413.0	1444.0	744.0	470.0	1020.0	103.0	354.0	194.0	111.0	(BLOB)	Poisoning potential is high when heated to decomposition, or on contact with acids or acid fumes, because it emits highly toxic fumes of arsenic. Avoid water solution in contact with active metals (iron, aluminum, zinc). (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area. Stay upwind; keep out of low areas. Wear self-contained breathing apparatus and full protective clothing. Move container from fire area, if you can do so without risk. (Non-Specific -- Pesticide, Solid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2243	TETRAMETHYLSILANE	SILANE, TETRAMETHYL-|TETRAMETHYLSILANE|TMS|TMS (SILANE DERIVATIVE)	75-76-3	A colorless, mildly acidic volatile liquid. A serious fire hazard. Mildly toxic by ingestion. Emits acrid smoke and fumes when heated to high temperatures. Less dense than water and insoluble in water, but soluble in most organic solvents. Used as an aviation fuel and as an internal standard for nmr analytical instruments.	2.5	5.0	2.5	4208.0	416.0	1444.0	744.0	470.0	1020.0	104.0	354.0	194.0	111.0	EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if neccessary. Wash skin with soap and water. INGESTION: If victim is CONSCIOUS, have victim drink water or milk and induce vomiting. IF UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain oxygen (increase fire intensity) along with toxic chloride and sodium oxide fumes. Behavior in Fire: Evaporation of water produces concentrated solutions or the dry salt. They can decompose to produce oxygen gas which increases fire intensity, and they can form explosive mixtures with organic matter and other easily oxidizable materials that are readily ignited by heat. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2244	TETRAPROPYLAMMONIUM BROMIDE	AMMONIUM, TETRAPROPYL-, BROMIDE|N,N,N-TRIPROPYL-1-PROPANAMINIUM BROMIDE|TETRA-N-PROPYLAMMONIUM BROMIDE|TETRAPROPYLAMMONIUM BROMIDE|TPABR	1941-30-6	PHYSICAL DESCRIPTION: White to off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4211.0	416.0	1447.0	744.0	470.0	1021.0	104.0	355.0	194.0	111.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2245	THEOBROMINE	3,7-DIHYDRO-3,7-DIMETHYL-1H-PURINE-2,6-DIONE|3,7-DIMETHYL-3,7-DIHYDRO-1H-PURINE-2,6-DIONE|3,7-DIMETHYLXANTHINE|DIUROBROMINE|SANTHEOSE|SC 15090|TEOBROMIN|THEOBROMINE|THEOSALVOSE|THEOSTENE|THESAL|THESODATE	83-67-0	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Bitter taste. pH (saturated solution in water): 5.5-7. (NTP, 1992)	1.0	2.5	5.0	4214.0	416.0	1447.0	744.0	470.0	1022.0	104.0	355.0	194.0	111.0	INGESTION: give large amount of water. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen or ammonia gas may be formed in fires. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2240	TETRAISOPROPYL TITANATE (FLAMMABLE LIQUIDS, N.O.S.)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	When sodium borohydride is in a strongly basic solution (at or above pH 10), it is stabilized against reaction with water, although addition of water may still be exothermic due to heat of solvation. At lower pH levels, sodium borohydride reacts exothermically with water to generate flammable hydrogen gas. The heat may ignite the hydrogen, the solvent, and surrounding combustible materials.	SODIUM BOROHYDRIDE/ SODIUM HYDROXIDE solution is a powerful basic reducing agent. Reacts exothermically and often violently with oxidizing agents of all types. Reacts exothermically and generally violently with acids and acid chlorides. Reacts vigorously with aldehydes and ketones. Reacts with many other classes of organic compounds possibly generating flammable hydrogen and toxic gases.	Strong Reducing Agent	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2241	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	SODIUM BROMATE is an oxidizing agent. May react violently with combustibles and reducing agents. Reacts with textiles, oil, fat, grease, sugar, sawdust and ammonium salts, carbon, phosphorus, metal powders and sulfides with hazard of fire and explosion [Handling Chemicals Safely 1980 p. 831]. A mixture of finely divided aluminum with finely divided sodium bromate explodes by heat, percussion, and friction [Mellor 2:310 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2242	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water.	SODIUM CACODYLATE gives basic solutions in water. Corrodes common metals, but reaction is not hazardous. (USCG, 1999). Liquefies in its own water of crystallization when heated to 60Â°C; becomes anhydrous at 120Â°C [Merck]. Burns with a bluish flame, emitting a garlic-like odor [Merck].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)	140Â° F for trihydrate. Liquifies in water of hydration at 140Â° F and becomes anhydrous at 284Â° F	140	
2243	TETRAMETHYLSILANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2244	TETRAPROPYLAMMONIUM BROMIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly water soluble.	FENOXYCARB is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2245	THEOBROMINE		Approved respirator for nuisance dust; chemical goggles or face shield (USCG, 1999)	Water soluble.	Acidic salts, such as FERRIC AMMONIUM CITRATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. Special Hazards of Combustion Products: Toxic oxides of nitrogen or ammonia gas may be formed in fires (USCG, 1999).						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2240	TETRAISOPROPYL TITANATE (FLAMMABLE LIQUIDS, N.O.S.)																																								Corrosive	NaBH4 (Sodium borohydride)|NaOH (Sodium hydroxide)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	9.0	0.0	29.0	3.0	3.0
2241	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE																																								Oxidizer	NaBrO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	13.0	3.0	3.0
2242	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULFATE														(USCG, 1999)	(est)		greater than 1	68							(EPA, 1998)		159.98												SCD	Poison	(CH3)2As(O)ONa		7.0	0.0	27.0	3.0	3.0
2243	TETRAMETHYLSILANE																																							SDD	Oxidizer	NaClO3 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	15.0	3.0	3.0
2244	TETRAPROPYLAMMONIUM BROMIDE																																								Class 9	C17H19NO4		7.0	0.0	20.0	3.0	3.0
2245	THEOBROMINE														(USCG, 1999)		1.8		68																						FAC		C6H8O7.xFe.xH3N		9.0	0.0	21.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2246	THIABENDAZOLE	APL-LUSTER|ARBOTECT|BENZIMIDAZOLE, 2-(4-THIAZOLYL)-|4-(2-BENZIMIDAZOLYL)THIAZOLE|BIOGARD|BOVIZOLE|CHEMVIRON TK 100|CROPASAL|DRAWIPAS|EPROFIL|EQUIZOLE|G 491|1H-BENZIMIDAZOLE, 2-(4-THIAZOLYL)-|HOKUSTAR HP|LOMBRISTOP|MERTEC|MERTECT|MERTECT 160|MERTECT 340F|MERTECT LSP|METASOL TK 100|METASOL TK-100|MINTESOL|MINTEZOL|MINZOLUM|MK 360|MSD 18|MYCOZOL|NEMAPAN|OMNIZOLE|ORMOGAL|PITRIZET|POLIVAL|RPH|SANAIZOL 100|SISTESAN|STORITE|SYNTOL M 100|TBDZ|TBZ|TBZ (FUNGICIDE)|TBZ 6|TBZ 60W|TEBUZATE|TECTA|TECTAB|TECTO|TECTO 10P|TECTO 40F|TECTO 60|TECTO B|TECTO RPH|THIABEN|THIABENDAZ	148-79-8	PHYSICAL DESCRIPTION: White or cream-colored odorless, tasteless powder. Sublimes above 590Â°F. Fluoresces in acidic solution. Formulated as a dust, flowable powder or wettable powder for use as a systemic fungicide and anthelmintic.	1.0	2.5	5.0	4217.0	416.0	1447.0	744.0	470.0	1023.0	104.0	355.0	194.0	111.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2247	THIOACETAMIDE	ACETAMIDE, THIO-|ACETIMIDIC ACID, THIO-|ACETOTHIOAMIDE|ETHANETHIOAMIDE|TAA|THIACETAMIDE|THIOACETAMIDE|USAF CB-21|USAF EK-1719	62-55-5	White crystals with a mercaptan odor.	1.0	2.5	5.0	4220.0	416.0	1447.0	744.0	470.0	1024.0	104.0	355.0	194.0	111.0	INHALATION: move to fresh air; if discomfort persists, get medical attention. INGESTION: give large amounts of water. EYES: promptly flood with water and continue washing for at least 15 min.; consult an ophthalmologist. SKIN: flush with water. (USCG, 1999)		
2248	THIOACETIC ACID	ACETIC ACID, THIO-|ACETYL MERCAPTAN|ETHANETHIOLIC ACID|METHANECARBOTHIOLIC ACID|MONOTHIOACETIC ACID|THIACETIC ACID|THIOACETIC ACID|THIOLACETIC ACID|THIONOACETIC ACID	507-09-5	A clear,yellow liquid with a strong, unpleasant odor. May be toxic by ingestion, inhalation and skin absorption. Irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4223.0	416.0	1447.0	744.0	470.0	1025.0	104.0	355.0	194.0	111.0	INHALATION: remove victim to fresh air; get medical attention. INGESTION: get immediate medical help; if vomiting is not spontaneous, give an emetic such as soapy water followed by copious water intake. EYES: immediately flush with plenty of water for at least 15 min.; consult physician promptly. SKIN: immediately flush with plenty of water for at least 15 min.; persistent dermatitis should be referred to a physician; wash contaminated skin or clothing until chromate color disappears. (USCG, 1999)	Special Hazards of Combustion Products: Toxic chromium oxide fumes may form in fire. Behavior in Fire: May increase intensity of fire when in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2249	THIOCARBANILIDE	CARBANILIDE, THIO-|1,3-DIPHENYL-2-THIOUREA|DIPHENYLTHIOUREA|1,3-DIPHENYLTHIOUREA|N,N'-DIPHENYLTHIOCARAMIDE|N,N'-DIPHENYLTHIOCARBAMIDE|N,N'-DIPHENYLTHIOUREA|NOCCELER C|RHENOCURE CA|S-DIPHENYLTHIOCARBAMIDE|STABILISATOR C|SULFOCARBANILIDE|SYM-DIPHENYL-THIOUREA|SYM-DIPHENYLTHIOUREA|THIOCARBANILIDE|USAF EK-245|VULKACIT CA	102-08-9	PHYSICAL DESCRIPTION: White to off-white powder. (NTP, 1992)	1.0	2.5	5.0	4226.0	416.0	1447.0	744.0	470.0	1026.0	104.0	355.0	194.0	111.0	(BLOB)	Special Hazards of Combustion Products: Toxic chromium fume may be formed in fires. Behavior in Fire: The hydrated salt loses water when hot and changes color, but no increase in hazard occurs. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2250	THIOCARBAZIDE	CARBOHYDRAZIDE, THIO-|CARBONOTHIOIC DIHYDRAZIDE|1,3-DIAMINO-2-THIOUREA|HYDRAZINECARBOHYDRAZONOTHIOIC ACID|TCH|THIOCARBAZIDE|THIOCARBOHYDRAZIDE|THIOCARBONIC DIHYDRAZIDE|THIOCARBONOHYDRAZIDE|USAF EK-7372	2231-57-4	Crystalline needles and plates. Used in electron microscopy to produce electron-opaque deposits for ultra structural analysis. (EPA, 1998)	1.0	2.5	5.0	4226.0	419.0	1447.0	744.0	470.0	1026.0	105.0	355.0	194.0	111.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2246	THIABENDAZOLE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	An oxidizing agent. Liberates explosive chlorine dioxide gas in the presence of strong acid. Heating a moist mixture with a dibasic organic acid liberates chlorine dioxide and carbon dioxide. Mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination with finely divided aluminum can explode by heat, percussion, or friction [Mellor 2:310 1946-47]. Dissolution in water moderates the oxidizing power of the calcium chlorate.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2247	THIOACETAMIDE		Safety glasses or face shield, dust-type respirator, rubber gloves (USCG, 1999)	Deliquescent. Water soluble. Adding calcium chloride to hot water caused violent boiling, [MCA Case History No. 69].	Bromine trifluoride rapidly attacks the following salts: barium chloride, cadmium chloride, calcium chloride, cesium chloride, lithium chloride, silver chloride, rubidium chloride, potassium bromide, potassium chloride, potassium iodide, rhodium tetrabromide, sodium bromide, sodium chloride, and sodium iodide [Mellor 2 Supp. 1:164, 165 1956]. Long term exposure of calcium chloride solution upon a zinc coated galvanized iron vessel caused slow evolution of hydrogen which ignited and exploded [Bretherick, 5th Ed., 1995].							0																									
2248	THIOACETIC ACID	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	U.S. Bu. Mines approved respirator; rubber gloves; chemical safety goggles; rubber apron and sleeves, face shield, rubber shoes, protective clothing. (USCG, 1999)	Water soluble.	SODIUM CHROMATE is a strong oxidizing agent. Incompatible with strong acids. (NTP, 1992). Contact with combustible materials may lead to fires. Toxic chromium oxide fumes may form in fire (USCG, 1999).	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2249	THIOCARBANILIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Insoluble in water.	CALCIUM CHROMATE is a strong oxidizer and reacts with acids and ethanol. (NTP, 1992)	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2250	THIOCARBAZIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Water soluble.	(BLOB)	Strong Oxidizing Agent						0																								(NTP, 1992)	(loses 2H2O)	392	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2246	THIABENDAZOLE																																								Oxidizer	Ca(ClO3)2 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	29.0	3.0	3.0
2247	THIOACETAMIDE														(USCG, 1999)		2.15		68							(USCG, 1999)	(solute)	110.99												CLC		CaCl2		9.0	0.0	28.0	3.0	3.0
2248	THIOACETIC ACID														(USCG, 1999)		2.723		77							(USCG, 1999)		162		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3						SCH	Oxidizer|Corrosive	Na2CrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	14.0	3.0	3.0
2249	THIOCARBANILIDE														(USCG, 1999)		greater than 1		68							(NTP, 1992)		156.08		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3	(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	CCR	Poison	CaCrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	11.0	3.0	3.0
2250	THIOCARBAZIDE																									(NTP, 1992)		192.12						(NTP, 1992)	Soluble						CaCrO4.2H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2251	THIOGLYCOL	BETA-HYDROXYETHANETHIOL|BETA-HYDROXYETHYLMERCAPTAN|BETA-MERCAPTOETHANOL|EMERY 579I|1-ETHANOL-2-THIOL|ETHYLENE GLYCOL, MONOTHIO-|2-HYDROXY-1-ETHANETHIOL|1-HYDROXY-2-MERCAPTOETHANE|2-HYDROXYETHANETHIOL|HYDROXYETHYL MERCAPTAN|2-HYDROXYETHYL MERCAPTAN|2-ME|2-MERCAPTO-1-ETHANOL|1-MERCAPTO-2-HYDROXYETHANE|MERCAPTOETHANOL|2-MERCAPTOETHANOL|2-MERCAPTOETHYL ALCOHOL|MONOTHIOETHYLENE GLYCOL|MONOTHIOETHYLENEGLYCOL|MONOTHIOGLYCOL|2-THIOETHANOL|THIOETHYLENE	60-24-2	A water-white liquid. May be toxic by ingestion, inhalation, or skin absorption.	2.5	5.0	2.5	4226.0	419.0	1447.0	744.0	470.0	1026.0	105.0	355.0	194.0	111.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2252	THIOGLYCOLIC ACID, SODIUM SALT	ERHAVIT D|MERCAPTOACETIC ACID MONOSODIUM SALT|MERCAPTOACETIC ACID SODIUM SALT|MERCAPTOACETIC ACID, SODIUM SALT|MOLLESCAL SF|SODIUM 2-MERCAPTOETHANOATE|SODIUM 2-SULFANYLACETATE|SODIUM MERCAPTOACETATE|SODIUM THIOGLYCOLATE|SODIUM THIOGLYCOLLATE|THIOGLYCOLATESODIUM|THIOGLYCOLIC ACID SODIUM SALT|THIOGLYCOLIC ACID, SODIUM SALT|USAF EK5199	367-51-1	White powder with a slight odor. Used in cold-waving of hair and as a dipilatory.	1.0	2.5	5.0	4229.0	419.0	1447.0	744.0	470.0	1027.0	105.0	355.0	194.0	111.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
2253	THIOLACTIC ACID	ALPHA-MERCAPTOPROPANOIC ACID|ALPHA-MERCAPTOPROPIONIC ACID|2-MERCAPTOPROPANOIC ACID|MERCAPTOPROPIONIC ACID|(+-)-2-MERCAPTOPROPIONIC ACID|2-MERCAPTOPROPIONIC ACID|PROPIONIC ACID, 2-MERCAPTO-|THIOLACTIC ACID|2-THIOLACTIC ACID	79-42-5	An oily liquid with an unpleasant odor. Toxic by ingestion and skin absorption. Used as a depilatory and in hair waving preparations.	2.5	5.0	2.5	4232.0	419.0	1447.0	744.0	470.0	1028.0	105.0	355.0	194.0	111.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2254	THIONYL CHLORIDE	SULFINYL CHLORIDE|SULFINYL DICHLORIDE|SULFUR CHLORIDE OXIDE|SULFUR CHLORIDE OXIDE (SCL2O)|SULFUR OXYCHLORIDE|SULFUR OXYCHLORIDE (SOCL2)|SULFUROUS DICHLORIDE|SULFUROUS OXYCHLORIDE|THIONYL CHLORIDE|THIONYL CHLORIDE (SOCL2)|THIONYL DICHLORIDE	7719-09-7	A colorless to yellow fuming liquid with a suffocating pungent odor. Boiling point 79Â°C. A lachrymator. Highly corrosive and toxic. Long-term inhalation of low concentrations or short-term inhalation of high concentrations has adverse health effects.	2.5	5.0	2.5	4235.0	419.0	1447.0	744.0	470.0	1029.0	105.0	355.0	194.0	111.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2255	THIOPHANATE-METHYL	(BLOB)	23564-05-8	Colorless crystals or light brown powder. (NTP, 1992)	1.0	2.5	5.0	4238.0	419.0	1447.0	744.0	470.0	1030.0	105.0	355.0	194.0	111.0	(treat victim promptly) INHALATION: move to fresh air; get medical attention if any symptoms persist. INGESTION: give immediately a dilute solution of any soluble calcium salt such as calcium lactate, limewater, chalk, or milk; induce vomiting; get medical attention. (Watch for edema of the glottis and delayed constriction of esophagus.) EYES: flush with water and get medical attention. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen, ammonia, and carbon monoxide may form in fires. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2251	THIOGLYCOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient conditions and away from all organic compounds. Protect this chemical from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Deliquescent. Water soluble.	SODIUM CHROMATE TETRAHYDRATE is a strong oxidizing agent. Incompatible with strong acids (NTP, 1992). Contact with combustible materials may lead to a fire. Toxic chromium oxide fumes may form in fire (USCG, 1999).	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		1458	
2252	THIOGLYCOLIC ACID, SODIUM SALT	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable/combustible material. May ignite on contact with air or moist air. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Sulfur Dioxide gas will be created in 6.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney. Argonne National Laboratory, Argonne, Illinois, June 2009.	Reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. These reactions may be violent. Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids. Noncombustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1923 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
2253	THIOLACTIC ACID	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	SODIUM CUPROCYANIDE SOLUTION is an aqueous solution containing an inorganic cyanide. It reacts with acids to evolve hydrogen cyanide, which is a highly toxic and flammable gas.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
2254	THIONYL CHLORIDE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly evolves flammable and poisonous hydrogen cyanide gas.	SODIUM CYANIDE SOLUTION is weakly basic. Reacts with acids of all kinds to generate quantities of very poisonous hydrogen cyanide gas. Incompatible with strong oxidizing agents, especially if solution dries out. Gives insoluble products with silver(I), mercury(I) and lead(II) ions that may decompose violently under certain conditions.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																													
2255	THIOPHANATE-METHYL		Approved dust respirator; rubber or plastic-coated gloves; chemical goggles or face shield (USCG, 1999)	Water soluble.	Acidic salts, such as FERRIC AMMONIUM OXALATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. Special Hazards of Combustion Products: Toxic oxides of nitrogen, ammonia, and carbon monoxide may form in fires (USCG, 1999).							0																													

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2251	THIOGLYCOL														(NTP, 1992)			2.710 to 2.736			(NTP, 1992)	Decomposes					(NTP, 1992)		234.06		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Oxidizer|Poison	Na2CrO4.4H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	17.0	3.0	3.0
2252	THIOGLYCOLIC ACID, SODIUM SALT																																								Spontaneously Combustible	CaS2O4		9.0	0.0	21.0	3.0	3.0
2253	THIOLACTIC ACID																																								Poison	Na2Cu(CN)3 (aqueous)		7.0	0.0	13.0	3.0	3.0
2254	THIONYL CHLORIDE																															(NIOSH, 2003)	(as CN)	25	mg/m3							Poison	NaCN (aqueous)		9.0	0.0	25.0	3.0	3.0
2255	THIOPHANATE-METHYL														(USCG, 1999)		1.78		68									(USCG, 1999)	(trihydrate)	428										FAO		(NH4)3Fe(C2O4)3.3H2O		8.0	0.0	30.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2256	THIOPHENE	CP 34|CP34|DIVINYLENE SULFIDE|FURAN, THIO-|HUILE HS0|HUILE HS0|HUILE HSO|THIACYCLOPENTADIENE|THIAPHENE|THIOFURAM|THIOFURAN|THIOFURFURAN|THIOLE|THIOPHEN|THIOPHENE|THIOTETROLE|USAF EK-1860	110-02-1	A colorless liquid with an unpleasant odor. Insoluble in water and slightly denser than water. Flash point 30Â°F. Vapors heavier than air. Irritates the skin, eyes, and mucous membranes. Used to make pharmaceuticals and dyes.	2.5	5.0	2.5	4238.0	419.0	1447.0	744.0	470.0	1030.0	105.0	355.0	194.0	111.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2257	THIOPHENE-2-ACETYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	2-(2-THIENYL)ACETYL CHLORIDE|THIENYLACETYL CHLORIDE|2-THIENYLACETYL CHLORIDE|THIOPHEN-2-YLACETYL CHLORIDE|THIOPHENE-2-ACETIC ACID CHLORIDE|THIOPHENE-2-ACETYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	39098-97-0	A clear yellow to dark brown liquid. Insoluble in water and denser than water. Corrosive to skin, and eyes. Vapors severely irritate respiratory tract.	2.5	5.0	2.5	4241.0	419.0	1447.0	744.0	470.0	1031.0	105.0	355.0	194.0	111.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2258	THIOPHOSGENE	CARBON CHLOROSULFIDE|CARBONIC DICHLORIDE, THIO-|CARBONYL SULFIDE DICHLORIDE|DICHLOROTHIOCARBONYL|DICHLOROTHIOFORMALDEHYDE|THIOCARBONIC DICHLORIDE|THIOCARBONYL CHLORIDE|THIOCARBONYL DICHLORIDE|THIOPHOSGENE	463-71-8	A reddish liquid. Boiling point 73.5Â°C. A severe eye irritant. May severely burn skin on contact. Very toxic by inhalation and by skin absorption.	2.5	5.0	2.5	4241.0	419.0	1447.0	744.0	470.0	1031.0	105.0	355.0	194.0	111.0	(BLOB)		
2259	THIOPHOSPHORYL CHLORIDE	PHOSPHOROTHIONIC TRICHLORIDE|PHOSPHORUS SULFIDE TRICHLORIDE|PHOSPHORUS SULFOCHLORIDE|PHOSPHORUS THIOCHLORIDE|PHOSPHORUS THIOTRICHLORIDE|PHOSPHORUS TRICHLORIDE SULFIDE|THIOPHOSPHORIC ACID TRICHLORIDE|THIOPHOSPHORIC TRICHLORIDE|THIOPHOSPHORYL CHLORIDE|THIOPHOSPHORYL CHLORIDE (PSCL3)|THIOPHOSPHORYL TRICHLORIDE|TRICHLOROPHOSPHINE SULFIDE|TRICHLOROPHOSPHORUS THIOXIDE	3982-91-0	A colorless fuming liquid. Boiling point 257Â°F (125Â° C). Irritates the eyes and mucous membranes. Corrosive to metals and tissue.	2.5	5.0	2.5	4244.0	419.0	1450.0	744.0	470.0	1032.0	105.0	356.0	194.0	111.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2260	THIOUREA DIOXIDE	AMINOIMINOMETHANESULFINIC ACID|DEGUSSA F|FAS|FORMAMIDINE SULFINATE|FORMAMIDINESULFINIC ACID|LORINOL R|MANOFAST|METHANNESULFINIC ACID, AMINOIMINO|NSC 226979|NSC 34540|NT-F 100|TEC LIGHT|THIOUREA DIOXIDE	1758-73-2	A white or light-yellow odorless crystalline powder. Mp:126Â°C. Soluble in water (27 g / L at room temperature). Decomposes exothermically at temperatures above 126Â°C with the emission of noxious gases (sulfur oxides, ammonia, carbon monoxide, nitrogen oxides and hydrogen sulfide) and carbon dioxide. Extended exposure to temperatures above 50Â°C and moisture may cause visible decomposition. Irritating to skin and mucous membranes. Corrosive to eye tissue. Used in leather processing, the paper industry, photographic industry, and in textile processing as a bleaching agent.	1.0	2.5	5.0	4244.0	419.0	1450.0	744.0	470.0	1032.0	105.0	356.0	194.0	111.0	(BLOB)	Special Hazards of Combustion Products: Toxic acidic vapors may form. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2261	TIGLIC ACID, [CORROSIVE SOLID]	2-BUTENOIC ACID, 2-METHYL-, (E)-|CEVADIC ACID|CROTONIC ACID, 2-METHYL-, (E)-|(E)-2,3-DIMETHYLACRYLIC ACID|(E)-2-METHYL-2-BUTENOIC ACID|(E)-2-METHYLCROTONIC ACID|(E)-ALPHA-METHYLCROTONIC ACID|TIGLIC ACID|TIGLIC ACID, [CORROSIVE SOLID]|TIGLINIC ACID|TRANS-2,3-DIMETHYLACRYLIC ACID|TRANS-2-METHYL-2-BUTENOIC ACID|TRANS-2-METHYLCROTONIC ACID|TRANS-ALPHA,BETA-DIMETHYLACRYLIC ACID	80-59-1	A white lustrous flaked solid with a fruity or spicy odor. About the same density as water and slightly soluble in water. May burn if heated to high temperatures. May severely irritate skin, eyes, lungs or mucous membranes.	1.0	2.5	5.0	4247.0	419.0	1450.0	744.0	470.0	1033.0	105.0	356.0	194.0	111.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2256	THIOPHENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																					(NTP, 1992)			greater than 572
2257	THIOPHENE-2-ACETYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	SODIUM CYCLAMATE is incompatible with strong oxidizing agents, strong acids and strong bases. Also incompatible with nitrites in acid solution. Has only limited compatibility with potassium salts (NTP, 1992).								0																					(NTP, 1992)	(decomposes)	509	
2258	THIOPHOSGENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	SODIUM DEHYDROACETATE reacts with acids. May react viogrously with strong oxidizing acids.								0																								
2259	THIOPHOSPHORYL CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	A carboxylic acid salt. It will behave as a weak base.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
2260	THIOUREA DIOXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self contained breathing apparatus. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as TRIXYLENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0	(NTP, 1992)		450												(USCG, 1999)		650	(USCG, 1999)		-4	
2261	TIGLIC ACID, [CORROSIVE SOLID]	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Ignites in air or reacts violently, sometimes explosively, with air of high humidity [Bretherick 1979 p. 107]. Reacts exothermically with water to generate flammable hydrogen gas and calcium hydroxide, a base. [Merck, 11th ed. 1989].	When silver fluoride is ground with CALCIUM HYDRIDE the mass becomes incandescent [Mellor 3:389 1946-47]. Heating the hydride strongly with chlorine, bromine, or iodine leads to incandescence. Mixtures of the hydride with various bromates, i.e. barium bromate; chlorates, i.e. barium chlorate, and perchlorates, i.e. potassium perchlorate; explode on grinding, [Mellor, 1946, vol. 3, 651]. CaH2 reacts incandescently with AgF if subject to friction. (Mellor, 1941, Vol. 3, 389, 651).	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2256	THIOPHENE																										(NTP, 1992)		152.08						(NTP, 1992)	Soluble						C3H3N3O3.Na		8.0	0.0	23.0	3.0	3.0
2257	THIOPHENE-2-ACETYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)																										(NTP, 1992)		201.22						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C6H11NHSO3.Na	Mineral-Based & Clay-Based Absorbents	8.0	0.0	24.0	3.0	3.0
2258	THIOPHOSGENE																										(NTP, 1992)		191.15						(NTP, 1992)	Soluble						C8H7O4.Na.H2O		8.0	0.0	11.0	3.0	3.0
2259	THIOPHOSPHORYL CHLORIDE																																								Class 9	C8H5Cl2O3.Na		6.0	0.0	12.0	3.0	3.0
2260	THIOUREA DIOXIDE														(USCG, 1999)			1.130 to 1.155			(NTP, 1992)			469 to 509	10	(NTP, 1992)		410.46						(NTP, 1992)	Insoluble				TRP	Class 9	C24H27O4P		7.0	0.0	22.0	3.0	3.0
2261	TIGLIC ACID, [CORROSIVE SOLID]																																								Dangerous When Wet	CaH2		6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2262	TIN(II) OXIDE	STANNOUS OXIDE|TIN MONOXIDE|TIN OXIDE (SNO)(2)|TIN PROTOXIDE|TIN(2+) OXIDE|TIN(II) OXIDE	21651-19-4	Brownish-black powder or black to blue-black crystalline solid. Mp: 1080Â°C (decomposes); density: 6.45 g cm-3. Insoluble in water.	1.0	2.5	5.0	4247.0	419.0	1450.0	744.0	470.0	1033.0	105.0	356.0	194.0	111.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2263	TIN(IV) OXIDE	C.I. 77861|CASSITERITE|FLOWERS OF TIN|NALCO SN 20|NANOTEK SNO2|NANOTEK TIN OXIDE|NYACOL SN 15|NYACOL SN 15CG|P 3001|POLISHING POWDER|PUTTY POWDER|S 1|S 1 (TIN COMPOUND)|S 3976|S 8|S 8 (OXIDE)|SAM 05|SAM 05 (CATALYST)|SN 38|SN 38 (OXIDE)|STANNIC DIOXIDE|STANNIC OXIDE|STANNIC OXIDE (SNO2)|T 10|T 10 (OXIDE)|T 1186|TIN ASH|TIN DIOXIDE|TIN DIOXIDE (SNO2)|TIN(IV) OXIDE|WHITE TIN OXIDE	18282-10-5	White or off-white crystalline solid or powder. mp: 1127Â°C, Sublimes: 1800-1900Â°C, density: 6.95 g/cm3 Insoluble in water. Soluble in concentrated sulfuric acid, hydrochloric acid. Occurs in nature as the mineral cassiterite. Used as a catalyst, in putty, as a polishing powder for steel and glass, in ceramic glazes and colors. "Flowers of tin" refers to the material collected as the result of condensation after sublimation.	1.0	2.5	5.0	4247.0	419.0	1450.0	744.0	470.0	1033.0	105.0	356.0	194.0	111.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
2264	TITANIUM SULFATE, SOLUTION	TITANIC SULFATE (TI(SO4)2)|TITANIUM DISULFATE|TITANIUM SULFATE|TITANIUM SULFATE (1:2)|TITANIUM SULFATE (TI(SO4)2)|TITANIUM SULFATE SOLUTION, [WITH <= 45% SULFURIC ACID]|TITANIUM SULFATE, SOLUTION|TITANIUM SULPHATE, SOLUTION|TITANIUM(4+) SULFATE|TITANIUM(IV) SULFATE	13825-74-6	A colorless or violet colored liquid. Dilution releases heat and may cause precipitation of solid titanium sulfate. Corrosive to metals and tissue. It is used to make pigments and in dyeing.	2.5	5.0	2.5	4250.0	419.0	1450.0	750.0	470.0	1034.0	105.0	356.0	196.0	111.0	Get medical attention at once after any exposure to this compound. INHALATION: remove victim from exposure; support respiration; watch for pulmonary edema. EYES: irrigate with large quantities of water for 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give large amount of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic phosgene, hydrogen chloride, and sulfur dioxide may be generated in a fire. Behavior in Fire: Decomposes above 200Â°C to carbon bisulfide (very flammable) and carbon tetrachloride. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2265	TOLUENE ETHYLSULFONAMIDE	KETJENFLEX 8|N-ETHYL-2(OR 4)-METHYLBENZENESULFONAMIDE|N-ETHYL-O(OR P)-TOLUENESULFONAMIDE|SANTICIZER 8|TOLUENE ETHYLSULFONAMIDE	8047-99-2	PHYSICAL DESCRIPTION: Viscous slightly yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4250.0	419.0	1450.0	750.0	470.0	1034.0	105.0	356.0	196.0	111.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2266	TRANS-1,3-DICHLOROPROPENE	(E)-1,3-DICHLORO-1-PROPENE|(E)-1,3-DICHLOROPROPENE|PROPENE, 1,3-DICHLORO-, (E)-|1-PROPENE, 1,3-DICHLORO-, (E)-|TRANS-1,3-DICHLORO-1-PROPENE|TRANS-1,3-DICHLOROPROPENE|TRANS-1,3-DICHLOROPROPYLENE|TRANS-3-CHLOROALLYL CHLORIDE|TRANS-TELONE	10061-02-6	PHYSICAL DESCRIPTION: A clear colorless liquid with chloroform odor. Flash point 95Â° F. Density 1.225 g/cm3 and insoluble in water. Hence sinks in water. A strong irritant. Used as a soil fumigant.	2.5	5.0	2.5	4250.0	419.0	1450.0	750.0	470.0	1034.0	105.0	356.0	196.0	111.0	None is required except for ingestion of a huge dose, in which case the stomach should be emptied by inducing vomiting. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2267	TRANS-SQUALENE	ALL-TRANS-SQUALENE|(E,E,E,E)-SQUALENE|2,6,10,15,19,23-HEXAMETHYL-2,6,10,14,18,22-TETRACOSAHEXAENE|SPINACEN|SPINACENE|SQUALEN|SQUALENE|2,6,10,14,18,22-TETRACOSAHEXAENE, 2,6,10,15,19,23-HEXAMETHYL-, (ALL-E)-|TRANS-SPINACENE|TRANS-SQUALENE	111-02-4	PHYSICAL DESCRIPTION: Clear, slightly yellow liquid with a faint odor. Density 0.858 g / cm3.	2.5	5.0	2.5	4250.0	419.0	1450.0	750.0	470.0	1034.0	105.0	356.0	196.0	111.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of sodium oxide and fluorides. Avoid decomposing heat. (EPA, 1998)	Stay upwind; keep out of low areas. Wear self-contained, positive pressure breathing apparatus and full protective clothing. Use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2262	TIN(II) OXIDE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYCROTONATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2263	TIN(IV) OXIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYDIETHYLACETATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2264	TITANIUM SULFATE, SOLUTION	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Self-contained breathing apparatus or organic canister mask; goggles or face shield; rubber gloves (USCG, 1999)	Reacts with water to evolve hydrogen chloride, carbon disulfide, and carbon dioxide. Reaction is slow unless the water is hot.	THIOPHOSGENE is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Liberates hydrogen sulfide upon reaction with acids.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2474 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2265	TOLUENE ETHYLSULFONAMIDE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	The compound, SODIUM DINITRO-O-CRESOLATE is shock sensitive and classified as explosive. When heated to decomposition it emits toxic fumes of NOx. Organic nitrates may explode when shocked, exposed to heat or flame or by spontaneous chemical reaction. It must be stored in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. Also reacts violently with Al; BP; cyanides; esters; PN2H; P; NaCN; SnCl2; sodium hypophosphite; thiocyanates. Dangerous disaster hazard due to fire and explosion hazard. On decomposition, they emit toxic fumes. They are powerful oxidizing agents which may cause violent reaction with reducing materials. Nitrates should be protected carefully in storage. (SAX and Lewis, 1987) p.664. Treat as an explosive.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2266	TRANS-1,3-DICHLOROPROPENE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	U.S. Bureau of Mines respirator for excessive dustiness; safety goggles. (USCG, 1999)	Water soluble.	SODIUM FERROCYANIDE is a coordination compound of iron. The cyanide ligands are tightly bound to the iron, so it is not as toxic as simple inorganic cyanide salts. However, this compound can release hydrogen cyanide gas upon reaction with acids.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2267	TRANS-SQUALENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Water soluble.	Salts, basic, such as SODIUM FLUOROACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0					(EPA, 1998)	Not combustible.				(EPA, 1998)	Not combustible.							(EPA, 1998)	Decomposes at 392Â° F.	392	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2262	TIN(II) OXIDE																																								Organic Peroxide	C8H14O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	8.0	0.0	26.0	3.0	3.0
2263	TIN(IV) OXIDE																																							Organic Peroxide	C10H20O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	34.0	3.0	3.0
2264	TITANIUM SULFATE, SOLUTION														(USCG, 1999)		1.513		68		(USCG, 1999)		163		760		(USCG, 1999)		115											TPG	Poison Inhalation Hazard	CCl2S		8.0	0.0	11.0	3.0	3.0
2265	TOLUENE ETHYLSULFONAMIDE																																							Flammable Solid|Poison	C7H6N2O5.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	12.0	3.0	3.0
2266	TRANS-1,3-DICHLOROPROPENE														(USCG, 1999)		1.458		77								(USCG, 1999)	(decahydrate)	484.04											SFC	Class 9	Na4Fe(CN)6|Na4Fe(CN)6.10H2O		5.0	0.0	11.0	3.0	3.0
2267	TRANS-SQUALENE	(EPA, 1998)		0		68		mm Hg							(USCG, 1999)	(temperature not listed)		greater than 1			(NIOSH, 2003)	Decomposes					(EPA, 1998)		100.02		(NIOSH, 2003)		2.5	mg/m3	(NIOSH, 2003)	Miscible				SAT	Poison	C2H2FO2.Na		7.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2268	TRIADIMEFON	AMIRAL|AZOCENE|BAY 6681 F|BAY 6681F|BAY-MEB 6447|BAY-MEB-6447|BAYLETON|BAYLETON 25|BAYLETON 250 EC|BAYLETON 250EC|BAYLETON 5|BAYLETON 5WP|BAYLETON PB|BAYLETON SPECIAL|2-BUTANONE, 1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1,2,4-TRIAZOL-1-YL)-|2-BUTANONE, 1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL)-|1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1,2,4-TRIAZOL-1-YL)-BUTAN-2-ONE|1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL)-|1-(4-CHLOROPHENOXY)-3,3-DIMETHYL-1-(1H-1,2,4-TRIAZOL-1-YL)-2-BUTANONE|FENXIU(NIN)|1H-1,2,4-TRIAZOLE, 1-((TERT-BUTYL)CARBONYL-4-	43121-43-3	PHYSICAL DESCRIPTION: Colorless to pale yellow crystalline solid with a slight odor. (NTP, 1992)	1.0	2.5	5.0	4253.0	419.0	1450.0	750.0	470.0	1035.0	105.0	356.0	196.0	111.0	INHALATION: move to fresh air. INGESTION: if large amounts are swallowed, promptly induce vomiting and get medical help. EYES: flush with plenty of water for at least 15 min.; get medical help promptly if ill effects develop. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2269	TRIALLYL ISOCYANURATE	DIAK 7|ISOCYANURIC ACID TRIALLYL ESTER|M 60|M 60 (ISOCYANURATE)|PERKALINK 301|PERKALINK 301-50|PERKALINK 301-501|PERKALINK 301-50D|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRIALLYL-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIALLYL-|TAIC|TAIC-M 60|1,3,5-TRI-2-PROPENYL-1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRI-2-PROPENYL-1,3,5-TRIAZINE-2,4,6-(1H,3H,5H)-TRIONE|TRIALLYL ISOCYANURATE|TRIALLYL-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIALLYL-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIALLYLISOCYANURATE|1,3,5-TRIALLYLISOCYANURIC ACID	1025-15-6	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4256.0	419.0	1450.0	750.0	470.0	1036.0	105.0	356.0	196.0	111.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2270	TRIAZOFOS	1H-1,2,4-TRIAZOL-3-OL, 1-PHENYL-, O-ESTER WITH O,O-DIETHYL PHOSPHOROTHIOATE|HOE 2960|HOE 2960 O|HOSTATHION|HOSTATION|O,O-DIETHYL O-(1-PHENYL-1H-1,2,4-TRIAZOL-3-YL)|PHOSPHOROTHIOATE|1-PHENYL-1,2,4-TRIAZOLYL-3-(O,O-DIETHYL THIONOPHOSPHATE)|1-PHENYL-3-(O,O-DIETHYL THIONOPHOSPHORYL)-1,2,4-TRIAZOLE|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-(1-PHENYL-1,2,4-TRIAZOLYL) ESTER|TRIAZOFOS|TRIAZOPHOS	24017-47-8	Yellowish oil. Used to control insects, mites, and nematodes. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	4259.0	419.0	1450.0	750.0	470.0	1037.0	105.0	356.0	196.0	111.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2271	TRIBENURON METHYL	2-(4-METHOXY-6-METHYL-1,3,5-TRIAZIN-2-YL)-METHYLAMINO)CARBONYL)AMIN. O)SULFONYL)-, METHYL ESTER|TRIBENURON METHYL	101200-48-0	Colorless crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	4262.0	419.0	1450.0	750.0	470.0	1038.0	105.0	356.0	196.0	111.0	INHALATION: remove to fresh air. EYES: flush with water for 15 min. and consult physician. SKIN: flush with water. INGESTION: give large amounts of water. (USCG, 1999)	Behavior in Fire: Can increase severity of fire. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2272	TRIBUTOXYETHYL PHOSPHATE	2-BUTOXYETHANOL PHOSPHATE|KP 140|KP-140|PHOSFLEX T-BEP|TBEP|TBXP|TRI(2-BUTOXYETHYL) PHOSPHATE|TRI(2-BUTOXYETHYL)PHOSPHATE|TRIBUTOXYETHYL PHOSPHATE|TRIBUTYL CELLOSOLVE PHOSPHATE|TRIS(2-BUTOXYETHYL) PHOSPHATE|TRIS(2-BUTOXYETHYL)ESTER PHOSPHORIC ACID|TRIS(2-N-BUTOXYETHYL) PHOSPHATE|TRIS-2-BUTOXYETHYL PHOSPHATE	78-51-3	PHYSICAL DESCRIPTION: Slightly yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4265.0	419.0	1450.0	750.0	470.0	1039.0	105.0	356.0	196.0	111.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2268	TRIADIMEFON	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	Alkali metal hydroxides, acids, anhydrous chlorides of iron, tin, and aluminum, pure oxides of iron and aluminum, and metallic potassium are some of the catalysts that may cause ethylene oxide to rearrange and polymerize, liberating heat, [J. Soc. Chem. Ind. 68:179(1949)]. Explosions occur , although infrequently, from the combination of ethylene oxide and alcohols or mercaptans, [Chem. Eng. News 20:1318(1942)].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2269	TRIALLYL ISOCYANURATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Inorganic reducing agents, such as FERROUS CHLORIDE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2270	TRIAZOFOS	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE is incompatible with strong oxidizing agents, acid chlorides and acid anhydrides. (NTP, 1992)						0																				(NTP, 1992)				376 to 385
2271	TRIBENURON METHYL	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	U.S.B.M. -approved toxic dust respirator; general-purpose gloves; chemical safety goggles; full cover clothing. (USCG, 1999)	Isoluble in water and slowly decomposed by water to produce calcium hydroxide (slaked lime) [Sax, 9th ed., 1996, p. 636].	CALCIUM PEROXIDE is an explosion hazard if mixed with finely divided organic matter. Noncombustible but accelerates the burning of combustible material: mixtures of combustible material and the peroxide can be ignited by friction or contact with moisture. Mixtures with polysulfide polymers may ignite. Decomposes rapidly above 200Â° C. Strongly basic. Reacts with water to produce calcium hydroxide (slaked lime) [Sax, 9th ed., 1996, p. 636].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2272	TRIBUTOXYETHYL PHOSPHATE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water. The solution slowly evolves hydrogen sulfide gas. Crystals hydrolyze in moist air to sodium hydroxide and sodium sulfide. Liable to spontaneous heating in moist air.	A chemical base. Reacts with acids to release flammable and toxic gaseous hydrogen sulfide. As long as the solution is kept strongly alkaline, pH > 10, there is very little release of H2S. At pH = 7, the percent concentration of H2S released is close to 80%.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2268	TRIADIMEFON														(USCG, 1999)		1.93		68								(USCG, 1999)		198												FEC	Corrosive	FeCl2		6.0	0.0	32.0	3.0	3.0
2269	TRIALLYL ISOCYANURATE																																									Corrosive	FeCl2 (aqueous)		7.0	0.0	15.0	3.0	3.0
2270	TRIAZOFOS																			(NTP, 1992)		813		760		(NTP, 1992)		240.33						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H12N2S		7.0	0.0	41.0	3.0	3.0
2271	TRIBENURON METHYL														(USCG, 1999)		2.92		77								(USCG, 1999)		72.1												CCP	Oxidizer	CaO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	19.0	3.0	3.0
2272	TRIBUTOXYETHYL PHOSPHATE																																								Spontaneously Combustible	HNaS.xH2O		7.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2273	TRIBUTYL BORATE	BORESTER|BORESTER 2|BORIC ACID TRIBUTYL ESTER|BORIC ACID, TRIBUTYL ESTER|BORON TRI-N-BUTOXIDE|BORON TRIBUTOXIDE|BORON TRIS(BUTOXIDE)|BUTYL BORATE|BUTYLBORATE|N-BUTYL BORATE|TRI-N-BUTOXYBORANE|TRI-N-BUTYL BORATE|TRIBUTOXYBORANE|TRIBUTOXYBORON|TRIBUTYL BORATE|TRIBUTYL ORTHOBORATE|TRIS(BUTOXY)BORANE	688-74-4	PHYSICAL DESCRIPTION: Water-white liquid. (NTP, 1992)	2.5	5.0	2.5	4268.0	419.0	1453.0	750.0	470.0	1040.0	105.0	357.0	196.0	111.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2274	TRIBUTYLAMINE	N,N-DIBUTYL-1-BUTANAMINE|N-TRIBUTYLAMINE|TRI-N-BUTYLAMINE|TRIBUTYLAMINE|TRIS-N-BUTYLAMINE	102-82-9	A pale yellow liquid with an ammonia-like odor. Less dense than water. Very irritating to skin, mucous membranes, and eyes. May be toxic by skin absorption. Low toxicity. Used as an inhibitor in hydraulic fluids.	2.5	5.0	2.5	4268.0	419.0	1453.0	750.0	470.0	1040.0	105.0	357.0	196.0	111.0	(Act quickly) EYES: flush with water at once for at least 15 min. SKIN: flush with water, then rinse with dilute vinegar (acetic acid). INGESTION: give water and milk. Do NOT induce vomiting. Call physician at once, even when injury seems to be slight. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2275	TRIBUTYLPHOSPHINE	TRIBUTYLPHOSPHANE|TRIBUTYLPHOSPHINE	998-40-3	Tributylphosphine is a colorless to yellowish liquid with a strong garlic like odor. It is insoluble in water. It is liable to heat and ignite spontaneously in air. If involved in a fire phosphine gas, a highly flammable and toxic gas, will evolve. It is irritating to mucous membranes.	2.5	5.0	2.5	4268.0	419.0	1453.0	750.0	470.0	1040.0	105.0	357.0	196.0	111.0			
2276	TRICHLORFON	(BLOB)	52-68-6	Trichlorfon is a white crystalline solid. It is a wettable powder. It can cause illness by inhalation, skin absorption and/or ingestion. It is used as a pesticide.	1.0	2.5	5.0	4268.0	419.0	1453.0	750.0	470.0	1040.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
2277	TRICHLOROACETALDEHYDE	ACETALDEHYDE, TRICHLORO|ACETALDEHYDE, TRICHLORO-|ANHYDROUS CHLORAL|CHLORAL|CHLORAL, ANHYDROUS, INHIBITED|CHLORAL, ANHYDROUS, [INHIBITED]|ETHANAL, TRICHLORO-|GRASEX|SPOROTAL 100|TRICHLOROACETALDEHYDE|2,2,2-TRICHLOROACETALDEHYDE|TRICHLOROETHANAL|2,2,2-TRICHLOROETHANAL	75-87-6	A colorless oily liquid with a penetrating odor. Reacts with water and denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion and inhalation. Used to make pesticides.	2.5	5.0	2.5	4271.0	419.0	1453.0	750.0	470.0	1041.0	105.0	357.0	196.0	111.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2278	TRICHLOROACETONITRILE	CYANOTRICHLOROMETHANE|TRICHLOROACETONITRILE|2,2,2-TRICHLOROACETONITRILE|TRICHLOROCYANOMETHANE|TRICHLOROMETHYL CYANIDE|TRICHLOROMETHYLNITRILE|TRITOX	545-06-2	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4271.0	419.0	1453.0	750.0	470.0	1041.0	105.0	357.0	196.0	111.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2273	TRIBUTYL BORATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber protective equipment, such as apron, boots, splash- proof goggles, gloves; canister-type respirator or self-contained breathing apparatus. (USCG, 1999)	The solution continuously and slowly evolves gaseous hydrogen sulfide. Rate of evolution is increased by acids.	A chemical base. Reacts with acids to release flammable and toxic gaseous hydrogen sulfide. As long as the solution is kept strongly alkaline, pH > 10, there is very little release of H2S. At pH = 7, the percent concentration of H2S released is close to 80%.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(USCG, 1999)			63		
2274	TRIBUTYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wide-brimmed hat; safety goggles with rubber side shields; tight-fitting cotton clothing; rubber gloves under shirt cuffs; rubber boots and apron. (USCG, 1999)	Slowly absorbs carbon dioxide from the air to give solid products as crusts or precipitates. Water soluble. Dilution with water liberates heat, possibly enough to cause local boiling and spattering.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																	(USCG, 1999)	Not flammable					
2275	TRIBUTYLPHOSPHINE		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organometallics, such as ETHIENOCARB, are strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.						0																						
2276	TRICHLORFON	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYISOBUTYRATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
2277	TRICHLOROACETALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	A corrosive acid when mixed with water. Slowly oxidized to the sulfate on exposure to air & moisture (NIOSH, 1997).	SODIUM METABISULFITE is incompatible with the following: Heat (decomposes) [Note: Slowly oxidized to the sulfate on exposure to air & moisture.] (NIOSH, 1997).	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
2278	TRICHLOROACETONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	Solutions of this material are incompatible with silicone and acid. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2273	TRIBUTYL BORATE	(USCG, 1999)		49.12				mm Hg							(USCG, 1999)		1.3		59		(USCG, 1999)	(approx.)	212		760															SHR	Corrosive|Poison	HS.Na		9.0	0.0	18.0	3.0	3.0
2274	TRIBUTYLAMINE														(USCG, 1999)		1.5		68		(USCG, 1999)			greater than 266	760						(NIOSH, 2003)		10	mg/m3						CSS	Corrosive	NaOH (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	23.0	3.0	3.0
2275	TRIBUTYLPHOSPHINE																									(EPA, 1998)		334														C9H15Cl2N3O2Zn		6.0	0.0	14.0	3.0	3.0
2276	TRICHLORFON																																								Organic Peroxide	C8H16O3 (solution in benzene)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	25.0	3.0	3.0
2277	TRICHLOROACETALDEHYDE														(NIOSH, 2003)		1.4				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		190.1						(NIOSH, 2003)		54		%		Corrosive	H2O5S2.2Na		6.0	0.0	14.0	3.0	3.0
2278	TRICHLOROACETONITRILE																									(NTP, 1992)		284.32						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C14H18N2O3.Na	Dirt/Earth	6.0	0.0	23.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2279	TRICHLOROACETYL CHLORIDE	ACETYL CHLORIDE, TRICHLORO-|TRICHLOROACETIC ACID CHLORIDE|TRICHLOROACETOCHLORIDE|TRICHLOROACETYL CHLORIDE	76-02-8	A colorless volatile liquid with a strong odor. Denser than water. Contact severely irritates skin, eyes and mucous membranes. May be very toxic by ingestion and inhalation. May be combustible.	2.5	5.0	2.5	4274.0	419.0	1453.0	750.0	470.0	1042.0	105.0	357.0	196.0	111.0	Get medical attention at once following all exposures to this compound. INHALATION: remove victim from contamination and keep him quiet and warm. Rest is essential. Hot tea or coffee may be given as a stimulant if patient is conscious. If breathing has apparently ceased, give artificial respiration. If available, oxygen should be administered by experienced personnel. EYES: wash well with water, then with 3% boric acid solution and additional water washes. SKIN: wash well with water, then with dilute vinegar. INGESTION: if victim is conscious, induce vomiting by administering a glassful of warm water containing a teaspoon full of salt; repeat until vomit is clear, then give two teaspoons of baking soda every 15 min.; keep victim's	Behavior in Fire: Contact with water or foam applied to adjacent fires will produce flammable methanol. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2280	TRICHLOROSILANE	SILANE, TRICHLORO-|SILICOCHLOROFORM|SILICON CHLORIDE HYDRIDE (SICL3H)|SILICON CHLORIDE HYDRIDE (SIHCL3)|TRICHLOROMONOSILANE|TRICHLOROSILANE|TRICHLOROSILANE (HSICL3)|TRICHLOROSILANE (SIHCL3)	10025-78-2	A colorless fuming liquid with a pungent odor. Flash point 7Â°F. Vapor and liquid cause burns. More dense than water. Vapors are heavier than air.	2.5	5.0	2.5	4277.0	419.0	1453.0	750.0	470.0	1043.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2281	TRIETHYL PHOSPHITE	PHOSPHOROUS ACID, TRIETHYL ESTER|TRIETHOXYPHOSPHINE|TRIETHYL PHOSPHITE|TRIS(ETHOXY)PHOSPHINE	122-52-1	A clear colorless liquid with a strong foul odor. Flash point 130Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4277.0	419.0	1453.0	750.0	470.0	1043.0	105.0	357.0	196.0	111.0	INHALATION: move to fresh air; call physician immediately; give mouth-to-mouth resuscitation if breathing has ceased; give oxygen if authorized by physician; keep victim warm. INGESTION: get medical attention quickly; if victim is conscious, give warm salty or soapy water to induce vomiting; repeat until vomitus is clear; additional water may be given to wash out stomach. EYES: get medical attention quickly; flush with copious amounts of water for at least 15 min. (30 min. if physician is (USCG, 1999)	Behavior in Fire: Compound melts to a glassy material that may flow in large quantities and ignite combustibles elsewhere. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2282	TRIETHYLENE GLYCOL DIMETHYL ETHER	ANSUL ETHER 161|1,2-BIS(2-METHOXYETHOXY)ETHANE|1,2-BIS(METHOXYETHOXY)ETHANE|ETHANE, 1,2-BIS(2-METHOXYETHOXY)-|GLYME 4|GLYME-3|HISOLVE MTM|METHYLTRIGLYME|2,5,8,11-TETRAOXADODECANE|TRIETHYLENE GLYCOL DIMETHYL ETHER|TRIGLYME	112-49-2	PHYSICAL DESCRIPTION: Clear colorless liquid with a mild ethereal odor. (NTP, 1992)	2.5	5.0	2.5	4277.0	419.0	1453.0	750.0	470.0	1043.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2283	TRIETHYLENE GLYCOL METHYL ETHER	TRIETHYLENE GLYCOL METHYL ETHER|TRIETHYLENE GLYCOL MONOMETHYL ETHER|TRIGLYCOL METHYL ETHER	112-35-6	Colorless odorless liquid. (USCG, 1999)	2.5	5.0	2.5	4277.0	419.0	1453.0	750.0	470.0	1043.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2284	TRIFLUOROACETYL CHLORIDE	PERFLUOROACETYL CHLORIDE|TRIFLUOROACETYL CHLORIDE	354-32-5	A colorless gas. Shipped as a liquid under own vapor pressure. Contact with the unconfined liquid may frostbite unprotected skin. Very toxic by inhalation and may severely irritate skin, eyes, and mucous membranes. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4280.0	419.0	1453.0	750.0	470.0	1044.0	105.0	357.0	196.0	111.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2279	TRICHLOROACETYL CHLORIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Self-contained breathing apparatus; rubber gloves and apron; goggles or face shield. (USCG, 1999)	Ignites in moist air [Wischmeyer 1966]. with moist air, autoignition is possible; strong reducing agent; reacts with light metals forming H2 gas, with fire and explosion hazards; reacts violently with water to form methanol and sodium hydroxide, and with acids, causing hazard of methanol ignition [Handling Chemicals Safely 1980 p. 850].	SODIUM METHYLATE is a strong base. Reacts with light metals forming H2 gas, with fire and explosion hazards. Too rapid addition of sodium methylate to a mixture of chloroform and methanol initiated an uncontrolled exothermic reaction between the chloroform and the methylate that caused a violent explosion [MCA Case History 693 1961]. Sodium methoxide is incompatible with 4-chloronitrobenzene and fluorinated cyclopropenyl methyl ethers, such as perfluoromethoxycyclopropene. The reactions are vigorous and may initiate ignition [Bretherick, 5th Ed., 1995].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2280	TRICHLOROSILANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Very water soluble.	SODIUM NITRITE is an oxidizing agent. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Reacts with acids to form toxic nitrogen dioxide gas. Mixing with liquid ammonia gives disodium nitrite, which is very reactive and easily explosive [Mellor 2, Supp. 3:1566 1963]. Melting together with an ammonium salt leads to a violent explosion [Von Schwartz 1918 p. 299]. A mixture with potassium cyanide may cause an explosion [Pieters 1957 p. 30]. When a mixture with sodium thiosulfate was heated to dryness, a violent explosion occurred [Mellor 10:501 1946-47]. May react with organic amines to give carcinogenic nitrosamines.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2281	TRIETHYL PHOSPHITE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask and goggles or face shield (USCG, 1999)	Water soluble.	SODIUM PEROXOBORATE is incompatible with the following: Zirconium, strong acids, metallic salts (NIOSH, 1997). The true peroxoborate has been reported to detonate on light friction. The common "tetrahydrate" is not a peroxoborate, it is relatively stable under mild grinding with other substances.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2282	TRIETHYLENE GLYCOL DIMETHYL ETHER	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Water soluble	SODIUM PICRAMATE can react vigorously with reducing agents, including hydrides, sulfides and nitrides, leading to a detonation. Emits toxic fumes when heated to decomposition.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
2283	TRIETHYLENE GLYCOL METHYL ETHER	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	Aromatic nitro compounds, such as SODIUM PICRAMATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2284	TRIFLUOROACETYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Decomposes gradually, accelerated by exposure to air, moisture, and heat. Insoluble in water. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	ZINEB is a zinc salt of a dithiocarbamic acid. May generate flammable gases with aldehydes, nitrides, and hydrides. Incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2279	TRICHLOROACETYL CHLORIDE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		54												SML	Spontaneously Combustible|Corrosive	CH4O.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	8.0	0.0	16.0	3.0	3.0
2280	TRICHLOROSILANE																																								Oxidizer	NaNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	15.0	3.0	3.0
2281	TRIETHYL PHOSPHITE														(USCG, 1999)		2.367		68								(USCG, 1999)		201.26												SDB	Oxidizer	Na2B4O7		6.0	0.0	13.0	3.0	3.0
2282	TRIETHYLENE GLYCOL DIMETHYL ETHER																																								Explosive 1.3C|Flammable Solid	C6H4N3O5.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	8.0	0.0	11.0	3.0	3.0
2283	TRIETHYLENE GLYCOL METHYL ETHER																																								Flammable Solid	C6H5N3O5.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	11.0	3.0	3.0
2284	TRIFLUOROACETYL CHLORIDE																											(NTP, 1992)		275.73					(NTP, 1992)	at 77Â° F		less than 1	mg/mL		Poison	C4H6N2S4Zn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2285	TRIISOPROPANOLAMINE	1,1',1"-NITRILOTRI-2-PROPANOL|1,1',1"-NITRILOTRI-2-PROPANOL|1,1',1"-NITRILOTRIS(2-PROPANOL)|NTP2-PROPANOL 1,1',1"-NITRILOTRI-[2-PROPANOL, 1,1',1"-NITRILOTRI-|TIPA|TRI-2-PROPANOLAMINE|TRI-ISO-PROPANOLAMINE|TRIISOPROPANOLAMINE|TRIS(2-HYDROXY-1-PROPYL)AMINE|TRIS(2-HYDROXYPROPYL) AMINE|TRIS(2-HYDROXYPROPYL)AMINE|TRIS(2-PROPANOL)AMINE|TRIS-(2-HYDROXY-1-PROPYL)AMINE|TRIS-(2-HYDROXYPROPYL)AMINE	122-20-3	White solid with slight odor of ammonia. Denser than water .	1.0	2.5	5.0	4280.0	419.0	1453.0	750.0	470.0	1044.0	105.0	357.0	196.0	111.0	For an oral intoxication, administer gastric lavage, cathartics, diuretics, and sedatives. Control convulsions with a short-acting barbiturate, chloral hydrate, or ether. Do NOT use analeptics or opiates. (USCG, 1999)	Behavior in Fire: The solid often evaporates without first melting. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2286	TRIISOPROPYL BORATE	BORIC ACID (H3BO3), TRIISOPROPYL ESTER|BORON ISOPROPOXIDE|BORON TRIISOPROPOXIDE|ISOPROPYL BORATE|TRIISOPROPOXYBORANE|TRIISOPROPOXYBORON|TRIISOPROPYL BORATE|TRIISOPROPYL ORTHOBORATE|TRISISOPROPOXYBORANE	5419-55-6	A colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4283.0	419.0	1453.0	750.0	470.0	1045.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2287	TRIMETHOXYSILANE	LS 330|TRIMETHOXY SILANE|TRIMETHOXYSILANE	2487-90-3	A colorless liquid. Slightly soluble in water and denser than water. Hence floats on water. Very toxic by ingestion, inhalation or skin absorption. May also be corrosive to skin and eyes.	2.5	5.0	2.5	4286.0	419.0	1453.0	750.0	470.0	1046.0	105.0	357.0	196.0	111.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2288	TRIMETHYL PHOSPHITE	METHYL PHOSPHITE|PHOSPHOROUS ACID|TMP|TRIMETHOXYPHOSPHINE|TRIMETHYL ESTER|TRIMETHYL ESTER OF PHOSPHOROUS ACID|TRIMETHYL PHOSPHITE	121-45-9	A clear colorless liquid with a strong foul odor. Flash point 99Â°F. Denser than water and insoluble in water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4289.0	419.0	1456.0	750.0	470.0	1047.0	105.0	358.0	196.0	111.0	Call for medical aid. INHALATION: Move to fresh air. INGESTION: Consult physician; hemodialysis is recommended as the treatment of choice. EYES or SKIN: Flush with water for 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Irritating oxides of sulfur and nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Use extinguishing agents appropriate for the surrounding fire. (USCG, 1999)
2289	TRIMETHYLACETIC ACID	ALPHA, ALPHA-DIMETHYL-PROPIONIC ACID|ALPHA,ALPHA-DIMETHYLPROPIONIC ACID|2,2-DIMETHYLPROPANOIC ACID|2,2-DIMETHYLPROPIONIC ACID|NEOPENTANOIC ACID|PIVALIC ACID|PROPANOIC ACID, 2,2-DI-METHYL-|TERT-PENTANOIC ACID|TRIMETHYLACETIC ACID|2,2,2-TRIMETHYLACETIC ACID|TRIMETHYLMETHANE CARBOXYLIC ACID|VERSATIC 5 ACID	75-98-9	TRIMETHYLACETIC ACID is a colored crystalline solid of low toxicity that is soluble in water, ethyl alcohol and diethyl ether.	1.0	2.5	5.0	4289.0	419.0	1456.0	750.0	470.0	1047.0	105.0	358.0	196.0	111.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2285	TRIISOPROPANOLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Eye protection (USCG, 1999)	Flammable. Insoluble in water.	CAMPHOR OIL containing ether can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		117											(USCG, 1999)		870.8					
2286	TRIISOPROPYL BORATE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with moisture and carbon dioxide in the air. Reacts vigorously with water to give oxygen and sodium hydroxide.	SODIUM SUPEROXIDE violently decomposes above 250Â°C, evolving oxygen [Mellor 2 Supp. 2:639 1961]. An oxidizing agent. Reacts with carbon dioxide to give sodium carbonate and oxygen. Mixtures with combustible materials (most organic compounds) are readily ignited by friction, heat, or contact with moisture.	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2287	TRIMETHOXYSILANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	Salts, basic, such as SODIUM TETRATHIOCARBONATE , are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2288	TRIMETHYL PHOSPHITE		Rubber or plastic gloves; splash-proof goggles; rubber or plastic apron. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	Nitric acid violently oxidized a thiocyanate solution [Bretherick 1979 p. 121]. Caution should be exercised in treating a thiocyanate with an oxidizing agent such as a peroxide or chlorate as such mixtures have been known to explode. Special Hazards of Combustion Products: Irritating oxides of sulfur and nitrogen may form in fire (USCG, 1999). Carbonyl sulfide is produced in a violent reaction by the mixture of sulfuric acid and sodium thiocyanate.	Strong Reducing Agent						0																							
2289	TRIMETHYLACETIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as FLUORANTHENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		230	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2285	TRIISOPROPANOLAMINE														(USCG, 1999)		0.923		77		(USCG, 1999)			347 to 392	760						(NIOSH, 2003)	(As Camphor)	200	mg/m3						CPO	Flammable Liquid			7.0	0.0	18.0	3.0	3.0
2286	TRIISOPROPYL BORATE																																										Oxidizer	NaO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	19.0	3.0	3.0
2287	TRIMETHOXYSILANE																																									Corrosive	CH4S4.xNa		4.0	0.0	12.0	3.0	3.0
2288	TRIMETHYL PHOSPHITE																											(USCG, 1999)		81.08											STS		NaCNS (aqueous)		4.0	0.0	18.0	3.0	3.0
2289	TRIMETHYLACETIC ACID	(NTP, 1992)		0.01		68		mm Hg							(NTP, 1992)		1.252		32		(NTP, 1992)			482	60		(NTP, 1992)		202.26						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Flammable Solid	C16H10		8.0	0.0	23.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2290	TRIMETHYLACETYL CHLORIDE	1,1-DIMETHYLETHANECARBONYL CHLORIDE|2,2-DIMETHYLPROPANOYL CHLORIDE|2,2-DIMETHYLPROPIONIC ACID CHLORIDE|2,2-DIMETHYLPROPIONYL CHLORIDE|NEOPENTANOYL CHLORIDE|PIVALIC ACID CHLORIDE|PIVALOLYL CHLORIDE|PIVALOYL CHLORIDE|PIVALYL CHLORIDE|TERT-BUTYL CHLORO KETONE|TERT-BUTYLCARBONYL CHLORIDE|TRIMETHYLACETYL CHLORIDE	3282-30-2	Colorless fuming liquid with a pungent odor. Very toxic by inhalation, ingestion or skin absorption. Fumes irritate the eyes and mucous membranes. Corrosive to most metals and tissue.	2.5	5.0	2.5	4292.0	422.0	1459.0	750.0	470.0	1048.0	106.0	359.0	196.0	111.0	(BLOB)	Flash point data of this compound are not available. It is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2291	TRIMETHYLAMINE, ANHYDROUS	METHANAMINE, N,N-DIMETHYL-|N,N-DIMETHYLMETHANAMINE|N-TRIMETHYLAMINE|TRIMETHYLAMINE|TRIMETHYLAMINE, ANHYDROUS|TRIMETHYLAMINE, [ANHYDROUS]	75-50-3	A colorless gas with a fishlike odor at low concentrations changing to ammonia-like odor at higher concentrations. Shipped as a liquid under its own vapor pressure. Contact with the unconfined liquid can cause frostbite from evaporative cooling or chemical type burns. The gasis corrosive and dissolves in water to form flammable, corrosive solutions. Gas is an asphyxiate by the displacement of air. Produces toxic oxides of nitrogen during combustion. Prolonged exposure to heat can cause the containers to rupture violently and rocket. Long-term inhalation of low concentrations or short -term inhalation of high concentrations has adverse health effects.	5.0	1.0	1.0	4292.0	422.0	1459.0	750.0	470.0	1048.0	106.0	359.0	196.0	111.0	INGESTION: Give large amount of water. EYES: Flush with water for at least 15 min.; consult a physician if irritation persists. SKIN: Flush with water. (USCG, 1999)		
2292	TRIMETHYLAMINE, AQUEOUS SOLUTION	AMINE, TRIMETHYL|METHANAMINE, N,N-DIMETHYL-|METHYLAMINES (TRIMETHYLAMINE)|N,N-DIMETHYLMETHAMINE|N,N-DIMETHYLMETHANAMINE|N-TRIMETHYLAMINE|TMA|TRIMETHYLAMINE|TRIMETHYLAMINE, AQUEOUS SOLUTION	75-50-3	A clear to yellow aqueous solution of a gas. Odor varies from fishlike to ammonia-like depending on vapor concentration. Flash point (25% solution) 35Â°F. Corrosive to skin and eyes. Less dense (at 7.4 lb / gal) than water. Vapors heavier than air. Produces toxic oxides of nitrogen when burned.	5.0	1.0	1.0	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2293	TRINITROPHENOL (PICRIC ACID), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	C.I. 10305|CARBAZOTIC ACID|1-HYDROXY-2,4,6-TRINITROBENZENE|MELINITE|NITROXANTHIC ACID|NSC 36947|NSC 56147|PA|PICRAL|PICRIC ACID|PICRONITRIC ACID|TRINITROPHENOL|TRINITROPHENOL (PICRIC ACID), WETTED|TRINITROPHENOL (PICRIC ACID), WETTED IN ALCOHOL OR ETHER|TRINITROPHENOL (PICRIC ACID), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]|2,4,6-TRINITROPHENOL	88-89-1	åŒTrinitrophenol (picric acid), Wetted, with not less than 10% water by massâ€ is a yellow mass of of moist crystals or a slurry. An explosive, but wetting lowers the risk of detonation. Dangerously explosive if allowed to dry out. The pure substance is denser than water (1.77 g cm-3) and moderately soluble in water. Used in synthesis of dyes, as a drug, to manufacture explosives and matches, to etch copper and to make colored glass. Store tightly sealed (to protect from drying out) in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. May be irritating to skin, and mucous membranes. It may be toxic by ingestion.	1.0	2.5	5.0	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	(BLOB)		
2294	TRIPHENYL PHOSPHATE	CELLUFLEX TPP|DISFLAMOLL TP|PHENYL PHOSPHATE|PHENYL PHOSPHATE ((PHO)3PO)|PHOSFLEX TPP|PHOSPHORIC ACID, TRIPHENYL ESTER|REOFOS TPP|TPT|TPP|TPPA|TRIPHENOXYPHOSPHINE OXIDE|TRIPHENYL ESTER OF PHOSPHORIC ACID|TRIPHENYL PHOSPHATE|TRIPHENYL PHOSPHORIC ACID ESTER	115-86-6	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2295	TRIPHENYLAMINE	N,N-DIPHENYLANILINE|N,N-DIPHENYLBENZENAMINE|TRIPHENYLAMINE	603-34-9	PHYSICAL DESCRIPTION: Crystals or off-white lumpy solid. (NTP, 1992)	1.0	2.5	5.0	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	(BLOB)	May ignite other combustible materials (wood, paper, oil, etc.) Mixture with fuels may explode. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Poisonous gas is produced in fire. Avoid contact with all oxidizable materials, including organic materials. Will react violently with water and most organic materials to produce heat and toxic fumes. Keep gas in tank, avoid exposure to all other materials. (EPA, 1998)	A few whiffs of the gas or vapor could cause death. Gas, vapor or liquid could be fatal on penetrating the firefighters' normal full protective clothing. Only special protective clothing designed to protect against fluorine should be used; the normal full protective clothing available to the average fire department will not provide adequate protection. Do not direct water onto fluorine leaks as the fire may be intensified. For small fire, use dry chemical or carbon dioxide. For large fire, use water spray, fog, or foam. For massive fire in cargo area, use unmanned hose holder or monitor nozzles. (EPA, 1998)
2296	TRIPROLIDINE HYDROCHLORIDE MONOHYDRATE	ACTIDIL|ACTIDILON|2-(1-(4-METHYLPHENYL)-3-(1-PYRROLIDINYL)-1-PROPENYL)PYRIDINE MONOHYDROCHLORIDE MONOHYDRATE|PRO-ACTIDIL|PRO-ENTRA|PYRIDINE, 2-[3-(1-PYRROLIDINYL)-1-P-TOLYLPROPENYL]-, MONOHYDROCHLORIDE, MONOHYDRATE, STEREOISOMER|2-(3-(1-PYRROLIDINYL)-1-P-TOLYLPROPENYL)PYRIDINE MONOHYDROCHLORIDE MONOHYDRATE STEREOISOMER|TRIPROLIDINE HYDROCHLORIDE MONOHYDRATE|VENEN	6138-79-0	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of fluorine containing compounds. Some of these materials may burn but none ignite readily. These materials may ignite combustibles (wood, paper, oil, etc.). (EPA, 1998)	Stay upwind; keep out of low areas. Wear self-contained, positive pressure breathing apparatus and full protective clothing. Move container from fire area. Cool containers that are exposed to flames with water from the side until well after fire is out. Small fires: use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2290	TRIMETHYLACETYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	SODIUM VANADATE is a moderately strong oxidizing agent [Cotton and Wilkinson].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		1166	
2291	TRIMETHYLAMINE, ANHYDROUS		Rubber gloves; chemical goggles or face shield (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ZIRCONIUM ACETATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.						0																						
2292	TRIMETHYLAMINE, AQUEOUS SOLUTION	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	TRIPHENYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																				(NTP, 1992)		261	
2293	TRINITROPHENOL (PICRIC ACID), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	CARBAMIC ACID, METHYL-, O-(((2,4-DIMETHYL-1, 3-DITHIOLAN-2-YL)METHYLENE)AMINO)- is an oxime. Chemically similar to, but more reactive than an amide. Incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Also incompatible with strongly oxidizing acids, peroxides, and hydroperoxides.					0																							
2294	TRIPHENYL PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	An acidic salt of an amide. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3280 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		345	
2295	TRIPHENYLAMINE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	(BLOB)	Water vapor will react combustibly with Fluorine; an explosive reaction occurs between liquid fluorine and ice, after an intermediate induction period, [NASA SP-3037: 52(1967)]: If liquid air, which has stood for some time is treated with Fluorine, a precipitate is formed which is likely to explode. Explosive material is thought to be Fluorine Hydrate, [Mellor 2:11(1946-1947)]. It reacts with water to form hydrofluoric acid and oxygen.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1045 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	4	4	No Water; Oxidizer															(USCG, 1999)	Not flammable			(EPA, 1998)		-363.3	
2296	TRIPROLIDINE HYDROCHLORIDE MONOHYDRATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0					(EPA, 1998)	Burns.					(EPA, 1998)	Burns.							(EPA, 1998)		95.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2290	TRIMETHYLACETYL CHLORIDE																										(NTP, 1992)		121.93						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	Na.VO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	34.0	3.0	3.0
2291	TRIMETHYLAMINE, ANHYDROUS														(USCG, 1999)		1.37		68								(USCG, 1999)	(solute only)	327		(NIOSH, 2003)	(as Zr)	50	mg/m3						ZCA		H2ZrO2(C2H3O2)2		8.0	0.0	41.0	3.0	3.0
2292	TRIMETHYLAMINE, AQUEOUS SOLUTION														(NTP, 1992)		0.774		32		(NTP, 1992)	; 383-401Â° F at 10-22 mm Hg		657 to 658	760		(NTP, 1992)		245.34						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C18H15N	Mineral-Based & Clay-Based Absorbents	8.0	0.0	41.0	3.0	3.0
2293	TRINITROPHENOL (PICRIC ACID), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]																										(EPA, 1998)		234.36													C8H14N2O2S2		8.0	0.0	18.0	3.0	3.0
2294	TRIPHENYL PHOSPHATE																										(NTP, 1992)		260.08						(NTP, 1992)	at 71.1Â° F		1 to 10	mg/mL		Poison	C7H9AsN2O4		5.0	0.0	21.0	3.0	3.0
2295	TRIPHENYLAMINE	(EPA, 1998)		760		-306.2		mm Hg	(EPA, 1998)		1.695				(EPA, 1998)		1.5127		-306.6		(EPA, 1998)		-306.6	760			(EPA, 1998)		38		(NIOSH, 2003)		25	ppm	(NIOSH, 2003)	Reacts with water				FXX	Poison Gas|Oxidizer|Corrosive	F2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	7.0	0.0	18.0	3.0	3.0
2296	TRIPROLIDINE HYDROCHLORIDE MONOHYDRATE														(EPA, 1998)		1.3693		97		(EPA, 1998)		329	760			(EPA, 1998)		78.04												Poison	C2H3FO2		9.0	0.0	24.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2297	TRIPROPYLAMINE	N,N-DIPROPYL-1-PROPANAMINE|N,N-DIPROPYLPROPANAMINE|1-PROPANAMINE, N,N-DIPROPYL-|PROPYLDI-N-PROPYLAMINE|TRI-N-PROPYLAMINE|TRIPROPYLAMINE|TRIPROPYLAMINE, [COMBUSTIBLE LIQUID LABEL]	102-69-2	A water-white liquid. Flash point near 125Â°F. Less dense than water. May be mildly toxic by ingestion and inhalation. Used as a solvent.	2.5	5.0	2.5	4295.0	422.0	1459.0	750.0	470.0	1049.0	106.0	359.0	196.0	111.0	EYES: Flush with plenty of water for at least 15 minutes. SKIN: Flush with soap and water. INGESTION: Induce vomiting. Get medical attention. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2298	TRIPROPYLENE GLYCOL	TRIPROPYLENE GLYCOL	24800-44-0	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	4295.0	422.0	1459.0	753.0	470.0	1049.0	106.0	359.0	197.0	111.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray can also be used. (NTP, 1992)
2299	TRIS(1,3-DICHLORO-2-PROPYL)PHOSPHATE	ANTIBLAZE 195|CRP|CRP (FIREPROOFING AGENT)|1,3-DICHLORO-2-PROPANOL PHOSPHATE (3:1)|EMULSION 212|FR 10|FR 10 (PHOSPHATE)|FYROL FR 2|PF 38|PF 38/3|PHOSPHORIC ACID TRIS(1,3-DICHLORO-2-PROPYL)ESTER|TCPP|TDCPP|TRI(BETA,BETA'-DICHLOROISOPROPYL)PHOSPHATE|TRIS(1,3-DICHLORO-2-PROPYL) PHOSPHATE|TRIS(1,3-DICHLORO-2-PROPYL)PHOSPHATE|TRIS(1,3-DICHLOROISOPROPYL) PHOSPHATE|TRIS(1,3-DICHLOROISOPROPYL)PHOSPHATE|TRIS(1-CHLOROMETHYL-2-CHLOROETHYL)PHOSPHATE|TRIS(1-CHLOROMETHYL-2-CHOROETHYL)PHOSPHATE| TRIS(2-CHLORO-1-(CHLOROMETHYL)ETHYL)PHOSPHATE|TRIS[2-CHLORO-1-(CHLOROMETHYL)ETHYL] PHOSPHATE	13674-87-8	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. Generally a super-cooled liquid at room temperature but may occasionally solidify when held at low temperatures for prolonged periods. (NTP, 1992)	2.5	5.0	2.5	4295.0	422.0	1459.0	753.0	470.0	1049.0	106.0	359.0	197.0	111.0	(BLOB)	When heated to decomposition it emits very toxic fumes of chlorides, nitrogen oxides, and sulfur oxides. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2300	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE	AMGARD TMCP|FYROL PCF|HOSTAFLAM OP 820|PHOSPHORIC ACID, TRIS(2-CHLORO-1-METHYLETHYL) ESTER|2-PROPANOL,1-CHLORO, PHOSPHATE|TRIS(1-CHLORO-2-PROPYL) PHOSPHATE|TRIS(1-METHYL-2-CHLOROETHYL) PHOSPHATE|TRIS(2-CHLORO-1-METHYLETHYL) PHOSPHATE|TRIS(2-CHLOROISOPROPYL) PHOSPHATE|TRIS(BETA-CHLOROISOPROPYL) PHOSPHATE|TRIS(CHLOROISOPROPYL) PHOSPHATE	13674-84-5	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4298.0	422.0	1459.0	753.0	470.0	1050.0	106.0	359.0	197.0	111.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2301	TRIS(2,3-EPOXYPROPYL)ISOCYANURATE	GLYCIDYL ISOCYANURATE|N,N',N"-TRIGLYCIDYL ISOCYANURATE|NSC 269934|NSC 296934|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRIS(2,3-EPOXYPROPYL)-|S-TRIAZINE 2,4,6(1H,3H,5H)-TRIONE, TRIS(2,3-EPOXYPROPYL)-|TGT|TRIGLYCIDYL ISOCYANURATE|1,3,5-TRIGLYCIDYL ISOCYANURATE|1,3,5-TRIGLYCIDYL ISOCYANURIC ACID|1,3,5-TRIGLYCIDYLISOCYANURIC ACID|TRIS(2,3-EPOXYPROPYL) ISOCYANURATE|1,3,5-TRIS(2,3-EPOXYPROPYL) ISOCYANURATE|TRIS(2,3-EPOXYPROPYL)-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIS(2,3-EPOXYPROPYL)-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRIS(2,3-EPOXYPROPYL)ISOCYANURATE|TRIS(EPOXYPROPYL)	2451-62-9	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4301.0	425.0	1459.0	753.0	473.0	1051.0	107.0	359.0	197.0	112.0	(BLOB)	Special Hazards of Combustion Products: Burning in open flame can form toxic hydrogen fluoride gases. Behavior in Fire: Heavy vapor can travel a considerable difference to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2297	TRIPROPYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles and dust mask. (USCG, 1999)	Water soluble.	STANNOUS FLUORIDE, a strong reducing agent, is incompatible with oxidizers. Avoid contact with acids - HF fumes may be produced (USCG, 1999).	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		419	
2298	TRIPROPYLENE GLYCOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Flammable. Water soluble.	STEARATOCHROMIUM CHLORIDE COMPLEX is sensitive to heat. Reacts with oxidizing agents. Reacts readily with negatively charged materials, such as polyvinyl alcohol or some proteins. Sludging increases with pH and is instantaneous above 6.0 (NTP, 1992).	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		36		(NTP, 1992)		2		%	(NTP, 1992)		12		%	(NTP, 1992)			greater than 750			
2299	TRIS(1,3-DICHLORO-2-PROPYL)PHOSPHATE	(Non-Specific -- Thiourea) Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition it emits very toxic fumes of chlorides, nitrogen oxides, and sulfur oxides. [EPA, 1998]. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		294.8 to 295.7	
2300	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2301	TRIS(2,3-EPOXYPROPYL)ISOCYANURATE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic vapor-acid gas respirator where appropriate; neoprene or vinyl gloves; chemical safety spectacles, plus face shield where appropriate; rubber footwear; apron or impervious clothing for splash protection; hard hat. (USCG, 1999)	Highly flammable. Slightly soluble in water.	Incompatible with strong oxidizing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		5														(NTP, 1992)		-42.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_temp[Deg F]	vp_range_temp[Deg F]	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_temp[Deg F]	vd_range_temp[Deg F]	sg_source	sg_note	sg_value	sg_range	sg_value_temp[Deg F]	sg_range_temp[Deg F]	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	mwlweight_source	mwlweight_one	mwlweight_value	mwlweight_range	odlh_source	odlh_note	odlh_value	odlh_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chris_codes	doc_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributors Sites	Distribution Score	Prob Score
2297	TRIPROPYLAMINE														(USCG, 1999)						(USCG, 1999)		760				(USCG, 1999)		156.7																					
2298	TRIPROPYLENE GLYCOL								(NTP, 1992)	approximately	2				(NTP, 1992)		2.79				(NTP, 1992)		1062		760		(NTP, 1992)		546.34																					
2299	TRIS(1,3-DICHLORO-2-PROPYL) PHOSPHATE																0.93 to 0.97				(NTP, 1992)		180				(EPA, 1998)		186.67																					
2300	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE																						185.2																											
2301	TRIS(2,3-EPOXYPROPYL)ISOCYANURATE	(NTP, 1992)	> 100 mm Hg at 86.7°C F	60		67.3		mm Hg	(NTP, 1992)		3.31				(USCG, 1999)		1.0225		68		(NTP, 1992)				760				96.1																					

id	name	Cellulose-Based Absorbents/Mineral-Based & Clay-Based Absorbents/Diatomaceous Earth	formulas	doc_labels	chris_codes	solbly_unit	solbly_note	solbly_range	solbly_value	solbly_source	odlh_unit	odlh_value	odlh_note	odlh_source	mwlweight_range	mwlweight_value	mwlweight_note	mwlweight_source	bp_range_pressMMHG	bp_value_pressMMHG	bp_range	bp_value	bp_note	bp_source	sg_range_temp[Deg F]	sg_value_temp[Deg F]	sg_range	sg_value	sg_note	sg_source	vd_range_temp[Deg F]	vd_value_temp[Deg F]	vd_range	vd_value	vd_note	vd_source	vp_unit	vp_range_temp[Deg F]	vp_value_temp[Deg F]	vp_range	vp_value	vp_note	vp_source	Prob Score	Distribution Score	# of Distributors Sites	Production Score	# of Nations Producing
2297	TRIPROPYLAMINE																																																
2298	TRIPROPYLENE GLYCOL		C18H38O4	Flammable Liquid	STF	mg/mL	greater than or equal to 100	1 to 10	(NTP, 1992)	at 73Å° F					546.34																																						
2299	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE		C7H17Cl3O4P	Poison											186.67																																				
2300	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE		C18H38O4P	Corrosive																																														
2301	TRIS(2,3-EPOXYPROPYL)ISOCYANURATE		C9H15F	Flammable Liquid						at 68Å° F	(NTP, 1992)				96.1																																					

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2302	TRIS(2-CHLOROETHYL) PHOSPHATE	AMGARD TCEP|CEF|CELLUFLEX|CELLUFLEX CEF|CFI|2-CHLOROETHANOL PHOSPHATE|CLP|DISFLAMOLL TCA|ETHANOL, 2-CHLORO-, PHOSPHATE (3:1)|FYROL CEF|FYROL CF|GENOMOLL P|NCI-C60128|NIAX 3CF|NIAX FLAME RETARDANT 3CF|PHOSPHORIC ACID, TRIS(2-CHLOROETHYL)ESTER|TCEP |TRI(2-CHLOROETHYL) PHOSPHATE|TRI(BETA-CHLOROETHYL) PHOSPHATE|TRI(CHLOROETHYL) PHOSPHATE|TRI-BETA-CHLOROETHYL PHOSPHATE|TRICHLOROETHYL PHOSPHATE|TRIS(2-CHLOROETHYL) ORTHOPHOSPHATE|TRIS(2-CHLOROETHYL) PHOSPHATE|TRIS(BETA-CHLOROETHYL) PHOSPHATE|TRIS(CHLOROETHYL) PHOSPHATE	115-96-8	PHYSICAL DESCRIPTION: Odorless clear liquid. Neutral pH. (NTP, 1992)	2.5	5.0	2.5	4301.0	425.0	1459.0	753.0	473.0	1051.0	107.0	359.0	197.0	112.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2303	TRIS(2-ETHYLHEXYL)PHOSPHATE	DISFLAMOLL TOF|2-ETHYL-1-HEXANOL PHOSPHATE|FLEXOL TOF|1-HEXANOL, 2-ETHYL, PHOSPHATE|KRONITEX TOF|NCI-C54751|PHOSPHORIC ACID, TRIS(2-ETHYLHEXYL) ESTER|TEHP|TOF|TOP|TRI(2-ETHYLHEXYL) PHOSPHATE|TRI(2-ETHYLHEXYL)PHOSPHATE|TRIETHYLHEXYL PHOSPHATE|TRIOCTYL PHOSPHATE|TRIS(2-ETHYLHEXYL) PHOSPHATE|TRIS(2-ETHYLHEXYL)PHOSPHATE	78-42-2	PHYSICAL DESCRIPTION: Clear colorless to pale yellow liquid with a slight sharp odor. (NTP, 1992)	2.5	5.0	2.5	4304.0	425.0	1459.0	753.0	473.0	1052.0	107.0	359.0	197.0	112.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2304	TUNGSTEN HEXAFLUORIDE	HEXAFLUOROTUNGSTEN|TUNGSTEN FLUORIDE|TUNGSTEN FLUORIDE (WF6)|TUNGSTEN HEXAFLUORIDE|TUNGSTEN HEXAFLUORIDE (WF6)|TUNGSTEN(6+) FLUORIDE|WOLFRAM HEXAFLUORIDE	7783-82-6	A toxic corrosive light yellow liquid or gas. Noncombustible. Used in the manufacture of other chemicals and in the manufacture of electronics.	5.0	1.0	1.0	4307.0	425.0	1459.0	753.0	473.0	1053.0	107.0	359.0	197.0	112.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2305	TURMERIC OLEO RESIN	CURCUMA OIL|CURCUMIN|CURCUMINE |NCI-C60015|OIL OF TURMERIC|OILS, CURCUMA|OILS, CURCUMA LONGA|TURMERIC OIL|TURMERIC OLEO RESIN	8024-37-1	PHYSICAL DESCRIPTION: Yellow to yellow-orange powder. Aromatic pepper-like, somewhat bitter taste. (NTP, 1992)	1.0	2.5	5.0	4310.0	425.0	1459.0	753.0	473.0	1054.0	107.0	359.0	197.0	112.0	Eye: If this chemical contacts the eyes, promptly wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breaths large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 1997)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2306	URANIUM METAL, PYROPHORIC	238U ELEMENT|URANIUM I (238U)|URANIUM METAL, PYROPHORIC|URANIUM METAL, [PYROPHORIC]|URANIUM METAL: URANIUM I|URANIUM, ISOTOPE OF MASS 238|URANIUM-238	7440-61-1	A silver-gray radioactive metal. Radioactive materials emit ionizing radiation that can only be detected using special instruments. Exposure to intense levels of radiation or prolonged exposure to low levels is harmful. Film is also damaged by radiation.	1.0	2.5	5.0	4313.0	425.0	1459.0	753.0	473.0	1055.0	107.0	359.0	197.0	112.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2302	TRIS(2-CHLOROETHYL) PHOSPHATE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable.	An explosion occurs if STIBINE is heated with ammonia or chlorine. Stibine and concentrated nitric acid explode [Mellor 9:397 (1946-47)].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2676 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6																		(NIOSH, 2003)		-126	
2303	TRIS(2-ETHYLHEXYL)PHOSPHATE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	STRONTIUM CHLORATE is a strong oxidizing agent; dissolution dilutes its reactivity but does not nullify it. Mixtures with reducing agents (most combustible materials) can react vigorously or explosively if allowed to dry out.	Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2304	TUNGSTEN HEXAFLUORIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Heating in air causes incandescence and mild explosions [Bretherick 1979. p. 980]. Slowly reacts with water to form caustic solution of zirconium hydroxide and hydrogen gas (H2).	Hydrides, such as ZIRCONIUM HYDRIDE, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids.	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2305	TURMERIC OLEO RESIN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, contained in CARBON BLACK OIL, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2306	URANIUM METAL, PYROPHORIC	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	2,2-DIBROMO-3-NITRILOPROPIONAMIDE is incompatible with bases, metals, oxidizing agents, acids. Dangerous gases may accumulate as a result of ignition and fire.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2302	TRIS(2-CHLOROETHYL) PHOSPHATE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-1		760		(NIOSH, 2003)		124.8		(NIOSH, 2003)		5	ppm	(NIOSH, 2003)	Slight					Poison Gas|Flammable Gas	H3Sb		8.0	0.0	26.0	3.0	3.0
2303	TRIS(2-ETHYLHEXYL)PHOSPHATE																																									Oxidizer	Sr(ClO3)2 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	17.0	3.0	3.0
2304	TUNGSTEN HEXAFLUORIDE																															(NIOSH, 2003)	(as Zr)	50	mg/m3							Flammable Solid	H2Zr		8.0	0.0	17.0	3.0	3.0
2305	TURMERIC OLEO RESIN																															(NIOSH, 2003)		1750	mg/m3							Flammable Liquid	C		7.0	0.0	11.0	3.0	3.0
2306	URANIUM METAL, PYROPHORIC																																									Corrosive|Poison	C3H2Br2N2O		8.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2307	VALERALDEHYDE	AMYL ALDEHYDE|BUTYL FORMAL|N-BUTYL FORMAL|N-PENTANAL|N-VALERALDEHYDE|N-VALERIC ALDEHYDE|PENTANAL|VALERAL|VALERALDEHYDE|VALERIANIC ALDEHYDE|VALERIC ACID ALDEHYDE|VALERIC ALDEHYDE|VALERYLALDEHYDE	110-62-3	A colorless liquid. Slightly soluble in water and less dense than water. Flash point 54Â°F. Vapors heavier than air. Used to make artificial flavorings and rubber.	2.5	5.0	2.5	4316.0	425.0	1459.0	753.0	473.0	1056.0	107.0	359.0	197.0	112.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
2308	VALERONITRILE	BUTANE, 1-CYANO-|BUTYL CYANIDE|1-BUTYL CYANIDE|1-CYANOBUTANE|N-PENTANENITRILE|N-VALERONITRILE|PENTANENITRILE|PENTANOIC ACID, NITRILE|VALERONITRILE	110-59-8	PHYSICAL DESCRIPTION: Clear colorless to yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4316.0	425.0	1459.0	753.0	473.0	1056.0	107.0	359.0	197.0	112.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2309	VALERYL CHLORIDE	N-BUTANECARBONYL CHLORIDE|N-PENTANOYL CHLORIDE|PENTANOIC ACID CHLORIDE|VALEROYL CHLORIDE|VALERYL CHLORIDE	638-29-9	A colorless fuming liquid with a pungent odor. Fumes irritate the eyes and mucous membranes. Corrosive.	2.5	5.0	2.5	4316.0	425.0	1459.0	753.0	473.0	1056.0	107.0	359.0	197.0	112.0	(BLOB)	When heated, emits highly toxic fumes. Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. Protect from light. (EPA, 1998)	Extinguish fire using agent suitable for type of surrounding fire; material itself does not burn or burns with difficulty. Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
2310	VALINOMYCIN	ANTIBIOTIC N-329 B|CYCLO(D-ALPHA-HYDROXYISOVALERYL-D-VALYL-L-LACTOYL-L-VALYL-D-ALPHA-HYDROXYISOVALERYL-D-VALYL-L-LACTOYL-L-VALYL-D-ALPHA-HYDROXYISOVALERYL-D-VALYL-L-LACTOYL-L-VALYL)|1,7,13,19,25,31-HEXAOXA-4,10,16,22,28,34-HEXAAZACYCLOHEXATRIACONTANE, CYCLIC PEPTIDE DERIV.|1,7,13,19,25,31-HEXAOXA-4,10,16,22,28,34-HEXAAZACYCLOHEXATRIACONTANE-2,5,8,11,14,17,20,23,26,29,32,35-DODECONE, 3,6,9,15,18,21,27,30,33-NONAISOPROPYL-12,24,36-TRIMETHYL-|NSC 122023|VALINOMICIN|VALINOMYCIN	2001-95-8	Shiny crystalline solid. Used as an insecticide and nematocide. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	4316.0	425.0	1462.0	753.0	476.0	1056.0	107.0	360.0	197.0	113.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2311	VANADIUM (FUME OR DUST)	VANADIUM (FUME OR DUST)	7440-62-2	Silvery-whitish powder. Resists corrosion.	1.0	2.5	5.0	4319.0	425.0	1465.0	753.0	476.0	1057.0	107.0	361.0	197.0	113.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Asphyxiation due to carbon dioxide production may result. Behavior in Fire: Flame has very little color. Containers may explode in fire. (USCG, 1999)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2307	VALERALDEHYDE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposed by water or moisture in air evolving toxic phosphine which often ignites. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	STRONTIUM PHOSPHIDE is a reducing agent. They slowly generate flammable or noxious gases in contact with water. Phosphides react quickly upon contact with moisture or acids to give the very toxic gas phosphine; phosphides also can react vigorously with oxidizing materials. In general, materials in this group are incompatible with oxidizers such as atmospheric oxygen. They are violently incompatible with acids, particularly oxidizing acids.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2013 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2308	VALERONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Slowly releases H2S in moist air.	STRONTIUM SULFIDE reacts vigorously with acids to release hydrogen sulfide gas. May react exothermically with oxidizing agents including inorganic oxoacids, organic peroxides and epoxides, and inorganic peroxides to generate toxic gases.						0																						(NTP, 1992)		greater than 3632
2309	VALERYL CHLORIDE	Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Avoid breathing dusts, and fumes from burning materials. Keep upwind. Avoid bodily contact with the material. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	STRYCHNINE is an alkaloid derivative. It is a base and forms water soluble salts with acids. Avoid alkalis, alkali carbonates and bicarbonates, benzoates, dichromates, bromides, iodides, tannic and picric acids, salicylates, borax, gold chloride and other alkaloid precipitants, piperazine, potassium-mercuric iodide. Protect from light. [EPA, 1998]. This compound is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0					(EPA, 1998)	Material may burn but does not ignite readily.				(EPA, 1998)	Material may burn but does not ignite readily.								(EPA, 1998)		514 to 554
2310	VALINOMYCIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		406 to 424
2311	VANADIUM (FUME OR DUST)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	(BLOB)	Highly Flammable	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1016 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4					(USCG, 1999)		12		%	(USCG, 1999)		75		%	(USCG, 1999)	1128		(USCG, 1999)		-326	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2307	VALERALDEHYDE																																								Dangerous When Wet(Poison	PSr		5.0	0.0	13.0	3.0	3.0
2308	VALERONITRILE														(NTP, 1992)		3.7		59								(NTP, 1992)		119.68													SSr		7.0	0.0	17.0	3.0	3.0
2309	VALERYL CHLORIDE	(NIOSH, 2003)	Low												(EPA, 1998)		1.36		68		(EPA, 1998)		518		5		(EPA, 1998)		334.4		(NIOSH, 2003)	(as strychnine)	3	mg/m3	(NIOSH, 2003)		0.02		%	STR	Poison	C21H22N2O2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	24.0	3.0	3.0
2310	VALINOMYCIN																										(NTP, 1992)		460.84						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C21H23CIFN3O.2ClH	Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0
2311	VANADIUM (FUME OR DUST)	(NIOSH, 2003)			greater than 35			atm							(USCG, 1999)		0.791		-312.7		(USCG, 1999)		-312.7		760		(USCG, 1999)		28		(NIOSH, 2003)		1200	ppm	(NIOSH, 2003)		2		%	CMO	Poison Gas|Flammable Gas	CO		8.0	0.0	18.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2312	VANADYL SULFATE	C.I. 77940|OXO(SULFATO)VANADIUM|OXOVANADIUM(IV) SULFATE|VANADIUM OXIDE SULFATE (VO(SO4))|VANADIUM OXOSULFATE|VANADIUM OXYSULFATE (VOSO4)|VANADIUM SULFATE (VO(SO4))|VANADIUM, OXOSULFATO-|VANADIUM, OXO[SULFATO(2-)-O]-|VANADYL MONOSULFATE|VANADYL SULFATE|VANADYL SULFATE (VO(SO4))|VANADYL SULPHATE	27774-13-6	A blue crystalline solid. Very soluble in water. Denser than water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	4319.0	425.0	1465.0	753.0	476.0	1057.0	107.0	361.0	197.0	113.0			
2313	VAT BLUE 20	(BLOB)	116-71-2	PHYSICAL DESCRIPTION: Bluish-black to black powder. (NTP, 1992)	1.0	2.5	5.0	4319.0	425.0	1465.0	753.0	476.0	1057.0	107.0	361.0	197.0	113.0	(BLOB)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2314	VAT BROWN 1	(BLOB)	2475-33-4	PHYSICAL DESCRIPTION: Fine, dark brown to black crystalline powder with a slight odor. (NTP, 1992)	1.0	2.5	5.0	4319.0	425.0	1465.0	753.0	476.0	1057.0	107.0	361.0	197.0	113.0	(BLOB)	When this material is heated to decomposition, it can emit highly toxic fumes of phosphorus oxides. (EPA, 1998)	This compound is a liquid organophosphorus insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2315	VIDARABINE	ADENINE 9-BETA-D-ARABINOFURANOSIDE|ADENINE ARABINOSIDE|ADENINE BETA-D-ARABINOFURANOSIDE|ADENINE, 9-BETA-D-ARABINOFURANOSYL-|ADENINE-9-BETA-D-ARABINOFURANOSIDE|6-AMINO-9-BETA-D-ARABINOFURANOSYLPURINE|ARA-A|ARAADENOSINE|ARABINOSYLADENINE|9-ARABINOSYLADENINE|BETA-ARA-A|9-BETA-ARABINOADENOSINE|9-BETA-D-ARABINOADENOSINE|9-BETA-D-ARABINOFURANOSYL-9H-PURIN-6-AMINE|BETA-D-ARABINOFURANOSYLADENINE|9-BETA-D-ARABINOFURANOSYLADENINE|BETA-D-ARABINOSYLADENINE|9-BETA-D-	5536-17-4	PHYSICAL DESCRIPTION: White to off-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4322.0	425.0	1465.0	753.0	476.0	1058.0	107.0	361.0	197.0	113.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2316	VINYL ISOBUTYL ETHER	ETHER, ISOBUTYL VINYL|ISO-BUTYL VINYL ETHER|ISOBUTANOL VINYL ETHER|ISOBUTOXYETHENE|ISOBUTYL VINYL ETHER|IVE|LUTONAL LR 8500|VINOFLEX MO 400|VINYL ISOBUTYL ETHER|VINYL ISOBUTYL ETHER, INHIBITED	109-53-5	A clear colorless liquid. May polymerize if contaminated or subjected to heat. If polymerization take place inside a container, the container may violently rupture. Vapors are heavier than air.	2.5	5.0	2.5	4325.0	425.0	1468.0	753.0	476.0	1059.0	107.0	362.0	197.0	113.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2312	VANADYL SULFATE			No rapid reaction with air. No rapid reaction with water.	FOMESAFEN is incompatible with acids. [[Details on specifics of reactivity not yet available.]]								0																								
		Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)																														
2313	VAT BLUE 20			Highly flammable.	(BLOB)	Highly Flammable	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2600 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for carbon monoxide, CAS number 630-08-0	3	4	0	4																								
2314	VAT BROWN 1	This compound is a liquid organophosphorus insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Very slightly soluble in water.	Organothiophosphates, such as FONOFOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		greater than 201																				
2315	VIDARABINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	FORMALDEHYDE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.) may react violently with strong oxidizing agents (hydrogen peroxide, performic acid, perchloric acid in the presence of aniline, potassium permanganate, nitromethane). May react with bases (sodium hydroxide, potassium hydroxide, ammonia), and with nitrogen dioxide (explosive reaction around 180Â°C). May react with hydrochloric acid to form highly toxic bis(chloromethyl) ether. Polymerization reaction with phenol may develop sudden destructive pressure [Bretherick, 5th ed., 1995, p.168]. May generate flammable and/or toxic gases in combination with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. May generate toxic formaldehyde gas when heated. Can react with air to give first peroxo acids, and ultimately formic acid. These reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). Incompatible with liquid oxygen.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2				(NIOSH, 2003)		7	%	(NIOSH, 2003)		73		%				(NIOSH, 2003)		-134	
2316	VINYL ISOBUTYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Soluble in water [Hawley].	SUCCINONITRILE is incompatible with acids and oxidizing agents (such as peroxides and epoxides). Can react violently with strong oxidizing acids. Is hydrolyzed exothermically in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). Can react vigorously with reducing agents.			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		270														(NTP, 1992)		135 to 136

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2312	VANADYL SULFATE																																									C15H10ClF3N2O6S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	22.0	3.0	3.0
2313	VAT BLUE 20																																								Poison Gas|Flammable Gas	COJH2		7.0	0.0	18.0	3.0	3.0
2314	VAT BROWN 1	(EPA, 1998)		0.00021		77		mm Hg							(EPA, 1998)		1.16		77		(EPA, 1998)		266		0.1		(EPA, 1998)		246.32						(NIOSH, 2003)		0.001		%		Poison	C10H15OPS2		8.0	0.0	19.0	3.0	3.0
2315	VIDARABINE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-6		760		(NIOSH, 2003)		30		(NIOSH, 2003)	; A potential human carcinogen.	20	ppm	(NIOSH, 2003)	Miscible					Class 9	CH2O	Cellulose-Based Absorbents	9.0	0.0	16.0	3.0	3.0
2316	VINYL ISOBUTYL ETHER	(NTP, 1992)		2		392		mm Hg	(NTP, 1992)		2.1				(NTP, 1992)		1.023		113		(NTP, 1992)			509 to 513	760		(NTP, 1992)		80.09						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C4H4N2		6.0	0.0	15.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2317	VINYLIDENE CHLORIDE, INHIBITED	ASYM-DICHLOROETHYLENE|1,1-DCE|1, 1-DICHLOROETHENE|VINYLIDENE CHLORIDE|1,1-DICHLOROETHENE|1,1-DICHLOROETHYLENE|DIOFAN A 565S|ETHENE, 1,1-DICHLORO-|ETHYLENE, 1,1-DICHLORO-|F 1130A|HCC 1130A|ISO-DICHLOROETHYLENE|NCI-C54262|R 1130A|SARANSCONATEX|UNSYM-DICHLOROETHYLENE|VDC|VINYLIDENE CHLORIDE|VINYLIDENE CHLORIDE MONOMER|VINYLIDENE CHLORIDE(II)|VINYLIDENE CHLORIDE, INHIBITED|VINYLIDENE CHLORIDE, [INHIBITED]|VINYLIDENE DICHLORIDE	75-35-4	A clear colorless liquid with a chloroform-like odor. Flash point 0Â°F. Boiling point 99Â°F. Denser (at 10.1 lb / gal) than water and insoluble in water. Hence sinks in water. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently. Vapors heavier than air.	2.5	5.0	2.5	4325.0	425.0	1468.0	753.0	476.0	1059.0	107.0	362.0	197.0	113.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2318	WARFARIN	(BLOB)	81-81-2	Odorless and colorless solid. Used as a rodenticide for Norway rats and for house mice. (EPA, 1998)	1.0	2.5	5.0	4325.0	425.0	1468.0	759.0	476.0	1059.0	107.0	362.0	199.0	113.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Toxic gas is generated when heated. (USCG, 1999)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2319	WARFARIN, AND SALTS, CONC.>0.3%	WARFARIN AND SALTS|WARFARIN, AND SALTS, CONC.>0.3%	81-81-2	Colorless crystals. Non corrosive. Used as a rodenticide.	1.0	2.5	5.0	4325.0	425.0	1468.0	759.0	476.0	1059.0	107.0	362.0	199.0	113.0	(BLOB)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2320	WAXES: CARNAUBA	WAXES: CARNAUBA	8015-86-9	Odorless yellow to dark brown-green solid. Floats on water. (USCG, 1999)	1.0	2.5	5.0	4325.0	425.0	1468.0	759.0	476.0	1059.0	107.0	362.0	199.0	113.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide Liquid, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o. s) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
2321	WOLLASTONITE	A CALCIUM SILICATE MINERAL|CAB-O-LITE|CAB-O-LITE 100|CAB-O-LITE 130|CAB-O-LITE 160|CAB-O-LITE F 1|CAB-O-LITE P 4|CALCIUM METASILICATE|CASIFLUX VP 413-004|CHC 62N10|CHC 74N|CHD 62N10|DAB-O-LITE P 4|F 1|FPW 400|FPW 800|FUWALIP|FW 200|FW 200 (MINERAL)|FW 50|KEMO ASB 3|KEMOLIT A 60|KEMOLIT ASB 4|KEMOLIT ASB 8|KEMOLIT N|NCI-C55470|NN 4|NYA G|NYAD 10|NYAD 1250|NYAD 1250T|NYAD 325|NYAD 400|NYAD DENACUP 100G|NYAD G|NYAD G 400|NYAD G WOLLASTOCOAT 1001|NYAD G WOLLASTOCOAT 2075|NYCOR 200|NYCOR 300|NYGLOS 1-20526|NYGLOS I|PH 450|RRIMGLOS 1|SP 10|SP 10 (MINERAL)|TREMIN|TREMIN (MINERAL)|TW-HAR 10|UM	13983-17-0	PHYSICAL DESCRIPTION: White or slightly cream-colored powder. pH (aqueous slurry) 8.0 to 10.0. (NTP, 1992)	1.0	2.5	5.0	4325.0	425.0	1468.0	759.0	476.0	1059.0	107.0	362.0	199.0	113.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2317	VINYLIDENE CHLORIDE, INHIBITED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizing materials, acids, and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	SULFALLATE is incompatible with strong oxidizing agents .Also incompatible with alkalis. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 200																		
2318	WARFARIN	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Reacts with water or steam to produces corrosive and toxic hydrofluoric acid fumes.	CARBONYL FLUORIDE is an acid fluoride. Incompatible with water, with bases (including amines), with strong oxidizing agents, with alcohols. Reacts violently with hexafluoroisopropylideneaminolithium. High temperature causes decomposition to toxic carbon monoxide gas and fluorine. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2417 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)					0																(USCG, 1999)	Not flammable			(USCG, 1999)		-173	
2319	WARFARIN, AND SALTS, CONC.>0.3%	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable.	CARBONYL SULFIDE is expected to react with vigor with strong oxidants.	Highly Flammable	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2204 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	1	5																						
2320	WAXES: CARNAUBA	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	CARBOPHENOTHION is a halogenated organophosphate derivative. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
2321	WOLLASTONITE			No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]								0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2317	VINYLIDENE CHLORIDE, INHIBITED	(NTP, 1992)		0.0022		68		mm Hg							(NTP, 1992)		1.088				(NTP, 1992)			262 to 266	1		(NTP, 1992)		223.8						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C8H14Cl NS2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	12.0	3.0	3.0
2318	WARFARIN	(NIOSH, 2003)		55.4				atm	(USCG, 1999)		1.139		-173.2								(USCG, 1999)		-117		760		(USCG, 1999)		66.01						(NIOSH, 2003)	Reacts with water				CXY	Poison Gas|Corrosive	CF2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	9.0	0.0	14.0	3.0	3.0
2319	WARFARIN, AND SALTS, CONC.>0.3%																																								Poison Gas|Flammable Gas	COS		9.0	0.0	14.0	3.0	3.0
2320	WAXES: CARNAUBA	(EPA, 1998)		3.00E-07		68		mm Hg							(EPA, 1998)		1.271		77		(EPA, 1998)		180		0.01		(EPA, 1998)		342.85												Poison	C11H16ClO2PS3		9.0	0.0	23.0	3.0	3.0
2321	WOLLASTONITE																																									C12H13NO2S	Dirt/Earth	9.0	0.0	12.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2322	ZINC CHROMATE	BUTTERCUP YELLOW|ZINC CHROMATE|ZINC CHROMATE (VI) HYDROXIDE|ZINC YELLOW	13530-65-9	Odorless yellow solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	4328.0	425.0	1468.0	759.0	476.0	1060.0	107.0	362.0	199.0	113.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
2323	ZINC CYANIDE	CYANIDE OF ZINC|ZINC CYANIDE|ZINC DICYANIDE	557-21-1	A white powder. Insoluble in water. Toxic by inhalation (dust and the hydrogen cyanide from slight decomposition) and by ingestion. Produces toxic oxides of nitrogen in fires. Used in medicine, in metal plating, and in chemical analysis.	1.0	2.5	5.0	4331.0	425.0	1468.0	759.0	476.0	1061.0	107.0	362.0	199.0	113.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
2324	ZINC FLUORIDE	ZINC DIFLUORIDE|ZINC DIFLUORIDE (ZNF2)|ZINC FLUORIDE	7783-49-5	A white powder or crystalline mass. Density 4.84 g / cm3. Slightly soluble in water and denser than water. Also insoluble as a hydrate. ZnF2.xH2O. Used for galvanizing steel and making ceramics.	1.0	2.5	5.0	4331.0	425.0	1468.0	762.0	476.0	1061.0	107.0	362.0	200.0	113.0	INGESTION: do NOT lavage or induce vomiting. ASPIRATION: treatment probably not required; delayed development of pulmonary irritation can be detected by serial chest x-rays; consider prophylactic antibioticregime if condition warrants. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
2325	ZINC FLUOROBORATE	ZINC FLUOBORATE SOLUTION|ZINC FLUOROBORATE|ZINC TETREFLUOROBORATE	13826-88-5	Colorless odorless aqueous solution. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4331.0	425.0	1468.0	762.0	476.0	1061.0	107.0	362.0	200.0	113.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2326	ZINC FLUOROSILICATE	FLUAT-VOGEL|FUNGOL|FUNGONIT GF 2|SILICATE(2-), HEXAFLUORO-, ZINC|SILICON ZINC FLUORIDE (ZNSIF6)|ZINC FLUOROSILICATE|ZINC FLUOSILICATE|ZINC HEXAFLUOROSILICATE|ZINC HEXAFLUOROSILICATE (ZNSIF6)|ZINC HEXAFLUOROSILICATE(2-)|ZINC SILICOFLUORIDE|ZINC SILICOFLUORIDE HEXAHYDRATE	16871-71-9	A solid material, or the solid mixed with water. Insoluble in water and denser than water. Contact with the material may cause irritation to skin, eyes, and mucous membranes. It may be toxic by ingestion.	1.0	2.5	5.0	4334.0	425.0	1468.0	762.0	476.0	1062.0	107.0	362.0	200.0	113.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2322	ZINC CHROMATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CELLULOSE is combustible. Incompatible with strong oxidizing agents including bromine pentafluoride, sodium nitrate, fluorine, perchlorates, perchloric acid, sodium chlorate, magnesium perchlorate, F2, zinc permanganate, sodium nitrite, sodium nitrate, sodium peroxide. Nitration with a mixture of nitric and sulfuric acids produces cellulose nitrates (celluloid pyroxylin, soluble pyroxyline, guncotton) which are flammable or explosive.							0																			(NIOSH, 2003)	(Decomposes)		500 to 518
2323	ZINC CYANIDE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Finely divided metal powder is pyrophoric [Bretherick 1979 p. 170-171]. This material will react vigorously if exposed to water or moist air and will generate flammable and/or toxic fumes.	CERIUM is a strong reducing agent. Resembles aluminum in its chemical properties. [Lewis]. Reactivity is enhanced by a state of high physical subdivision, as in TURNINGS OR GRITTY POWDER. Attacked by dilute and concentrated mineral acids and alkalis with the generation of flammable gases. Readily oxidized by moist air at room temperature. Reacts with zinc with explosively violence. Gives very exothermic reactions with antimony or bismuth. Reacts violently with phosphorus at 400-500Â°C [Mellor 8, Supp. 3:347 1971].	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
2324	ZINC FLUORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in FUEL OIL, [NO. 4], may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		greater than 130	(USCG, 1999)		1	%	(USCG, 1999)		5	%	(USCG, 1999)	505		(USCG, 1999)	-20 to +15
2325	ZINC FLUOROBORATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 2,2'-DICHLOROBIPHENYL, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						(NTP, 1992)		142 to 144
2326	ZINC FLUOROSILICATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Soluble in water. Dissolution generates considerable heat (NIOSH, 1997).	CESIUM HYDROXIDE neutralizes acids violently to form salts plus water. Reacts with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. May serve as a catalyst. Reacts when heated above about 84Â° C with aqueous solutions of reducing sugars other than sucrose, to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						(NIOSH, 2003)		522	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2322	ZINC CHROMATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			1.27 to 1.61			(NIOSH, 2003)	Decomposes					(NIOSH, 2003)			160,000 to 560,000					(NIOSH, 2003)	Insoluble						(C6H10O5)n	Cellulose-Based Absorbents	8.0	0.0	17.0	3.0	3.0
2323	ZINC CYANIDE																																								Flammable Solid	Ce		8.0	0.0	15.0	3.0	3.0
2324	ZINC FLUORIDE														(USCG, 1999)		0.904	59			(USCG, 1999)			214 to >1092	760														OFR	Flammable Liquid			8.0	0.0	21.0	3.0	3.0
2325	ZINC FLUOROBORATE																										(NTP, 1992)		223.1												Class 9	C12H8Cl2		5.0	0.0	12.0	3.0	3.0
2326	ZINC FLUOROSILICATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		3.68				(NIOSH, 2003)						(NIOSH, 2003)		149.9						(NIOSH, 2003)	at 59Â° F	395		%		Corrosive	CsHO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	11.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2327	ZINC PEROXIDE	ZEONET ZP|ZINC DIOXIDE|ZINC OXIDE (ZNO2)|ZINC PEROXIDE	1314-22-3	A white powder.	1.0	2.5	5.0	4337.0	425.0	1468.0	762.0	476.0	1063.0	107.0	362.0	200.0	113.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2328	ZINC PHOSPHIDE	ARREX E|BLUE-OX|DELUSAL|KILRAT|MOUS-CON|NERA|PHOSUIM|PHOSVIN|RATOL|RUMETAN|STUTOX|STUTOX I|TRIZINC DIPHOSPHIDE|WUEHLMAUS-KOEDER|WUEHLMAUSTOD ARVIKOL|ZINC PHOSPHIDE|ZINC PHOSPHIDE (CONC. <= 10%)|ZINC PHOSPHIDE(ZN3P2)|ZINC-TOX|ZINCTOX|ZP|ZP RODENT BAIT AG	1314-84-7	Zinc phosphide is a dark gray granular solid. It is slowly decomposed by water giving off phosphine, a flammable poison gas. It is toxic by ingestion. It is used in medicine and as a rat poison.	1.0	2.5	5.0	4337.0	425.0	1468.0	762.0	476.0	1063.0	107.0	362.0	200.0	113.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2329	ZINC POTASSIUM CHROMATE	BUTTERCUP YELLOW|CITRON YELLOW|HYDROXYOCTAOXODIZINCATEDICHROMATE (1-) POTASSIUM|POTASSIUM ZINC CHROMATE|POTASSIUM ZINC CHROMATE HYDROXIDE|ZINC CHROME|ZINC POTASSIUM CHROMATE|ZINC YELLOW|ZINC YELLOW Y-539-D	37224-57-0	A greenish-yellow odorless solid. used as a pigment Denser than water. Toxic by ingestion. Commonly but mistakenly called zinc chromate.	1.0	2.5	5.0	4340.0	425.0	1471.0	762.0	476.0	1064.0	107.0	363.0	200.0	113.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2330	ZINC PYRITHIONE	BC-J|BIOCUT ZP|BIS(1-HYDROXY-2(1H)-PYRIDINETHIONATO)ZINC|BIS(1-HYDROXY-2-(1H)-PYRIDINETHIONATO)ZINC|BIS(2-PYRIDINETHIOL 1-OXIDE)ZINC|BIS(2-PYRIDYLTHIO)ZINC, 1,1'-DIOXIDE|BIS(2-PYRIDYLTHIO)ZINC, N,N'-DIOXIDE|EVAFINE P 50|FINECIDE ZPT|FSB 8332|2(1H)-PYRIDINETHIONE, 1-HYDROXY-, ZINC COMPLEX|HOKUCIDE ZPT|1-HYDROXY-2-PYRIDINETHIONE, ZINC SALT|2-MERCAPTOPYRIDINE 1-OXIDE ZINC SALT|2-MERCAPTOPYRIDINE-1-OXIDE ZINC SALT|OM 1563|OMADINE ZINC|2-PYRIDINETHIOL 1-OXIDE ZINC SALT|2-PYRIDINETHIOL N-OXIDE ZINC SALT|2-PYRIDINETHIOL-1-OXIDE	13463-41-7	PHYSICAL DESCRIPTION: Fine beige granules. (NTP, 1992)	1.0	2.5	5.0	4340.0	425.0	1471.0	762.0	476.0	1064.0	107.0	363.0	200.0	113.0	(BLOB)	May form phosgene or hydrogen chloride in fires. There is danger of explosion when ethers are heated or exposed to flames or sparks. Ethers tend to form peroxides; when ethers containing peroxides are heated, they can detonate. May be ignited by heat, sparks, or flames. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Decomposes in the presence of moisture to form hydrochloric acid. Emits toxic fumes when heated to decomposition. Reacts vigorously with oleum and chlorosulfonic acid. Ethers tend to form peroxides upon standing. Heating peroxide-containing ethers can cause detonation. (EPA, 1998)	Wear full protective clothing. Do not extinguish fire unless flow can be stopped. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use water, foam, mist, fog, spray, or dry chemical. Use water in flooding quantities as fog. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
2331	ZINEB	(BLOB)	12122-67-7	PHYSICAL DESCRIPTION: An off-white powder. Used as a fungicide.	1.0	2.5	5.0	4340.0	425.0	1471.0	762.0	476.0	1064.0	107.0	363.0	200.0	113.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2332	ZIRCONIUM OXYCHLORIDE	BASIC ZIRCONIUM CHLORIDE|ZIRCONIUM OXIDE CHLORIDE|ZIRCONIUM OXYCHLORIDE|ZIRCONIUM OXYCHLORIDE HYDRATE|ZIRCONYL CHLORIDE	7699-43-6	White or yellow silky odorless crystals.	1.0	2.5	5.0	4343.0	425.0	1471.0	762.0	476.0	1065.0	107.0	363.0	200.0	113.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2327	ZINC PEROXIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode owing to the formation of alkyl nitrates. Mixtures of a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2328	ZINC PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIS(2-ETHYLHEXYL) TRIMELLITATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.					0		(NTP, 1992)			greater than 200																		
2329	ZINC POTASSIUM CHROMATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed in alkaline solution.	A member of the quinoxaline, dithiolane family. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
2330	ZINC PYRITHIONE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Flammable. Insoluble in water. Reacts slowly with water to form HCl. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154].	2,2'-DICHLORODIETHYL ETHER may form phosgene or hydrogen when heated to high temperature. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154]. Mixing in equal molar portions with the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid and oleum [NFPA 1991].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(EPA, 1998)		131		(NIOSH, 2003)		2.7		%				(USCG, 1999)		696		(EPA, 1998)		-58	
2331	ZINEB	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble	CHLORAMINE is sensitive to light, temperature and pH change. It is stable in ethereal solution. The solvent-free material decomposes violently. This compound reacts with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		-87	
2332	ZIRCONIUM OXYCHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	They are soluble in water.	Metal chlorates are oxidants in the presence of strong acid; liberates explosive chlorine dioxide gas; liberates chlorine dioxide and carbon dioxide by heating a moist metal chlorate and a dibasic organic acid; mixtures of perchlorates with sulfur or phosphorus are explosives [Bretherick 1979 p. 100]; mixtures of the chlorate with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination of finely divided aluminum with finely divided bromates (also chlorates and iodates) of barium, calcium, magnesium, potassium, sodium, or zinc can explode by heat, percussion, or friction [Mellor 2:310 1946-47].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2327	ZINC PEROXIDE																																								Oxidizer	Cs.HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	15.0	3.0	3.0
2328	ZINC PHOSPHIDE																										(NTP, 1992)		546.8						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C33H54O6		6.0	0.0	15.0	3.0	3.0
2329	ZINC POTASSIUM CHROMATE																																								Class 9	C10H6N2OS2	Mineral-Based & Clay-Based Absorbents	8.0	0.0	14.0	3.0	3.0
2330	ZINC PYRITHIONE	(EPA, 1998)		0.7		68		mm Hg	(EPA, 1998)		4.93				(EPA, 1998)		1.22		68		(EPA, 1998)		352		760		(EPA, 1998)		143.02		(NIOSH, 2003)	: A potential human carcinogen.	100	ppm	(NTP, 1992)	Reaction				DEE	Poison|Flammable Liquid	C4H8Cl2O		8.0	0.0	35.0	3.0	3.0
2331	ZINEB																										(NTP, 1992)		51.48						(NTP, 1992)	Soluble					Corrosive|Oxidizer	ClH2N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	17.0	3.0	3.0
2332	ZIRCONIUM OXYCHLORIDE																																								Oxidizer	ClO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	30.0	3.0	3.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2333	ZIRCONIUM POTASSIUM FLUORIDE	DIPOTASSIUM HEXAFLUOROZIRCONATE|DIPOTASSIUM HEXAFLUOROZIRCONATE(2-)|DIPOTASSIUM ZIRCONIUM HEXAFLUORIDE|POTASSIUM FLUOROZIRCONATE|POTASSIUM FLUOROZIRCONATE (K2ZRF6)|POTASSIUM FLUOZIRCONATE|POTASSIUM FLUOZIRCONATE(IV) (K2ZRF6)|POTASSIUM HEXAFLUOROZIRCONATE|POTASSIUM HEXAFLUOROZIRCONATE (K2ZRF6)|POTASSIUM HEXAFLUOROZIRCONATE(IV)|POTASSIUM ZIRCONIUM FLUORIDE|POTASSIUM ZIRCONIUM FLUORIDE (K2ZRF6)|POTASSIUM ZIRCONIUM HEXAFLUORIDE|ZIRCONATE(2-), HEXAFLUORO-, DIPOTASSIUM|ZIRCONIUM POTASSIUM FLUORIDE|ZIRPRO	16923-95-8	A white crystalline solid. The primary hazard it the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is slightly soluble in water. It is used in metal processing, as a catalyst in chemical manufacture, and for other uses.	1.0	2.5	5.0	4343.0	425.0	1471.0	762.0	476.0	1065.0	107.0	363.0	200.0	113.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated (USCG, 1999)	Excerpt from GUIDE 132P [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2334	ZIRCONIUM SULFATE	DISULFATOZIRCONIC ACID|ZIRCONIUM DISULFATE|ZIRCONIUM ORTHOSULFATE|ZIRCONIUM SULFATE|ZIRCONIUM SULFATE (1:2)|ZIRCONIUM SULFATE (ZR(SO4)2)|ZIRCONIUM SULFATE TETRAHYDRATE|ZIRCONIUM SULPHATE	14644-61-2	Anhydrous zirconium sulfate is a colorless microcrystalline solid. Zirconium sulfate is also obtained as a white crystalline tetrahydrate, ZrSO4.4H2O. Both forms are soluble in water and noncombustible. It is corrosive to aluminum. It is used in chemical analysis, as an additive for lubricants, and for many other uses.	1.0	2.5	5.0	4343.0	425.0	1471.0	762.0	476.0	1065.0	107.0	363.0	200.0	113.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2335	ZIRCONIUM TETRACHLORIDE	TETRACHLOROZIRCONIUM|ZIRCONIUM CHLORIDE|ZIRCONIUM CHLORIDE (ZR2CL8)|ZIRCONIUM CHLORIDE (ZRCL4)|ZIRCONIUM TETRACHLORIDE|ZIRCONIUM TETRACHLORIDE, [SOLID]|ZIRCONIUM(IV) CHLORIDE	10026-11-6	White lustrous crystalline solid. Used as a source of pure zirconium, as a tanning agent, in analytical chemistry and in treating textiles. Zirconium tetrachloride is decomposed by water. Corrosive to metals in the presence of moisture and to tissue.	1.0	2.5	5.0	4343.0	425.0	1471.0	765.0	476.0	1065.0	107.0	363.0	201.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2336	ZIRCONOCENE DICHLORIDE	BIS(CYCLOPENTADIENYL)DICHLOROZIRCONIUM|BIS(CYCLOPENTADIENYL)ZIRCONIUM DICHLORIDE|BIS(CYCLOPENTADIENYL)ZIRCONIUM(IV)CHLORIDE|BIS(ETA5-CYCLOPENTADIENYL)ZIRCONIUM DICHLORIDE|BIS-PI-CYCLOPENTADIENYLDICHLOROZIRCONIUM|DICHLORIDE ZIRCONOCENE|DICHLORO(CYCLOPENTADIENYL)ZIRCONIUM|DICHLORO-DI-PI-CYCLOPENTADIENYL ZIRCONIUM|DICHLOROBIS(CYCLOPENTADIENYL) ZIRCONIUM|DICHLOROBIS(ETA5-CYCLOPENTADIENYL)ZIRCONIUM|DICHLOROBIS(PI-CYCLOPENTADIENYL)ZIRCONIUM|DICHLORODI-PI-CYCLOPENTADIENYLZIRCONIUM|DICHLORODI-PI-DICYCLOPENTADIENYLZIRCONIUM|DICHLORODICYCLOPENTADIENYLZIRCONIUM	1291-32-3	PHYSICAL DESCRIPTION: White crystals or off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4343.0	425.0	1474.0	765.0	476.0	1065.0	107.0	364.0	201.0	113.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2337	(E)-CROTONALDEHYDE	BETA-METHYL ACROLEIN|2-BUTENAL(TRANS)|2-BUTENAL, (E)-|2-BUTENAL,(E)-|CROTENALDEHYDE|CROTONAL|CROTONALDEHYDE|CROTONALDEHYDE, (E)-|CROTONALDEHYDE,(E)-|CROTONIC ALDEHYDE|(E)-2-BUTENAL|2(E)-BUTENAL|(E)-CROTONALDEHYDE|E-2-BUTENAL|NCI-C56279|PROPYLENE ALDEHYDE|TOPANEL|TOPANEL CA|TRANS-2-BUTEN-1-AL|TRANS-2-BUTENAL|TRANS-CROTONAL|TRANS-CROTONALDEHYDE	123-73-9	Water-white to straw-colored liquid with a pungent, suffocating odor. Used as a chemical intermediate in a variety of industrial processes (surfactants, textiles, paper, fuels, insecticides, leather tanning, etc.). Used in chemical warfare. (EPA, 1998)	2.5	5.0	2.5	4345.0	425.0	1474.0	765.0	476.0	1066.0	107.0	364.0	201.0	113.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
2338	1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-1-PENTEN-3-ONE	ALPHA-METHYL IONONE|ALPHA-METHYL IONONE EXTRA|METHYL IONONE ALPHA EXTRA|1-METHYL-ALPHA-IONONE|N-METHYL-ALPHA-I.IONONE|1-PENTEN-3-ONE, 1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-|1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-1-PENTEN-3-ONE	7779-30-8	PHYSICAL DESCRIPTION: Clear, colorless to yellow liquid with a woody, violet odor. (NTP, 1992)	2.5	5.0	2.5	4347.0	425.0	1474.0	765.0	476.0	1067.0	107.0	364.0	201.0	113.0	Excerpt from GUIDE 172 [Gallium and Mercury]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 172 [Gallium and Mercury]: Non-combustible, substance itself does not burn but may react upon heating to produce corrosive and/or toxic fumes. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 172 [Gallium and Mercury]: Use extinguishing agent suitable for type of surrounding fire. Do not direct water at the heated metal. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2333	ZIRCONIUM POTASSIUM FLUORIDE	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. This chemical is sensitive to light and air. Soluble in water, with mixing.	FURFURAL reacts with sodium hydrogen carbonate. It also can react with strong oxidizers. An exothermic resinification of almost explosive violence can occur upon contact with strong mineral acids or alkalis. It forms condensation products with many types of compounds, including phenol, amines and urea. (NTP, 1992).	Peroxidizable Compound	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NTP, 1992)		140		(NTP, 1992)		2.1		%	(NTP, 1992)		19.3		%	(USCG, 1999)		739		(NTP, 1992)		-33.7	
2334	ZIRCONIUM SULFATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	(BLOB)							0		(NTP, 1992)		greater than 200													(NTP, 1992)		102 to 104	
2335	ZIRCONIUM TETRACHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	FURFURYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound reacts with strong oxidizing agents, strong acids, strong bases and strong reducing agents. This compound reacts violently with cyanoacetic acid, formic acid, mineral acids, nitric acid and (nitric acid + N204 + sulfuric acid). (NTP, 1992)			(NFPA, 2010)		1	2	1	3		(NTP, 1992)		150												(NTP, 1992)		734				
2336	ZIRCONOCENE DICHLORIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	Amines, such as FURFURYLAMINE, are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NFPA, 2010)		99																		
2337	(E)-CROTONALDEHYDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	Bu. Mines approved respirator; rubber gloves; safety goggles (USCG, 1999)	Sparingly water soluble (NTP, 1992)	Phenols, such as GALLIC ACID, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.					4.00	3.00	2.00	5																		(NTP, 1992)	(decomposes)		432 to 464
2338	1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-1-PENTEN-3-ONE	Excerpt from GUIDE 172 [Gallium and Mercury]: Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Do not use steel or aluminum tools or equipment. Cover with earth, sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. For mercury, use a mercury spill kit. Mercury spill areas may be subsequently treated with calcium sulphide/calcium sulfide or with sodium thiosulphate/sodium thiosulfate wash to neutralize any residual mercury. (ERG, 2012)	Excerpt from GUIDE 172 [Gallium and Mercury]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Stable in dry air, in moist air it tarnishes	Metals, such as GALLIUM METAL, are reducing agents and tend to react with oxidizing agents (i.e. hydrogen peroxide). Their reactivity is strongly influenced by their state of subdivision: in bulk they often resist chemical combination; in powdered form they may react more rapidly. Reacts violently with chlorine and other halogens at ambient temperatures [Bretherick, 5th Ed., 1995].	Strong Reducing Agent	Excerpt from GUIDE 172 [Gallium and Mercury]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When any large container is involved in a fire, consider initial evacuation for 500 meters (1/3 mile) in all directions. (ERG, 2012)			x	x	x	0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2333	ZIRCONIUM POTASSIUM FLUORIDE	(NTP, 1992)	; 3 mm Hg at 86Â° F; 10 mm Hg at 122Â° F	1		68		mm Hg	(NTP, 1992)		3.31				(USCG, 1999)		1.159		68		(NTP, 1992)		323.1		760		(NTP, 1992)		96.09		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 64Â° F		50 to 100	mg/mL	FFA	Poison|Flammable Liquid	C5H4O2	Cellulose-Based Absorbents|Dirt/ Earth	7.0	0.0	30.0	3.0	3.0
2334	ZIRCONIUM SULFATE														(NTP, 1992)		1.0496		135		(NTP, 1992)	; decomposes at 444Â° F		234 to 239	10		(NTP, 1992)		136.15						(NTP, 1992)	Slightly soluble (1-10 mg/ml)						C8H8O2	Dirt/Earth	6.0	0.0	13.0	3.0	3.0
2335	ZIRCONIUM TETRACHLORIDE	(NTP, 1992)	; 8.0 mm Hg at 163Â° F; 31.0 mm Hg at 207Â° F	1		136		mm Hg	(NTP, 1992)		4.8				(NTP, 1992)		1.1175		68		(NTP, 1992)			347 to 351	760		(NTP, 1992)		140.14						(NTP, 1992)	at 73Â° F		5 to 10	mg/mL			C7H8O3		6.0	0.0	13.0	3.0	3.0
2336	ZIRCONOCENE DICHLORIDE																																								Flammable Liquid|Corrosive	C5H7NO	Mineral-Based & Clay-Based Absorbents	7.0	0.0	15.0	3.0	3.0
2337	(E)-CROTONALDEHYDE														(USCG, 1999)		1.7		68		(NTP, 1992)	SUBLIMES					(NTP, 1992)		170.12						(NTP, 1992)	Sparingly soluble				GLA		C7H6O5		5.0	0.0	6.0	2.0	2.0
2338	1-(2,6,6-TRIMETHYL-2-CYCLOHEXEN-1-YL)-1-PENTEN-3-ONE																																								Corrosive	Ga		5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2339	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	ARCTON 63|ARKLONE P|ASAHIFRON 113|CFC 113|CFC-113|CHLOROFLUOROCARBON-113|DAIFLON 113|DAIFLON S 3|DELIFRENE 113|DELIFRENE LS|ETHANE, 1,1,2-TRICHLORO- 1,2,2-TRIFLUORO-|ETHANE, 1,1,2-TRICHLORO-1,2,2,-TRIFLUORO-|ETHANE, 1,1,2-TRICHLORO-1,2,2-TRIFLUORO-|F 113F 113 (REFRIGERANT)|FC 113|FKW 113|FLUOROCARBON 113|FORANE 113|FREON 113|FREON 113TR-T|FREON T|FREON TS|FREON® 113|FRIDOHNA|FRIGEN 113|FRIGEN 113 TR-T|FRIGEN 113A|FRIGEN 113TR|FRIGEN 113TR-N|FRIGEN 113TR-T|FRON 113|FRONSOLVE 113|FRONSOLVE AD 9|GENETRON 113|GENETRONA® 113|HALOCARBON 113|ISCEON 113|KHLADON 113|LEDON 113P 113|R 113|R	76-13-1	Colorless liquid with a sweet, ether-like odor. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	4347.0	425.0	1476.0	769.0	476.0	1067.0	107.0	365.0	203.0	113.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2340	1,1,2-TRICHLOROETHANE	BETA-T|BETA-TRICHLOROETHANE|ETHANE TRICHLORIDE|ETHANE, 1,1,2-TRICHLORO-|NCI-C04579|1,1,2-TRICHLORETHANE|TRICHLOROETHANE|1,1,2-TRICHLOROETHANE|1,2,2-TRICHLOROETHANE|VINYL TRICHLORIDE|VINYLTRICHLORIDE	79-00-5	A clear light colored liquid. Insoluble in water and slightly denser than water. Hence sinks in water. May be toxic by inhalation.	2.5	5.0	2.5	4349.0	425.0	1478.0	773.0	476.0	1068.0	107.0	366.0	205.0	113.0	Seek medical attention. INHALATION: maintain respiration; give oxygen if needed. ASPIRATION: enforce bed rest; administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was ingested; guard against aspiration into lungs. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
2341	1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE	LUPERSOL 215|2-NEOPENTYL-2-PROPYL HYDROPEROXIDE|PEROCTA H|TERT-OCTYL HYDROPEROXIDE|1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE, [TECHNICALLY PURE]|1,1,3,3 TETRAMETHYLBUTYL HYDROPEROXIDE|TRIGONOX TMPH|2,4,4-TRIMETHYL-2-HYDROPEROXYPENTANE|2,4,4-TRIMETHYL-2-PENTYL HYDROPEROXIDE	5809-05-5	This liquid peroxide is heat and contamination sensitive.	2.5	5.0	2.5	4351.0	425.0	1480.0	777.0	476.0	1069.0	107.0	367.0	207.0	113.0	Seek medical attention. INHALATION: maintain respiration; give oxygen if needed. ASPIRATION: enforce bed rest; administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was ingested; guard against aspiration into lungs. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
2342	1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE	KAYAESTER T|LUPERSOL 259|2-PENTANOL, 2,4,4-TRIMETHYL-, 2-ETHYLPEROXYHEXANOATE |PERCURE WO|PEROCTA O|PEROXYHEXANOIC ACID, 2-ETHYL-, 1,1,3,3-TETRAMETHYLBUTYL ESTER|1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE, [TECHNICALLY PURE]|1,1,3,3 TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE	22288-43-3	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently.	2.5	5.0	2.5	4353.0	425.0	1482.0	781.0	476.0	1070.0	107.0	368.0	209.0	113.0	Seek medical attention. INHALATION: maintain respiration; give oxygen if needed. ASPIRATION: enforce bed rest; administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was ingested; guard against aspiration into lungs. EYES: wash with copious quanity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
2343	1,1'-AZODI-(HEXAHYDROBENZONITRILE)	1-AZO-1-CYANOCYCLOHEXANE|AZOBIS(1-CYANOCYCLOHEXANE)|1,1'-AZOBIS(1-CYCLOHEXANECARBONITRILE)|1,1'-AZOBIS(CYCLOHEXANENITRILE)|1,1'-AZOBISCYCLOHEXANE CARBONITRILE|1,1'-AZOBISCYCLOHEXANECARBONITRILE|1,1'-AZOBIS[1-CYANOCYCLOHEXANE]|AZOCYCLOHEXANE-1,1'-DINITRILE|AZODI(1,1'-HEXAHYDROBENZONITRILE)|1,1'-AZODI(HEXAHYDROBENZONITRILE)|1,1'-AZODI-(HEXAHYDROBENZONITRILE)|1,1'-AZODICYCLOHEXANECARBONITRILE|CYCLOHEXANECARBONITRILE, 1,1'-AZODI-|V 40|V 40 (INITIATOR)|VAZO 88	2094-98-6	A white to light colored solid substance. Insoluble in water and more dense that water. May cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. If exposed to high temperatures or flames this material may ignite and burn with an intense flame. Dust may form an explosive mixture in air.	1.0	2.5	5.0	4353.0	425.0	1482.0	781.0	476.0	1070.0	107.0	368.0	209.0	113.0	(BLOB)	Flash point data for this chemical are not available; it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2339	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable.	GASOLINE may be incompatible with strong oxidizing agents such as nitric acid, peroxides, and perchlorates. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	1.00	0.00	1		(USCG, 1999)		-36		(USCG, 1999)		1.4		%	(USCG, 1999)		7.4		%	(USCG, 1999)		853					
2340	1,1,2-TRICHLOROETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves. (USCG, 1999)	Highly flammable.	Hydrocarbons may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2		(USCG, 1999)	(a) <0Â° F (cc); (b) 0-73Â°F (cc)			(USCG, 1999)	(a)	1.1		%	(USCG, 1999)	(a)	8.7		%								
2341	1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	GASOLINE may be incompatible with strong oxidizing agents such as nitric acid, peroxides, and perchlorates. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1.00	3.00	0.00	3		(USCG, 1999)	(a) <0Â° F (cc); (b) 0-73Â°F (cc)			(USCG, 1999)	(a)	1.1		%	(USCG, 1999)	(a)	8.7		%								
2342	1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves. (USCG, 1999)	Highly flammable.	Saturated aliphatic hydrocarbons, which are found in GASOLINES: POLYMER, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1.00	3.00	0.00	3		(USCG, 1999)			0 to 73	(USCG, 1999)		1.3		%	(USCG, 1999)		7.1		%								
2343	1,1'-AZODI-(HEXAHYDROBENZONITRILE)	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 2,3,4,5,6-PENTABROMOETHYLBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.				2.00	2.00	1.00	3																					(NTP, 1992)		279 to 282

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2339	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	(USCG, 1999)		382.58				mm Hg							(USCG, 1999)		0.7321		68		(USCG, 1999)			140 to 390	760		(NIOSH, 2003)	(approx)	72		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Insoluble				GAT	Flammable Liquid			6.0	0.0	8.0	2.0	2.0
2340	1,1,2-TRICHLOROETHANE														(USCG, 1999)			0.71 to 0.75	59		(USCG, 1999)			58 to 275	760														GAK	Flammable Liquid			4.0	0.0	6.0	2.0	2.0
2341	1,1,3,3-TETRAMETHYLBUTYL HYDROPEROXIDE														(USCG, 1999)		0.7934		68		(USCG, 1999)			58 to 275	760														GRF	Flammable Liquid			8.0	0.0	8.0	2.0	2.0
2342	1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE														(USCG, 1999)			0.71 to 0.75	59		(USCG, 1999)			58 to 275	760														GPL	Flammable Liquid			7.0	0.0	8.0	2.0	2.0
2343	1,1'-AZODI-(HEXAHYDROBENZONITRILE)																										(NTP, 1992)		500.67						(NTP, 1992)	Insoluble					C8H5Br5			6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2344	1,1-DIFLUOROETHYLENE	CA 16|DIFLUORO-1,1-ETHYLENE|1,1-DIFLUOROETHENE|1,1-DIFLUOROETHYLENE|ETHYLENE, 1,1-DIFLUORO-|GENETRON 1132A|HALOCARBON 1132A|HFC 1132A|NCI-C60203|R 1132A|REFRIGERANT GAS R-1132A|VDF|VINYLIDENE DIFLUORIDE|VINYLIDENE FLUORIDE	75-38-7	1,1-Difluoroethylene (or vinylidene fluoride) is a colorless gas which is flammable in the ranges of 5.5 to 21%. It is toxic by inhalation and contact. It is slightly soluble in water and soluble in alcohol and ether. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4353.0	425.0	1482.0	781.0	476.0	1070.0	107.0	368.0	209.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extingisher. (NTP, 1992)
2345	1,1-DIMETHOXYETHANE	ACETALDEHYDE METHYL ACETAL|ACETALDEHYDE, DIMETHYL ACETAL|1,1-DIMETHOXYETHANE|DIMETHYL ACETAL|ETHYLIDENE DIMETHYL ETHER|3-METHYL-2,4-DIOXAPENTANE	534-15-6	A liquid with a sharp odor. Less dense than water. Mildly toxic by ingestion and inhalation. Severely irritates the skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4353.0	425.0	1482.0	781.0	476.0	1070.0	107.0	368.0	209.0	113.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2346	1,1-DIMETHYLHYDRAZINE	AS-DIMETHYLHYDRAZINE|ASYM DIMETHYLHYDRAZINE|ASYMMETRIC DIMETHYLHYDRAZINE|DIMAZIN|DIMAZINE|1,1-DIMETHYL HYDRAZINE|DIMETHYLHYDRAZINE|DIMETHYLHYDRAZINE UNSYMMETRICAL|DIMETHYLHYDRAZINE, UNSYMMETRICAL|DIMETHYLHYDRAZINE, [UNSYMMETRICAL]|1,1-DIMETHYLHYDRAZINE|DMH|GEM-DIMETHYLHYDRAZINE|HYDRAZINE, 1,1-DIMETHYL|HYDRAZINE, 1,1-DIMETHYL-|N,N-DIMETHYLHYDRAZINE|U-DIMETHYLHYDRAZINE|UDMH|UNS-DIMETHYLHYDRAZINE|UNSYM-DIMETHYLHYDRAZINE|UNSYMMETRICAL	57-14-7	A clear colorless liquid with an ammonia-like odor. Flash point 0Â°F. Corrosive to the skin. Less dense than water and soluble in water. Vapors are heavier than air and very toxic by inhalation, attacking the eyes and respiratory system. Prolonged exposure of containers to heat may result in their violent rupturing and rocketing due to decomposition. Generates toxic oxides of nitrogen when burned. Vapors may travel to a source of ignition and a flame can flashback to the source of vapors. Used as a rocket propellant and to make other chemicals.	2.5	5.0	2.5	4353.0	425.0	1482.0	781.0	476.0	1070.0	107.0	368.0	209.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water fog may also be used. (NTP, 1992)
2347	1,2,3,4-TETRAHYDRO-9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE	9-ACRIDINAMINE, 1,2,3,4-TETRAHYDRO-, MONOHYDROCHLORIDE, HYDRATE|9-ACRIDINAMINE, 1,2,3,4-TETRAHYDRO-, MONOHYDROCHLORIDE|ACRIDINE, 1,2,3,4-TETRAHYDRO-9-AMINO-, HYDROCHLORIDE, HYDRATE|ACRIDINE, 1,2,3,4-TETRAHYDRO-9-AMINO-, MONOHYDROCHLORIDE|ACRIDINE, 9-AMINO-1,2,3,4-TETRAHYDRO-, HYDROCHLORIDE|ACRIDINE, 9-AMINO-1,2,3,4-TETRAHYDRO-, MONOHYDROCHLORIDE|9-AMINE-1,2,3,4-TETRAHYDROACRIDINE HYDROCHLORIDE HYDRATE|9-AMINO-1,2,3,4-TETRAHYDROACRIDINE HYDROCHLORIDE|9-AMINO-1,2,3,4-TETRAHYDROACRIDINE MONOHYDROCHLORIDE|CI 970|COGNEX|HYDROAMINACRINE|ROMOTAL|T.H.A.|TAC	1684-40-8	PHYSICAL DESCRIPTION: Yellow needles (from concentrated hydrochloric acid); white powder. pH of 1.5% solution: 4.5-6. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	4355.0	425.0	1482.0	781.0	476.0	1071.0	107.0	368.0	209.0	113.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2348	1,2,3,6-TETRAHYDROPYRIDINE	TETRAHYDROPYRIDINE|1,2,3,6-TETRAHYDROPYRIDINE|1,2,5,6-TETRAHYDROPYRIDINE	694-05-3	A colorless liquid. Insoluble in water. Floats on water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4355.0	425.0	1482.0	781.0	476.0	1071.0	107.0	368.0	209.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2349	1,2,4,5-TETRACHLOROBENZENE	BENZENE TETRACHLORIDE|S-TETRACHLOROBENZENE|1,2,4,5-TETRACHLOROBENZENE	95-94-3	PHYSICAL DESCRIPTION: Odorless white flakes or chunky solid. (NTP, 1992)	1.0	2.5	5.0	4355.0	425.0	1482.0	781.0	476.0	1071.0	107.0	368.0	209.0	113.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2344	1,1-DIFLUOROETHYLENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Organophosphates, such as TRIBUTOXYETHYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This material may react with oxidizers. (NTP, 1992).				0.00		4.00	2.00	6		(NTP, 1992)		435															(NTP, 1992)		-94	
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)																																
2345	1,1-DIMETHOXYETHANE			Slightly water soluble (NTP, 1992).	GIBBERELLIC ACID is readily degraded by acids. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]					2.00	3.00	1.00	4																					(NTP, 1992)	(DECOMPOSES)		451 to 455
2346	1,1-DIMETHYLHYDRAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with water and transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Burns easily with a brilliant flame. Insoluble in water.	GILSONITE may react with strong oxidizing materials. (NTP, 1992)				3.00	4.00	1.00	5		(NTP, 1992)		599																	(NTP, 1992)		275 to 401
2347	1,2,3,4-TETRAHYDRO-9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,3,4-TRICHLORONITROBENZENE is incompatible with strong bases and strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)		3.00	0.00	0.00	0																							(NTP, 1992)		131 to 133
2348	1,2,3,6-TETRAHYDROPYRIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Hygroscopic. Water soluble.	GLYCERINE is incompatible with strong oxidizers. It is also incompatible with hydrogen peroxide, potassium permanganate, nitric acid + sulfuric acid, perchloric acid + lead oxide, acetic anhydride, aniline + nitrobenzene, Ca(OCl)2, CrO3, F2 + PbO, KMnO4, K2O2, AgClO4 and NaH. A mixture with chlorine explodes if heated to 158-176Â° F. It reacts with acetic acid, potassium peroxide, sodium peroxide, hydrochloric acid, (HClO4 + PbO) and Na2O2. Contact with potassium chlorate may be explosive. It also reacts with ethylene oxide, perchloric acid, nitric acid + hydrofluoric acid and phosphorus triiodide. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1.00	1.00	0.00	1		(NTP, 1992)		320																(USCG, 1999)		698		(NTP, 1992)		64	
2349	1,2,4,5-TETRACHLOROBENZENE			No rapid reaction with air. No rapid reaction with water.	Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. Materials in this group range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent				1.00	0.00	0.00	0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_tempDegF	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chiris_codes	dot_labels	formulas	incompatible_abbr	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2344	1,1-DIFLUOROETHYLENE	(NTP, 1992)		0.03		302		mm Hg	(NTP, 1992)		13.8				(NTP, 1992)		1.02		68		(NTP, 1992)		392 to 446	4			(NTP, 1992)		346.38								(NTP, 1992)							C1H1F3O7P		5.0	0.0	7.0	2.0	2.0
2345	1,1-DIMETHOXYETHANE																												346.38														C3H8O2	Dirt/Earth	6.0	0.0	10.0	2.0	2.0
2346	1,1-DIMETHYLHYDRAZINE	(NTP, 1992)													(NTP, 1992)		1.04 to 1.06		59																	(NTP, 1992)		less than 1		mg/mL			C2H8N2		5.0	0.0	6.0	2.0	2.0
2347	1,2,3,4-TETRAHYDRO-9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE																																				(NTP, 1992)		less than 1		mg/mL			C6H4C13NO2	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2348	1,2,3,6-TETRAHYDROPYRIDINE	(NTP, 1992)	: 40 mm Hg at 388â° F	0.0025		122		mm Hg	(NTP, 1992)		3.17				(USCG, 1999)		1.261		68		(NTP, 1992)	(decomposes)	554		760		(NTP, 1992)											(NTP, 1992)		greater than or equal to 100		mg/mL	GCR	Corrosive	C5H9NO3	Cellulose-Based Absorbents	7.0	0.0	7.0	2.0	2.0
2349	1,2,4,5-TETRACHLOROBENZENE																																										C6H4N4O6	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2350	1,2,4,5-TETRAMETHYLBENZENE	BENZENE,1,2,4,5-TETRAMETHYL-|DURENE|DUROL|P-XYLENE, 2,5-DIMETHYL-|1,2,4,5-TETRAMETHYLBENZENE	95-93-25	PHYSICAL DESCRIPTION: Colorless crystals with a camphor-like odor. (NTP, 1992)	1.0	2.5	5.0	4355.0	425.0	1482.0	781.0	476.0	1071.0	107.0	368.0	209.0	113.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2351	1,2-BIS(2,4,6-TRIBROMOPHENOXY)ETHANE	1,2-BIS(2,4,6-TRIBROMOPHENOXY)ETHANE|1,1'-[1,2-ETHANEDIYLBIS(OXY)]BIS[2,4,6-TRIBROMOBENZENE]|FF 680|FIREMASTER 680|FIREMASTER FF 680	37853-59-1	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4355.0	425.0	1482.0	781.0	476.0	1071.0	107.0	368.0	209.0	113.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2352	1,2-BUTYLENE OXIDE	ALPHA-BUTYLENE OXIDE|BUTANE, 1,2-EPOXY-|BUTENE 1,2-EPOXIDE|1,2-BUTENE OXIDE|1-BUTENE OXIDE|1,2-BUTYLENE EPOXIDE|BUTYLENE OXIDE|1,2-BUTYLENE OXIDE, STABILIZED|1,2-BUTYLENE OXIDE, [STABILIZED]|1, 2-BUTYLENE OXIDE|1,2-BUTYLENE OXIDE|1-BUTYLENE OXIDE|DL-1,2-EPOXYBUTANE|EPOXYBUTANE|1,2-EPOXYBUTANE|ETHYLETHYLENE OXIDE|ETHYLOXIRANE|(+-)-ETHYLOXIRANE|(+-)-2-ETHYLOXIRANE|2-ETHYLOXIRANE|NCI-C55527	106-88-7	A clear colorless volatile liquid with an ethereal odor. Flash point near 0Â°F. Density about 6.9 lb / gal. Soluble in water. Boiling point near 140Â°F. Flammable over a wide range of vapor-air concentrations. May polymerize with the evolution of heat and possible rupture of container if contaminated. Vapors irritate eyes, skin and respiratory system. Prolonged contact with skin may cause in delayed burns. Vapors are heavier than air. Used as an intermediate to make various polymers. Chemicals that polymerize are often stabilized by refrigeration.	2.5	5.0	2.5	4357.0	425.0	1482.0	781.0	476.0	1072.0	107.0	368.0	209.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2353	1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)-	ARALDITE CY 184|BIS(2,3-EPOXYPROPYL) 1,2-CYCLOHEXANEDICARBOXYLATE|CYCLOALIPHATIC GLYCIDYL ESTER|1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(2,3-EPOXYPROPYL) ESTER|1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)-|1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)ESTER|1,2-CYCLOHEXANEDICARBOXYLIC ACID, DIGLYCIDYL ESTER|DIGLYCIDYL 1,2-CYCLOHEXANEDICARBOXYLATE|DIGLYCIDYL HEXAHYDROPHTHALATE|HEXAHYDROPHTHALIC ACID DIGLYCIDYL ESTER|1-PROPANOL, 2,3-EPOXY-, 1,2-CYCLOHEXANEDICARBOXYLATE (2:1)	5493-45-8	PHYSICAL DESCRIPTION: Clear yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4359.0	425.0	1484.0	781.0	476.0	1073.0	107.0	369.0	209.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical should be extinguished with a foam, dry chemical or carbon dioxide extinguisher. (NTP, 1992)
2354	1,2-DIAMINOCYCLOHEXANE, ISOPHORONE DIAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	1,2-DIAMINOCYCLOHEXANE, ISOPHORONE DIAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	694-83-7	A dark liquid with an amine odor. Corrosive to the eyes, skin, mouth, throat and stomach. Vapors may irritate eyes and corrode the upper respiratory tract.	2.5	5.0	2.5	4359.0	425.0	1484.0	781.0	476.0	1073.0	107.0	369.0	209.0	113.0	(BLOB)	LOW. Ignites at very high temperatures. (NTP, 1992)	Extinguish fires with a dry chemical, carbon dioxide, foam, or halon extinguisher. A water spray may also be used. (NTP, 1992)
2355	1,2-DIBROMO-3-CHLOROPROPANE	BBC 12|3-CHLORO-1,2-DIBROMOPROPANE|1-CHLORO-2,3-DIBROMOPROPANE|DBCP|1,2-DIBROMO-3-CHLOROPROPANE|DIBROMOCHLOROPROPANE|DIBROMOCHLOROPROPANES|FUMAGON|FUMAZONE|FUMAZONE 86|FUMAZONE 86E|NCI-C00500|NEMABROM|NEMAFUME|NEMAGON|NEMAGON 20|NEMAGON 206|NEMAGON 20G|NEMAGON 90|NEMAGON SOIL FUMIGANT|NEMAGONE|NEMANAX|NEMAPAZ|NEMASET|NEMATOCIDE|NEMATOX|NEMAZON|OS 1897|OXY DBCP|SD 1897	96-12-8	A colorless liquid. Denser than water. Flash point 170Â°F. Boiling point 195Â°F. Toxic by ingestion and inhalation. Used as a pesticide and fumigant.	2.5	5.0	2.5	4361.0	425.0	1484.0	781.0	476.0	1074.0	107.0	369.0	209.0	113.0	(BLOB)	Behavior in Fire: Heat may cause polymerization to a combustible, viscous material. (USCG, 1999)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2350	1,2,4,5-TETRAMETHYLBENZENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]					1.00	2.00	0.00	2																				(NTP, 1992)		208 to 221
2351	1,2-BIS(2,4,6-TRIBROMOPHENOXY)ETHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This compound will behave as a weak oxidizer, and will react with strong reducing agents including hydrides, sulfides and nitrides.					0.00	1.00	0.00	1																				(NTP, 1992)		210 to 212
2352	1,2-BUTYLENE OXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Sensitive to moisture.	GLYCIDOL is sensitive to moisture. It is also sensitive to light. It may polymerize if heated above room temperature. It may darken on storage. Stability studies of this chemical stored for two week protected from light indicated definite decomposition at 140Â° F, and strongly indicated instability at 77Â° F. A solution of this compound in water was found to be unstable when stored at room temperature, even after one day in the dark. This chemical is incompatible with strong oxidizers. It will undergo explosive decomposition in the presence of strong acids or bases, salts (such as aluminum chloride, iron(III)chloride or tin(IV) chloride) or metals (such as copper and zinc). It is also incompatible with nitrates. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)	Polymerizable; Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	0.00	1.00	1	(NTP, 1992)		162															(NTP, 1992)		-49	
2353	1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to oxidizers and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	GLYCIDYL ACRYLATE may be sensitive to polymerizing conditions and/or catalysts. This compound will react with oxidizers. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2.00	2.00	2.00	4	(NTP, 1992)		141																			
2354	1,2-DIAMINOCYCLOHEXANE, ISOPHORONE DIAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An amino acid. A 0.2M aqueous solution has a pH of 4.0., so acts as a weak acid. Has characteristics of both acid and base.					3.00	1.00	2.00	3																				(NTP, 1992)		451	
2355	1,2-DIBROMO-3-CHLOROPROPANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at ambient temperatures. (NTP, 1992)	Goggles or face shield,40% solution; rubber gloves (USCG, 1999)	Mixtures with air may explode. Polymerizes quickly on standing, or on contact with a trace of water (possibly a violent reaction), or when dissolved in solvents containing water, [Merck, 502(1968)]. Soluble in water. An aqueous solution contains mono molecular glyoxal. [Hawley]	GLYOXAL reacts vigorously with strong oxidizing agents such as nitric acid. Polymerizes rapidly even at low temperature if anhydrous [Noller]. Aqueous solutions are more stable but also polymerize on standing. Reacts with itself in the presence of base to give glyconates. Undergoes addition and condensation reactions that may be exothermic with amines, amides, aldehydes, and hydroxide-containing materials. Mixing in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, oleum, ethyleneimine, nitric acid, sodium hydroxide [NFPA 1991].	Polymerizable; Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	3.00	0.00	3	(NTP, 1992)		428															(NTP, 1992)		545		(NTP, 1992)		59	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2350	1,2,4,5-TETRAMETHYLBENZENE																									(NTP, 1992)		290.91						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C7H3Cl4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0
2351	1,2-BIS(2,4,6-TRIBROMOPHENOXY)ETHANE														(NTP, 1992)		1.744				(NTP, 1992)		579		760		(NTP, 1992)		260.88						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C6HCl4NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0
2352	1,2-BUTYLENE OXIDE	(NTP, 1992)	; 2.5 mm Hg at 151Â° F	0.9		77		mm Hg	(NTP, 1992)		2.15				(NTP, 1992)		1.1143		77		(NTP, 1992)	(with decomposition)	333		760		(NTP, 1992)		74.08		(NIOSH, 2003)		150	ppm	(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL		Poison	C3H6O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2353	1,2-CYCLOHEXANEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL)-								(NTP, 1992)		4.4				(NTP, 1992)		1.1				(NTP, 1992)		135		2		(NTP, 1992)		128.14						(NTP, 1992)	at 68.9Â° F		10 to 50	mg/mL		Flammable Liquid|Poison	C6H8O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	8.0	2.0	2.0
2354	1,2-DIAMINOCYCLOHEXANE, ISOPHORONE DIAMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)														(NTP, 1992)		1.1607										(NTP, 1992)		75.07						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL			C2H5NO2		6.0	0.0	10.0	2.0	2.0
2355	1,2-DIBROMO-3-CHLOROPROPANE	(NTP, 1992)		18		68		mm Hg	(NTP, 1992)		greater than 1.0				(USCG, 1999)	(liquid,40 % solution)	1.29		68		(NTP, 1992)		124		776		(NTP, 1992)		58.04						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	GOS	Poison	C2H2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2356	1,2-DIBROMOPROPANE	1,2-DIBROMOPROPANE|2,3-DIBROMOPROPANE|PROPANE, 1,2-DIBROMO|PROPYLENE BROMIDE|PROPYLENE DIBROMIDE	78-75-1	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4361.0	425.0	1484.0	781.0	476.0	1074.0	107.0	369.0	209.0	113.0	Get medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. INGESTION: Dilute with milk, lime water, or aluminum hydroxide. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Avoid direct contact between water and acid. Fire Extinguishing Agents: Dry chemical, carbon dioxide or water spray. (USCG, 1999)
2357	1,2-DIMETHYL-3-NITROBENZENE	BENZENE, 1,2-DIMETHYL-3-NITRO-|2,3-DIMETHYL-1-NITROBENZENE|1,2-DIMETHYL-3-NITROBENZENE|2,3-DIMETHYLNITROBENZENE|3-NITRO-O-XYLENE|3-NITRO-O-XYLOL|O-XYLENE, 3-NITRO-	83-41-0	PHYSICAL DESCRIPTION: Yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4363.0	425.0	1484.0	781.0	476.0	1075.0	107.0	369.0	209.0	113.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
2358	1,2-DIMETHYL-4-NITROBENZENE	3,4-DIMETHYL-1-NITROBENZENE|1,2-DIMETHYL-4-NITROBENZENE|4-NITRO-1,2-DIMETHYLBENZENE|4-NITRO-O-XYLENE|O-XYLENE, 4-NITRO-	99-51-4	PHYSICAL DESCRIPTION: Yellow prisms or yellow crystalline solid. (NTP, 1992)	2.5	5.0	2.5	4365.0	425.0	1484.0	785.0	476.0	1076.0	107.0	369.0	211.0	113.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical in liquid	Special Hazards of Combustion Products: If released from container, fumes are toxic and irritating. Behavior in Fire: If released from container, can increase the intensity of fire. Containers may explode. (USCG, 1999)	(BLOB)
2359	1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE	DIMETHYLHYDRAZINE DIHYDROCHLORIDE|1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE|DIMETHYLHYDRAZINIUM DICHLORIDE|1,2-DIMETHYLHYDRAZINIUM DICHLORIDE|DMH|HYDRAZINE, 1,2-DIMETHYL-, DIHYDROCHLORIDE|N,N'-DIMETHYLHYDRAZINE DIHYDROCHLORIDE|SYM-DIMETHYLHYDRAZINE DIHYDROCHLORIDE	306-37-6	PHYSICAL DESCRIPTION: Prisms (from water) or white crystalline powder. Distinct amine fishy or ammonia-like odor. (NTP, 1992)	1.0	2.5	5.0	4367.0	425.0	1484.0	785.0	476.0	1077.0	107.0	369.0	211.0	113.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2360	1,2-EPOXYDECANE	DECANE, 1,2-EPOXY-|DECANE,1,2-EPOXY-|DECENE EPOXIDE|1,2-DECENE EPOXIDE|1-DECENE EPOXIDE|1,2-DECENE OXIDE|1-DECENE OXIDE|1,2-DECYLENE OXIDE|1,2-EPOXYDECANE|OCTYLOXIRANE|VIKOLOX 10	2404-44-6	PHYSICAL DESCRIPTION: Clear colorless mobile liquid with a ethereal odor. (NTP, 1992)	2.5	5.0	2.5	4367.0	425.0	1484.0	785.0	476.0	1077.0	107.0	369.0	211.0	113.0	(BLOB)		This material is considered to be non-flammable. (NTP, 1992)
2361	1,2-NAPHTHOQUINONE	BETA-NAPHTHOQUINONE|1,2-NAPHTHALENEDIONE|1,2-NAPHTHAQUINONE|1,2-NAPHTHOQUINONE|O-NAPHTHOQUINONE	524-42-5	PHYSICAL DESCRIPTION: Golden yellow needles or brown powder. Decomposes to a bluish-black color on standing. (NTP, 1992)	1.0	2.5	5.0	4367.0	425.0	1484.0	785.0	476.0	1077.0	107.0	369.0	211.0	113.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2356	1,2-DIBROMOPROPANE	Neutralizing Agents for Acids and Caustics: Lime. (USCG, 1999)	Wear full impervious protective clothing and approved respirator. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	2.00	0.00	2																							
2357	1,2-DIMETHYL-3-NITROBENZENE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. The dry powder is pyrophoric and readily ignitable by friction, heat or static electricity and burns fiercely. 5-10% water by mass slightly reduces the ease of ignition, but combustion of the damp powder proceeds explosively. A minimum of 25% water is necessary. Insoluble in water.	Liable to spontaneous ignition. HAFNIUM POWDER is a reducing agent. Forms explosive mixtures with most oxidizing materials Reacts exothermically with compounds having active hydrogen atoms (such as acids and water) to form flammable hydrogen gas and caustic products. The reactions are less vigorous than the similar reactions of alkali metals, but the released heat can still ignite the released hydrogen. Materials in this group may react with azo/diazo compounds to form explosive products. These metals and the products of their corrosion by air and water can catalyze polymerization reactions in several classes of organic compounds; these polymerizations sometimes proceed rapidly or even explosively. Some metals in this group form explosive products with halogenated hydrocarbons. Can react explosively with oxidizing materials.	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	1.00	0.00	1																							
2358	1,2-DIMETHYL-4-NITROBENZENE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	(BLOB)	A violent reaction occurs with water or ice generating acidic HF and chlorine, [Sidgwick, 1156(1950)]. The release of Chlorine Trifluoride to the atmosphere rapidly generates two toxic reaction products: HF and Chlorine Dioxide, [Lombardi, D.A. and M.D. Cheng 1996. "Modeling Accidental Releases of Chlorine Trifluoride to the Atmosphere," Paper No. 96-WP66B.02, presented at the 89th Annual Meeting of the Air and Waste Management Association, Nashville, Tennessee, June 23-26].	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1749 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4.00	0.00	3.00	3	No Water; Oxidizer																		(USCG, 1999)		-105	
2359	1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Probably water soluble.	CHLORITES, INORGANIC, N.O.S. are oxidizing agents. May liberate oxygen if heated. May react on contact with organic materials such as oil, grease, wood, etc. The reaction may generate sufficient heat to start a fire. Can react with ammonia to give ammonium chlorite, which is shock-sensitive. Mixtures with finely divided metallic or organic substances are highly flammable and may be ignited by friction, Lab. Gov. Chemist(1965).	Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	3.00	1.00	4																							
2360	1,2-EPOXYDECANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as HALOWAX 1099, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)					2.00	2.00	0.00	2																							
2361	1,2-NAPHTHOQUINONE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	2,3,6-COLLIDINE neutralizes acids in weakly exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.					2.00	1.00	0.00	1																						(NTP, 1992)		12	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2356	1,2-DIBROMOPROPANE														(USCG, 1999)		1.342										(USCG, 1999)		74.04											GAC	Corrosive	C2H2O3		4.0	0.0	6.0	2.0	2.0
2357	1,2-DIMETHYL-3-NITROBENZENE																													(NIOSH, 2003)	(as Hf)	50	mg/m3							Flammable Solid	Hf		6.0	0.0	10.0	2.0	2.0
2358	1,2-DIMETHYL-4-NITROBENZENE	(NIOSH, 2003)		1.4				atm							(USCG, 1999)		1.85		51.8		(USCG, 1999)		53		760		(USCG, 1999)		92.5		(NIOSH, 2003)		20	ppm	(NIOSH, 2003)	Reacts with water				CTF	Poison Gas|Oxidizer|Corrosive	ClF3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Sand|Dirt/Earth	5.0	0.0	9.0	2.0	2.0
2359	1,2-DIMETHYLHYDRAZINE DIHYDROCHLORIDE																																							Oxidizer	ClO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2360	1,2-EPOXYDECANE																																											5.0	0.0	6.0	2.0	2.0
2361	1,2-NAPHTHOQUINONE														(NTP, 1992)		0.922				(NTP, 1992)			343 to 345	760		(NTP, 1992)		121.18												C8H11N	Mineral-Based & Clay-Based Absorbents	7.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2362	1,2-PHENYLENEDIAMINE DIHYDROCHLORIDE	1,2-PHENYLENEDIAMINE DIHYDROCHLORIDE	615-28-1	Brownish-yellow crystals. Slightly soluble in water. Used in the manufacture of dye.	1.0	2.5	5.0	4367.0	425.0	1484.0	785.0	476.0	1077.0	107.0	369.0	211.0	113.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2363	1,3,5-TRIOXANE	ALDEFORM|FORMAGENE|FORMALDEHYDE, TRIMER|MARVOSAN|METAFORMALDEHYDE|PARAFORM|PARAFORMAL|PARAFORMALDEHYDE|POLYMERIZED FORMALDEHYDE|POLYOXYMETHYLENE|S-TRIOXANE|S-TRIXANE|SYM-TRIOXANE|TRIFORMOL|TRIOXAN|1,3,5-TRIOXAN|TRIOXANE|1,3,5-TRIOXANE|TRIOXYMETHYLENE	110-88-3	Transparent crystals or white crystalline solid with a pleasant odor resembling the odor of chloroform. Melts at 62Â°C; boils at 115Â°C without polymerization. The cyclic trimer of formaldehyde.	1.0	2.5	5.0	4369.0	425.0	1484.0	785.0	476.0	1078.0	107.0	369.0	211.0	113.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	(Non-Specific -- Poisonous Solid, n.o.s.) For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1996)
2364	1,3-BIS(2-CHLOROETHYL)-1-NITROSOUREA	BCNU|1,3-BIS(2-CHLORETHYL)-1-NITROSOUREA|1,3-BIS(2-CHLOROETHYL)-1-NITROSOUREA|1,3-BIS(BETA-CHLOROETHYL)-1-NITROSOUREA|CARMUSTIN|CARMUSTINE|N,N-BIS(2-CHLOROETHYL)-N-NITROSOUREA|N,N-BIS(2-CHLOROETHYL)-N-NITROSOUREA|NCI-C04773|NSC 409962|NSC-409962|UREA, 1,3-BIS(2-CHLOROETHYL)-1-NITROSO-	154-93-8	PHYSICAL DESCRIPTION: Orange-yellow solid. (NTP, 1992)	1.0	2.5	5.0	4369.0	425.0	1484.0	785.0	476.0	1078.0	107.0	369.0	211.0	113.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2365	1,3-DICHLOROPROPENE	ALPHA,GAMMA-DICHLOROPROPYLENE|ALPHA-CHLOROALLYL CHLORIDE|3-CHLOROALLYL CHLORIDE|3-CHLOROPROPENYL CHLORIDE|D-D 92|D-D92|1,3-D|DCP|DD 95|1,3-DICHLORO-1-PROPENE|1,3-DICHLORO-1-PROPYLENE|1,3-DICHLORO-2-PROPENE|DICHLOROPROPENE|1,3-DICHLOROPROPENE (CIS AND TRANS)|1,3-DICHLOROPROPENE-1|1,3-DICHLOROPROPENE|1,3-DICHLOROPROPYLENE|DORLONE II|GAMMA-CHLOROALLYL CHLORIDE|NCI-C03985|PROPENE, 1,3-DICHLORO-|TELONE|TELONE II|TELONE II SOIL FUMIGANT|TELONE II-B|TELONEÂ®|VIDDEN D	542-75-6	A clear colorless liquid. Flash point 95Â°F. Denser (at 10.2 lb / gal) than water and insoluble in water. Vapors are heavier than air. Used to make other chemicals and as soil fumigant.	2.5	5.0	2.5	4369.0	425.0	1484.0	785.0	476.0	1078.0	107.0	369.0	211.0	113.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2366	1,3-DIMETHYL-2-NITROBENZENE	1,3-DIMETHYL-2-NITROBENZENE|2,6-DIMETHYLNITROBENZENE|M-XYLENE, 2-NITRO-|2-NITRO-1,3-DIMETHYLBENZENE|2-NITRO-1,3-XYLENE|2-NITRO-M-XYLENE	81-20-9	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4369.0	425.0	1484.0	785.0	476.0	1078.0	107.0	369.0	211.0	113.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2367	1,3-DIMETHYL-4-NITROBENZENE	BENZENE, 2,4-DIMETHYL-1-NITRO-|2,4-DIMETHYL-1-NITROBENZENE|1,3-DIMETHYL-4-NITROBENZENE|M-XYLENE, 4-NITRO-|4-NITRO-1,3-DIMETHYLBENZENE|4-NITRO-1,3-XYLENE|1-NITRO-2,4-DIMETHYLBENZENE|4-NITRO-M-XYLENE	89-87-2	PHYSICAL DESCRIPTION: Light yellow to amber liquid. (NTP, 1992)	2.5	5.0	2.5	4369.0	425.0	1486.0	785.0	476.0	1078.0	107.0	370.0	211.0	113.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2362	1,2-PHENYLENEDIAMINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, keep it away from oxidizing materials, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	May be hygroscopic. Insoluble in water.	2,3,6-TRICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	2.00	0.00	2		(NTP, 1992)		174														(NTP, 1992)		131 to 135
2363	1,3,5-TRIOXANE	(Non-Specific -- Poisonous Solid, n.o.s.) Keep unnecessary people away. Isolate hazard area and deny entry. Stop leak if you can do it without risk. For small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place in clean, dry container and cover, move from spill area. For large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Very hygroscopic. Water soluble. Aqueous solutions are acidic.	CHLORMEQUAT CHLORIDE is incompatible with strong oxidizing agents. It is corrosive to unprotected metals. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	2.00	1.00	3																		(EPA, 1998)	Decomposes	473	
2364	1,3-BIS(2-CHLOROETHYL)-1-NITROSOUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to air and light, and store it under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be unstable to heat, light and air. (NTP, 1992)	A halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Polymerizable				3.00	0.00	0.00	0																				
2365	1,3-DICHLOROPROPENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	HEPTACHLOR EPOXIDE may react with acids, bases, and oxidizing and reducing agents.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	3.00	1.00	4																				
2366	1,3-DIMETHYL-2-NITROBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store this material in a refrigerator under an inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	HEPTADECYL HYDROXYETHYLIMIDAZOLINE is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.				1.00	3.00	0.00	3																				
2367	1,3-DIMETHYL-4-NITROBENZENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Halogenated aliphatic compounds, such as HEPTAFLUOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	3.00	0.00	3																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2362	1,2-PHENYLENEDIAMINE DIHYDROCHLORIDE																				(NTP, 1992)		487		760		(NTP, 1992)		197.45						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C6H3Cl3O		5.0	0.0	8.0	2.0	2.0
2363	1,3,5-TRIOXANE	(NTP, 1992)		7.50E-08		68		mm Hg																		(EPA, 1998)		158.07						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison	C5H13ClN.Cl		5.0	0.0	6.0	2.0	2.0
2364	1,3-BIS(2-CHLOROETHYL)-1-NITROSOUREA																									(NTP, 1992)		271.96													C6H8Br2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2365	1,3-DICHLOROPROPENE																									(NTP, 1992)		389.3													C10H5Cl7O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	10.0	2.0	2.0
2366	1,3-DIMETHYL-2-NITROBENZENE																									(NTP, 1992)		354.7						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C22H44N2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	9.0	2.0	2.0
2367	1,3-DIMETHYL-4-NITROBENZENE																																								Non-Flammable Gas	C3HF7		4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2368	1,3-DIPHENYLUREA	ACARDITE|CARBANILIDE|1,3-DIPHENYLCARBAMIDE|DIPHENYLUREA|1,3-DIPHENYLUREA|3-DIPHENYLUREA|DPU|N,N'-DIPHENYLUREA|N-PHENYL-N'-PHENYLUREA|S-DIPHENYLUREA|SYM-DIPHENYLUREA|USAF EK-534	102-07-8	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	4369.0	429.0	1486.0	787.0	478.0	1078.0	109.0	370.0	212.0	114.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2369	1,3-PHENYLENE DIISOCYANATE	1,3-PHENYLENE DIISOCYANATE	123-61-5		1.0	2.5	5.0	4369.0	429.0	1486.0	787.0	478.0	1078.0	109.0	370.0	212.0	114.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2370	1,3-PROPYLENE OXIDE	ALPHA,GAMMA-PROPANE OXIDE|CYCLOOXABUTANE|1,3-EPOXYPROPANE|OXACYCLOBUTANE|OXETAN|OXETANE|OXYTRIMETHYLENE|PROPANE, 1,3-EPOXY-|1,3-PROPYLENE OXIDE|TRIMETHYLENE OXIDE	503-30-0	PHYSICAL DESCRIPTION: Clear, colorless liquid with an agreeable aromatic odor. (NTP, 1992)	2.5	5.0	2.5	4369.0	429.0	1486.0	787.0	478.0	1078.0	109.0	370.0	212.0	114.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2371	1,4-DIMETHYL-2-NITROBENZENE	BENZENE, 1,4-DIMETHYL-2-NITRO-|2,5-DIMETHYL-1-NITROBENZENE|1,4-DIMETHYL-2-NITROBENZENE|1,4-DIMETHYLNITROBENZENE|2,5-DIMETHYLNITROBENZENE|2-NITRO-1,4-DIMETHYLBENZENE|1-NITRO-2,5-DIMETHYLBENZENE|NITRO-P-XYLENE|2-NITRO-P-XYLENE|P-XYLENE, 2-NITRO	89-58-7	PHYSICAL DESCRIPTION: Clear pale yellow to amber liquid. (NTP, 1992)	2.5	5.0	2.5	4371.0	429.0	1486.0	787.0	478.0	1079.0	109.0	370.0	212.0	114.0	(BLOB)	Special Hazards of Combustion Products: They contain highly toxic and irritating chloride fumes. Behavior in Fire: May burn to produce highly toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2372	1,4-PHENYLENE DIISOCYANATE	BENZENE, 1,4-DIISOCYANATO-|1,4-DIISOCYANATOBENZENE|ISOCYANIC ACID, P-PHENYLENE ESTER|P-PHENYLENE DIISOCYANATE|P-PHENYLEYE ISOCYANATE|1,4-PHENYLENE DIISOCYANATE|1,4-PHENYLENEBIS(ISOCYANATE)	104-49-4	PHYSICAL DESCRIPTION: White crystals or pale yellow chunky solid. Pungent odor. (NTP, 1992)	1.0	2.5	5.0	4373.0	429.0	1486.0	787.0	478.0	1080.0	109.0	370.0	212.0	114.0	Get medical attention for all exposures to this compound. INHALATION: Remove victim to fresh air. EYES: Flush with running water for 15 min. SKIN: Flush with water. INGESTION: Give large amount of water to dilute the acid. (USCG, 1999)	Special Hazards of Combustion Products: Toxic gases, such as hydrogen chloride, phosgene and carbon monoxide, may be generated. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2373	1,5,9-CYCLODODECATRIENE	CYCLODODECATRIENE|1,5,9-CYCLODODECATRIENE|(E,E,Z)-CYCLODODECATRIENE|TRANS, TRANS, CIS-CYCLODODECATRIENE	4904-61-4	A colorless liquid. Toxic by skin absorption and ingestion and irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4373.0	433.0	1486.0	791.0	480.0	1080.0	111.0	370.0	214.0	115.0	(BLOB)	Toxic hydrogen chloride, chlorine, and phosgene gases may form in fires. In presence of moisture, will corrode iron and other materials; flammable and explosive hydrogen gas may collect in enclosed space. Will corrode iron and other metals in the presence of moisture. Reacts slowly with water to form hydrochloric acid; however, the reaction is not hazardous. Hazardous polymerization may not occur. (EPA, 1998)	Isolate hazard area and deny entry. Wear positive pressure breathing apparatus and special protective clothing. Fight fire from maximum distance. Dike fire control water for later disposal. Use dry chemical, carbon dioxide, water spray or foam for small fires. For large fires, use water spray, fog, or foam. Move hexachlorocyclopentadiene from fire area if this can be done without risk. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2368	1,3-DIPHENYLUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	May be sensitive to prolonged exposure to air. Slightly soluble in water.	2,3-DICHLORO-1-PROPANOL is incompatible with oxidizers, oxygen and peroxides. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		196.5																			
2369	1,3-PHENYLENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A halogenated and nitrated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		147	
2370	1,3-PROPYLENE OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as HEXABROMOBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		621	
2371	1,4-DIMETHYL-2-NITROBENZENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	HEXACHLOROBUTADIENE rapidly decomposes rubber on contact. Can react vigorously with oxidizing materials. Reacts to form an explosive product with bromine perchlorate. (NTP, 1992). Gives highly toxic and irritating chloride fumes when burned.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																			(USCG, 1999)		1130		(NTP, 1992)		-6	
2372	1,4-PHENYLENE DIISOCYANATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus; vinyl or neoprene rubber gloves; goggles and protective face shield; rubberized or acid-resistant clothing. (USCG, 1999)	Water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	1	0	1		(USCG, 1999)		259		(USCG, 1999)		8		%													
2373	1,5,9-CYCLODODECATRIENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water. Reacts slowly with water to form hydrochloric acid.	HEXACHLOROCYCLOPENTADIENE is incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals (sodium), and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2646 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)	Non-flammable																(EPA, 1998)		16	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2368	1,3-DIPHENYLUREA														(NTP, 1992)		1.3607		68		(NTP, 1992)			361 to 365	760		(NTP, 1992)		128.99						(NTP, 1992)	at 76.1Â° F		1 to 10	mg/mL		Poison	C3H6Cl2O	Cellulose-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2369	1,3-PHENYLENE DIISOCYANATE																									(NTP, 1992)		247.76						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C10H18CIN3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0
2370	1,3-PROPYLENE OXIDE																									(NTP, 1992)		551.52						(NTP, 1992)	Insoluble					Class 9	C6Br6		4.0	0.0	7.0	2.0	2.0
2371	1,4-DIMETHYL-2-NITROBENZENE	(NTP, 1992)	: approximately 0.3 mm Hg at 77Â° F	0.15		68		mm Hg	(NTP, 1992)		8.99				(USCG, 1999)		1.675		59.9		(NTP, 1992)		419		760		(NTP, 1992)		260.76		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	HCB	Poison	C4Cl6	Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2372	1,4-PHENYLENE DIISOCYANATE														(USCG, 1999)		1.328										(USCG, 1999)		94.5											CHM	Poison|Corrosive	C2ClH3O2		4.0	0.0	7.0	2.0	2.0
2373	1,5,9-CYCLODODECATRIENE	(EPA, 1998)		0.08		77		mm Hg	(EPA, 1998)		9.4				(EPA, 1998)		1.7019		77		(EPA, 1998)		462		753		(EPA, 1998)		272.77						(NTP, 1992)	at 70.7Â° F		less than 0.1	mg/mL	HCC	Poison Inhalation Hazard	C5Cl6	Dirt/Earth	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2374	1,5-DINITRONAPHTHALENE	1,5-DINITRONAPHTHALENE|NAPHTHALENE, 1,5-DINITRO-	605-71-0	PHYSICAL DESCRIPTION: Yellowish white needles or light yellow fluffy solid. (NTP, 1992)	1.0	2.5	5.0	4375.0	433.0	1486.0	791.0	480.0	1081.0	111.0	370.0	214.0	115.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)
2375	1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE	ANTHRAQUINONE, 1,8-DIHYDROXY-4,5-DINITRO-|4,5-DIHYDROXY-1,8-DINITROANTHRAQUINONE|1,8-DIHYDROXY-4,5-DINITRO-9,10-ANTHRACENEDIONE|1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE|1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE|1,8-DINITRO-4,5-DIHYDROXYANTHRAQUINONE|4,5-DINITROCHRYSAZIN|4,5-DINITROCYRAZINE|NCI-60742	81-55-0	PHYSICAL DESCRIPTION: Brownish gold solid. (NTP, 1992)	1.0	2.5	5.0	4377.0	433.0	1486.0	791.0	480.0	1082.0	111.0	370.0	214.0	115.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2376	1,8-DINITRONAPHTHALENE	1,8-DINITRONAPHTHALENE|NAPHTHALENE, 1,8-DINITRO-	602-38-0	PHYSICAL DESCRIPTION: Yellow crystals. (NTP, 1992)	1.0	2.5	5.0	4377.0	433.0	1486.0	791.0	480.0	1082.0	111.0	370.0	214.0	115.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2377	11-AMINOUNDECANOIC ACID	AMINOUNDECANOIC ACID|11-AMINOUNDECANOIC ACID|11-AMINOUNDECYCLIC ACID|NCI-C50613|OMEGA-AMINOUNDECANOIC ACID	2432-99-7	PHYSICAL DESCRIPTION: White crystalline solid or powder. (NTP, 1992)	1.0	2.5	5.0	4377.0	433.0	1486.0	795.0	480.0	1082.0	111.0	370.0	216.0	115.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2378	12-O-TETRADECANOYLPHORBOL-13-ACETATE	(BLOB)	16561-29-8	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	4377.0	433.0	1486.0	795.0	480.0	1082.0	111.0	370.0	216.0	115.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2374	1,5-DINITRONAPHTHALENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	This is a halide- and amine-substituted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 167																	(NTP, 1992)			304 to 307
2375	1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time PVC Edmont 34-100 0.18 mm 480 min Latex Ansell 4107 0.10 mm 480 min (NTP, 1992)	Water soluble.	2',3'-DIDEOXYCYTIDINE may be sensitive to prolonged exposure to light. [[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)			410 to 417
2376	1,8-DINITRONAPHTHALENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)	(decomposes)	347	
2377	11-AMINOUNDECANOIC ACID	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Fumes in air. Decomposed by water yields hydrogen sulfide, hydrochloric acid, sulfur dioxide, sulfite, hydrogen sulfide, and thiosulfate [Merck 11th ed. 1989]. Very corrosive in the presence of water; reacts violently with water and strong oxidants to form toxic and corrosive gas; on contact with air, it gives off HCl. [Handling Chemicals Safely 1980 p.874]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.8 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	SULFUR MONOCHLORIDE poses a fire hazard in contact with organic matter. Can react violently with oxidizing agents to form toxic gases. Reacts violently with sodium peroxide, chromyl chloride, phosphorus trioxide. Emits highly toxic fumes of sulfur oxides and chlorides when heated to decomposition [Lewis, 3rd ed., 1993, p. 1196]. Reacts exothermically with tin, antimony, antimony sulfide, arsenic sulfide, mercury oxide. A mixture with potassium is shock-sensitive and explodes violently on heating [Mellor, 1947, 10, p.642]. Reacts particularly violently with dimethyl sulfoxide [Buckley, A., J. Chem. Ed., 1965, 42, p. 674].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1828 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	1	2	3	No Water	(USCG, 1999)		245												(USCG, 1999)		453		(USCG, 1999)		-112	
2378	12-O-TETRADECANOYLPHORBOL-13-ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Moderately soluble in water with decomposition [Hawley].	2,3-DIMERCAPTO-1-PROPANOL forms highly stable chelates with a variety of metal ions. (NTP, 1992) Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 235																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2374	1,5-DINITRONAPHTHALENE																										(NTP, 1992)		199.04						(NTP, 1992)	Insoluble (<1 mg/ml)					Poison	C8H4Cl2N2	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2375	1,8-DIHYDROXY-4,5-DINITROANTHRAQUINONE																										(NTP, 1992)		211.22						(NTP, 1992)	at 66Â° F		50 to 100	mg/mL			C9H13N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2376	1,8-DINITRONAPHTHALENE																										(NTP, 1992)		236.23						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C10H12N4O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2377	11-AMINOUNDECANOIC ACID	(NIOSH, 2003)		7				mm Hg							(USCG, 1999)		1.68		68		(USCG, 1999)		280		760		(USCG, 1999)		135.03		(NIOSH, 2003)		5	ppm	(NIOSH, 2003)	Decomposes				SFM	Corrosive	S2Cl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	5.0	0.0	6.0	2.0	2.0
2378	12-O-TETRADECANOYLPHORBOL-13-ACETATE	(NTP, 1992)		4.92		77		mm Hg	(NTP, 1992)		4.3				(NTP, 1992)		1.2463		68		(NTP, 1992)		248		15		(NTP, 1992)		124.22						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL		Poison	C3H8OS2	Cellulose-Based Absorbents	3.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2379	1-CHLORO-2,2,2-TRIFLUOROETHANE	ARCTON 50|2-CHLORO-1,1,1-TRIFLUOROETHANE|1-CHLORO-2,2,2-TRIFLUOROETHANE|CHLOROTRIFLUOROETHANE|HCFC-133A|REFRIGERANT GAS R-133A|TRIFLUORO|CHLOROETHANE	75-88-7	1-Chloro-2,2,2-trifluoroethane is a colorless, odorless gas. It is shipped as a liquid under its own vapor pressure. Contact with the liquid may cause frostbite to unprotected skin. It can asphyxiate by the displacement of air. Exposure of the container to fire or heat can cause it to rupture violently and rocket.	5.0	1.0	1.0	4379.0	433.0	1486.0	795.0	480.0	1083.0	111.0	370.0	216.0	115.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. EYES OR SKIN: Flush with copious amounts of water for at least 15 minutes. Insure adequate flushing of the eyes by separating the eyelids with the fingers. (USCG, 1999)	Special Hazards of Combustion Products: Dust explosion is possible. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may not be effective. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam, water spray. (USCG, 1999)
2380	1-CHLOROHEPTANE	1-CHLOROHEPTANE|HEPTYL CHLORIDE|N-HEPTYL CHLORIDE	629-06-1	Colorless liquid. Insoluble in water.	2.5	5.0	2.5	4381.0	433.0	1486.0	795.0	480.0	1084.0	111.0	370.0	216.0	115.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2381	1-CHLOROHEXANE	1-CHLOROHEXANE|HEXYL CHLORIDE|1-HEXYL CHLORIDE|N-HEXYL CHLORIDE	544-10-5	Mobil, clear liquid.	2.5	5.0	2.5	4381.0	433.0	1488.0	795.0	480.0	1084.0	111.0	371.0	216.0	115.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2382	1-CHLOROPROPANE	1-CHLOROPROPANE|N-PROPYL CHLORIDE|PROPANE, CHLORO-|PROPYL CHLORIDE	540-54-5	A clear colorless liquid. Boiling point 46.6Â°C. Flash point below 0Â°F. Less dense than water and slightly soluble in water. Vapors are heavier than air. Irritant and narcotic.	2.5	5.0	2.5	4383.0	433.0	1488.0	795.0	480.0	1085.0	111.0	371.0	216.0	115.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2383	1-DECANETHIOL	DECANETHIOL|1-DECANETHIOL|DECYL MERCAPTAN|DECYLMERCAPTAN|DECYL-MERCAPTAN|1-DECYLTHIOL|1-MERCAPTODECANE|N-DECANETHIOL|N-DECYLMERCAPTAN|NSC 850	143-10-2	Colorless liquid with a strong odor. Class IIIB Combustible Liquid: Flash point at or above 200Â°F.	2.5	5.0	2.5	4383.0	433.0	1488.0	795.0	480.0	1085.0	111.0	371.0	216.0	115.0	INGESTION: give large amount of water and induce vomiting. EYES: flush with water for at least 15 min. SKIN: wipe off; wash with soap and water. (USCG, 1999)	Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2379	1-CHLORO-2,2,2-TRIFLUOROETHANE	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate solution (USCG, 1999)		Dust explosion is possible. (USCG, 1999). Insoluble in water.	A weak carboxylic acid. Neutralizes bases with the evolution of substantial amounts of heat to produce water plus a salt. Reacts with solutions of cyanides to cause the release of gaseous hydrogen cyanide. Can generate flammable and/or toxic gases and heat by reaction with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Reacts in with aqueous solutions of nitrites and thiosulfates (to give H2S and SO3) and dithionites (to give SO2) and heat. Reaction with solutions of carbonates and bicarbonates generate a harmless gas (carbon dioxide) but still heat. Can be oxidized by strong oxidizing agents and reduced by strong reducing agents. These reactions generate heat. May initiate polymerization reactions. May serve as a catalyst.							0		(USCG, 1999)			greater than 230											(USCG, 1999)		83.3	
		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)																														
2380	1-CHLOROHEPTANE			Fumes in air. Soluble in water with release of heat.	HEXAFLUOROPHOSPHORIC ACID reacts exothermically with chemical bases (examples: amines, amides, and inorganic hydroxides). These reactions can generate dangerously large amounts of heat in small spaces. Dilution may generate significant heat. Reacts with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. Generates flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. May catalyze (increase the rate of) chemical reactions.	Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2381	1-CHLOROHEXANE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Halogenated aliphatic compounds, such as HEXAFLUOROPROPYLENE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Above a minimum oxygen pressure, the reaction of oxygen difluoride and hexafluoropropene to yield the hexafluoropropylene oxide becomes explosive, Chem. Abs., 1987, 107, 175302. The reaction of hexafluoropropene with grignard reagent (subst. phenylmagnesium bromides) led to explosion, Fluorine Chem., 1981, 18, 25.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2382	1-CHLOROPROPANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	HEXAHYDRO-1,3,5-TRIS(HYDROXYETHYL)-5-TRIAZINE is an amine and an alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200																		
2383	1-DECANETHIOL	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves (USCG, 1999)	Highly flammable. Insoluble in water.	HEXALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. May attack some forms of plastics (USCG, 1999).	Highly Flammable; Polymerizable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(USCG, 1999)		90																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2379	1-CHLORO-2,2,2-TRIFLUOROETHANE														(USCG, 1999)		0.891				(USCG, 1999)		442.2		160		(USCG, 1999)		186.3											UDA		C11H22O2		5.0	0.0	10.0	2.0	2.0
2380	1-CHLOROHEPTANE																																									Corrosive	HPF6		4.0	0.0	6.0	2.0	2.0
2381	1-CHLOROHEXANE																																									Non-Flammable Gas	C3F6	Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2382	1-CHLOROPROPANE																											(NTP, 1992)		219.28						(NTP, 1992)	Soluble (>=10 mg/ml at 75Â° F)					Poison	C9H21N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	10.0	2.0	2.0
2383	1-DECANETHIOL														(USCG, 1999)		0.83		68		(USCG, 1999)		262		760		(USCG, 1999)		100											HAL	Flammable Liquid	C6H12O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2384	1-DECENE	ALPHA-DECENE|1-DECENE	872-05-9	Colorless watery liquid with a pleasant odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4383.0	433.0	1490.0	795.0	480.0	1085.0	111.0	372.0	216.0	115.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2385	1-DODECENE	ADACENE-12|ALPHA-DODECYLENE|1-DODECENE	112-41-4	A clear colorless liquid with a mild, pleasnat odor. Insoluble in water and floats on water. Harmful or fatal by ingestion. Inhalation of vapors may irritate and damage lungs. High concentrations may have a narcotic effect.	2.5	5.0	2.5	4385.0	433.0	1490.0	795.0	480.0	1086.0	111.0	372.0	216.0	115.0	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2386	1-HEXADECANETHIOL	CETYL MERCAPTAN|HEXADECANE-1-THIOL|HEXADECANETHIOL|HEXADECANETHIOL-1|1-HEXADECANETHIOL|HEXADECYL MERCAPTAN|HEXADECYLTHIOL|1-MERCAPTOHEXADECANE|N-HEXADECANETHIOL|N-HEXADECYL MERCAPTAN|N-HEXADECYLTHIOL|NSC 229611|NSC 57866|TERT-HEXADECANETHIOL	2917-26-2	Colorless liquid or white solid (below 19Â° C) with a strong unpleasant odor. Density (as liquid at 25Â°C): 0.83 g/cm3.	1.0	2.5	5.0	4385.0	433.0	1490.0	795.0	480.0	1086.0	111.0	372.0	216.0	115.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2387	1-METHYL-3,3-DIPHENYLUREA	ACARDIT I|ACARDITE I|AKARDIT II|AKARDITE II|1-METHYL-3,3-DIPHENYLUREA|N'-METHYL-N,N-DIPHENYLUREA|N,N-DIPHENYL-N'-METHYLUREA|N'-METHYL-N',N'-DIPHENYLUREA|UREA, 3-METHYL-1,1-DIPHENYL-	13114-72-2	PHYSICAL DESCRIPTION: Needles or grayish-white powder. (NTP, 1992)	1.0	2.5	5.0	4385.0	435.0	1490.0	795.0	482.0	1086.0	112.0	372.0	216.0	116.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2388	1-NITRO-2-METHYLNAPHTHALENE	2-METHYL-1-NITRONAPHTHALENE|1-NITRO-2-METHYLNAPHTHALENE	881-03-8	PHYSICAL DESCRIPTION: Yellow solid. (NTP, 1992)	1.0	2.5	5.0	4385.0	435.0	1490.0	795.0	482.0	1086.0	112.0	372.0	216.0	116.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2389	1-NONANETHIOL	1-MERCAPTONONANE|N-NONANETHIOL|N-NONYL MERCAPTAN|N-NONYLTHIOL|NONANE-1-THIOL|NONANETHIOL|1-NONANETHIOL|NONYL MERCAPTAN|NONYLTHIOL| NSC 5563	1455-21-6	Colorless liquid with a bad smell. Mp: -21Â°C; bp: 220Â°C. Density: 0.840 g cm-3 at 25Â°C. Combustible liquid.	2.5	5.0	2.5	4385.0	435.0	1490.0	795.0	482.0	1086.0	112.0	372.0	216.0	116.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2384	1-DECENE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Moisture sensitive.	HEXAMETHYL DISILAZANE reacts with many carbonyl containing organic compounds to generate gaseous ammonia. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)		48																			
2385	1-DODECENE	(BLOB)	(BLOB)	Contact with moisture or temperatures over 399Â°F may cause polymerization. Soluble in water.	HEXAMETHYLENE DIISOCYANATE reacts with water. Base-catalyzed reactions of this compound with alcohols may be explosively violent in the absence of diluting solvents. This chemical is incompatible with strong bases, amines, acids and strong oxidizers. It is also incompatible with metal compounds and surface active materials. (NTP, 1992).	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		284																	(NTP, 1992)		-67	
2386	1-HEXADECANETHIOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and protect it from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	TESTOSTERONE PROPIONATE is sensitive to light. Incompatible with alkalis and oxidizing agents. (NTP, 1992).					0																			(NTP, 1992)		244 to 252
2387	1-METHYL-3,3-DIPHENYLUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	2,3-XYLIDINE reacts with strong oxidizing agents and hypochlorite bleaches (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		206																	(NTP, 1992)		less than 5
2388	1-NITRO-2-METHYLNAPHTHALENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4,5-T, ISOBUTYL ESTER is an ester of a chlorinated organic acid. May react exothermically with acids to generate isobutyl alcohol and 2,4,5-trichlorophenoxyacetic. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat may also be generated with caustic solutions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2389	1-NONANETHIOL	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	HEXANITRODIPHENYLAMINE is an oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides may begin a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2384	1-DECENE																																								Flammable Liquid|Corrosive	C6H19NSi2		6.0	0.0	8.0	2.0	2.0
2385	1-DODECENE	(NTP, 1992)		0.05		75		mm Hg							(NTP, 1992)		1.0528		68		(NTP, 1992)		491		760		(NTP, 1992)		168.2						(NTP, 1992)	Reacts with water					Poison	C8H12N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	7.0	2.0	2.0
2386	1-HEXADECANETHIOL																										(NTP, 1992)		344.54						(NTP, 1992)	at 76.1Â° F		less than 1	mg/mL			C22H32O3	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2387	1-METHYL-3,3-DIPHENYLUREA														(NTP, 1992)		0.9931		68		(NTP, 1992)			430 to 432	760		(NTP, 1992)		121.18						(NTP, 1992)	at 75Â° F		1 to 5	mg/mL		Poison	C8H11N		4.0	0.0	8.0	2.0	2.0
2388	1-NITRO-2-METHYLNAPHTHALENE																										(NTP, 1992)		311.6						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Class 9	C12H13CI3O3		4.0	0.0	6.0	2.0	2.0
2389	1-NONANETHIOL																																								Explosive 1.1D	C12H5N7O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2390	1-NONENE	N-HEPTYLETHYLENE|1-NONENE|1-NONYLENE	124-11-8	Colorless liquid with an odor of gasoline. Flash point 115Â°F. Floats on water. Flammable, irritating vapor is produced.	2.5	5.0	2.5	4387.0	435.0	1490.0	795.0	482.0	1087.0	112.0	372.0	216.0	116.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2391	1-OCTANETHIOL	1-MERCAPTOOCTANE|N-OCTANETHIOL|N-OCTYL MERCAPTAN|N-OCTYLTHIOL|1-OCTANETHIOL|OCTYL MERCAPTAN|1-OCTYL MERCAPTAN|OCTYLTHIOL|1-OCTYLTHIOL	111-88-6	A clear colorless liquid. Flash point 115Â°F. Insoluble in water and less dense than water. Used to make other chemicals.	2.5	5.0	2.5	4387.0	435.0	1490.0	795.0	482.0	1087.0	112.0	372.0	216.0	116.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2392	1-PENTENE	ALPHA-N-AMYLENE|AMYLENE|AMYLENE, [NORMAL]|1-METHYL-3-BUTENE|N-AMYLENE|1-PENTENE|PROPYLETHYLENE	109-67-1	Colorless liquid with an odor of gasoline. Flash point -20Â°F (Aldrich). Insoluble in water and less dense than water. Hence floats on water. Flammable vapor is produced. Boiling point 86Â°F. (USCG, 1999)	2.5	5.0	2.5	4387.0	435.0	1490.0	795.0	482.0	1087.0	112.0	372.0	216.0	116.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Some of these materials may burn, but most do not ignite readily. Uranium and Thorium metal cuttings may ignite spontaneously if exposed to air, refer to GUIDE 136. Nitrates are oxidizers and may ignite other combustibles, refer to GUIDE 141. (ERG, 2012)	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). Dike fire-control water for later disposal. (ERG, 2012)
2393	1-PROPYNE	ALLYLENE|METHYL ACETYLENE|METHYLACETYLENE|PROPINE|PROPYNE|1-PROPYNE	74-99-7	A colorless liquefied gas with a sweet odor. mp: -104Â°C, bp: -23.1Â°C. Insoluble in water, soluble in ethanol, chloroform and benzene. Moderately toxic by inhalation. Used as a specialty fuel. Denser than air. Vapors may ignite at distant sources of ignition and flash back.	5.0	1.0	1.0	4389.0	435.0	1490.0	795.0	482.0	1088.0	112.0	372.0	216.0	116.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2394	1-TRANS-DELTA-9-TETRAHYDROCANNABINOL	ABBOTT 40566|CANNABINOL|CANNABINOL, DELTA1-TETRAHYDRO-|CANNABINOL, TETRAHYDRO-|DELTA(SUP 1)-THC|DELTA(SUP 9)-TETRAHYDROCANNABINOL|DELTA(SUP 9)-THC|DELTA1-TETRAHYDROCANNABINOL|(-)-DELTA1-TETRAHYDROCANNABINOL|DELTA1-THC|DELTA9-TETRAHYDROCANNABINOL|(-)-DELTA9-TETRAHYDROCANNABINOL|DELTA9-THC|DELTA9-TRANS-TETRAHYDROCANNABINOL|(-)-DELTA9-TRANS-TETRAHYDROCANNABINOL|DRONABINOL|GANJA|6H-DIBENZO[B,D]PYRAN-1-OL, 6A,7,8,10A-TETRAHYDRO-6,6,9-TRIMETHYL-3-PENTYL-, (6AR-TRANS)-|HASHISH|(L)-DELTA(SUP 1)-TETRAHYDROCANNABINOL|(L)-DELTA1-	1972-08-3	PHYSICAL DESCRIPTION: Brown amorphous semi-solid, viscous oil or chunky golden yellow solid. (NTP, 1992)	1.0	2.5	5.0	4391.0	435.0	1490.0	795.0	482.0	1089.0	112.0	372.0	216.0	116.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2390	1-NONENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water [Merck].	URACIL MUSTARD reacts as a base.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		403	
2391	1-OCTANETHIOL	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	HEXANITROSTILBENE may be considered an oxidizing agent. If mixed with reducing agents, including hydrides, sulfides and nitrides, may begin a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									
2392	1-PENTENE	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Dike to collect large liquid spills. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Ignites spontaneously in air.	URANIUM METAL, PYROPHORIC is a reducing agent. Ignites spontaneously in air. Ignites in warm nitric oxide [Katz and Rabinowitch 1951]. Reacts with incandescence with hot selenium or with boiling sulfur [Mellor 12:31-2. 1946-47]. An explosion occurred when carbon tetrachloride was used to put out a fire involving a small amount of uranium [Allison 1970].	Strong Reducing Agent; Water-Reactive; Pyrophoric; Radioactive Material	Excerpt from GUIDE 162 [Radioactive Materials (Low to Moderate Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		2097	
2393	1-PROPYNE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIBUTYLTIN FLUORIDE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation. This compound is incompatible with strong oxidizers like: ammonium nitrate, barium nitrate, barium chlorate, etc.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2394	1-TRANS-DELTA-9-TETRAHYDROCANNABINOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4,5-TRICHLORONITROBENZENE is incompatible with strong bases and strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 230																(NTP, 1992)		135 to 136	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2390	1-NONENE																									(NTP, 1992)		252.12							(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H11Cl2N3O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2391	1-OCTANETHIOL																																							Explosive 1.1D	C14H6N6O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2392	1-PENTENE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(metal)	19.05				(NIOSH, 2003)		6895		760		(NIOSH, 2003)		238		(NIOSH, 2003)	(insoluble compounds, as U); A potential human carcinogen.	10	mg/m3	(NIOSH, 2003)	Insoluble					Radioactive|Spontaneously Combustible	U		5.0	0.0	8.0	2.0	2.0
2393	1-PROPYNE																																							Poison	C12H27FSn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2394	1-TRANS-DELTA-9-TETRAHYDROCANNABINOL														(NTP, 1992)		1.79		73		(NTP, 1992)		550		760		(NTP, 1992)		226.45						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C6H2Cl3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2395	1-UNDECANOL	ALCOHOL C-11 (UNDECYLIC)|HENDECANOIC ALCOHOL|1-HENDECANOL|HENDECYL ALCOHOL|N-UNDECAN-1-OL|N-UNDECYL ALCOHOL|NEODOL 1|TIP-NIP|UNDECANOL|1-UNDECANOL|UNDECYL ALCOHOL|1-UNDECYL ALCOHOL	112-42-5	A water-white liquid with a mild odor. Flash point 250Â°F. Slightly soluble in water. Considered a marine pollutant by DOT. Immediate steps should be taken to limit its spread to the environment. As a liquid it can easily penetrate the soil and contaminate groundwater or streams. Mildly irritating to both the eyes and skin.	2.5	5.0	2.5	4393.0	435.0	1490.0	795.0	482.0	1090.0	112.0	372.0	216.0	116.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2396	1-UNDECENE	N-NONYLETHYLENE|1-UNDECENE	821-95-4	A colorless liquid with a mild odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	4393.0	435.0	1492.0	795.0	482.0	1090.0	112.0	373.0	216.0	116.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
2397	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE|BENZENAMINE, 4-(6-METHYL-2-BENZOTHIAZOLYL)-|BENZOTHIAZOLE, 2-(P-AMINOPHENYL)-6-METHYL-|DEHYDRO-P-TOLUIDINE|DEHYDROTHIO-P-TOLUIDINE|DHPT|4-(6-METHYL-2-BENZOTHIAZOLYL)ANILINE|4-(6-METHYL-2-BENZOTHIAZOLYL)BENZENAMINE|P-(6-METHYLBENZOTHIAZOL-2-YL)ANILINE|2-(P-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE	92-36-4	PHYSICAL DESCRIPTION: Light tan or light orange powder. Solutions have a violet-blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	4395.0	435.0	1492.0	795.0	482.0	1091.0	112.0	373.0	216.0	116.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2398	2,2'-AZODI-(2,4-DIMETHYLVALERONITRILE)	ALPHA,ALPHA'-AZOBIS(ALPHA,GAMMA-DIMETHYLVALERONITRILE)|ALPHA,ALPHA'-AZOBIS(DIMETHYLVALERONITRILE)|ALPHA,ALPHA'-AZOBIS[2,4-DIMETHYLVALERONITRILE]|2,2'-AZOBIS[2,4-DIMETHYLPENTANENITRILE]|2,2'-AZOBIS[2,4-DIMETHYLVALERONITRILE]|2,2'-AZODI[2,4-DIMETHYLVALERONITRILE)|2,2'-AZODI-(2,4-DIMETHYLVALERONITRILE)|V 65|V 65 (POLYMERIZATION CATALYST)|VALERONITRILE, 2,2'-AZOBIS[2,4-DIMETHYL-|VAZO 52	4419-11-8	An odorless white solid. May burst into flames upon exposure to fire or high heat. Dust may form an explosive mixture in air.	1.0	2.5	5.0	4397.0	437.0	1492.0	795.0	484.0	1092.0	113.0	373.0	216.0	117.0	(BLOB)	Special Hazards of Combustion Products: Hydrogen chloride may be liberated. (USCG, 1999)	Fire Extinguishing Agents: Water fog, foam, CO 2 or dry chemical. (USCG, 1999)
2399	2,2-BIS((BENZOYLOXY)METHYL)DIBENZOATE-1,3-PROPANEDIOL	BENZOFLEX S 552|BENZOFLEX S-552|BENZOIC ACID, TETRAESTER WITH PENTAERYTHRITOL|2,2-BIS((BENZOYLOXY)METHYL)-1,3-PROPANEDIOL DIBENZOATE|2,2-BIS((BENZOYLOXY)METHYL)DIBENZOATE-1,3-PROPANEDIOL|PENTAERYTHRITOL TETRABENZOATE|PENTAERYTHRITOL, TETRABENZOATE|1,3-PROPANEDIOL, 2,2-BIS((BENZOYLOXY)METHYL)-, DIBENZOATE	4196-86-5	PHYSICAL DESCRIPTION: Cream-colored solid. (NTP, 1992)	1.0	2.5	5.0	4399.0	437.0	1492.0	795.0	484.0	1093.0	113.0	373.0	216.0	117.0	Call a physician. INHALATION: Remove victim to fresh air, if needed administer artificial respiration. EYES: Flush with plenty of water for at least 15 minutes. SKIN: Wash with soap and water. Remove contaminated clothing and shoes. INGESTION: Induce vomiting and administer gastric lavage. (USCG, 1999)	Special Hazards of Combustion Products: Emits noxious fumes, including chloride. Behavior in Fire: May liberate hydrogen chloride. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2395	1-UNDECANOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	HEXYLAMINE neutralize acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NFPA, 2010)		85																				
2396	1-UNDECENE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Hygroscopic. Water soluble [Hawley]	HEXYLENE GLYCOL is incompatible with the following: Strong oxidizers, strong acids [Note: Hygroscopic (i.e., absorbs moisture from the air).] (NIOSH, 1997).			(NFPA, 2010)		2	1	0	1		(USCG, 1999)		200		(USCG, 1999)	(calc.)	1.2		%	(USCG, 1999)	(calc.)	8.1		%	(USCG, 1999)		583		(USCG, 1999)		-58	
2397	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2398	2,2'-AZODI-(2,4-DIMETHYLVALERONITRILE)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self-contained breathing apparatus, rubber gloves, hats, suits and boots, and goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2399	2,2-BIS((BENZOYLOXY)METHYL)DIBENZOATE-1,3-PROPANEDIOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Rubber gloves and boots, safety goggles or face mask, protective clothing and a NIOSH approved respirator. (USCG, 1999)	Slightly soluble in water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		405																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2395	1-UNDECANOL																																								Corrosive	C6H15N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0
2396	1-UNDECENE	(NIOSH, 2003)		0.05				mm Hg							(USCG, 1999)		0.923		68		(USCG, 1999)		387		760		(USCG, 1999)		118.19						(NIOSH, 2003)	Miscible				HXG		C6H14O2	Cellulose-Based Absorbents	3.0	0.0	6.0	2.0	2.0
2397	2-(4-AMINOPHENYL)-6-METHYLBENZOTHIAZOLE																																								Poison	C8H5Cl3O3.C3H9NO|C8H5Cl3O3.C6H15N|C8H5Cl3O3.C6H15N|C8H5Cl3O3.C3H9N|C8H5Cl3O3.C2H7N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	10.0	2.0	2.0
2398	2,2'-AZODI-(2,4-DIMETHYLVALERONITRILE)														(USCG, 1999)		1.2085		68		(USCG, 1999)		greater than 300		0.5		(NTP, 1992)		261.51											TPA	Class 9	C9H7Cl3O3		4.0	0.0	10.0	2.0	2.0
2399	2,2-BIS((BENZOYLOXY)METHYL)DIBENZOATE-1,3-PROPANEDIOL														(USCG, 1999)		1.183		68		(USCG, 1999)		320		760		(USCG, 1999)	(calculated)	381.7259											TPE	Class 9	C17H23Cl3O3		4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2400	2,3-DIBROMO-1-PROPANOL	ALLYL ALCOHOL DIBROMIDE|BETA-DIBROMOHYDRIN|BROMINEX 257|DBP|DBP (FLAME RETARDANT)|2,3-DIBROMO-1-PROPANOL|1,2-DIBROMOPROPAN-3-OL|DIBROMOPROPANOL|2,3-DIBROMOPROPANOL|2,3-DIBROMOPROPYL ALCOHOL|GLYCEROL 1,2-DIBROMOHYDRIN|NCI-C55436|1-PROPANOL, 2,3-DIBROMO-|USAF DO-42	96-13-9	PHYSICAL DESCRIPTION: Clear colorless to slightly yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4399.0	437.0	1492.0	795.0	484.0	1093.0	113.0	373.0	216.0	117.0	(BLOB)	Flash point data for this chemical are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2401	2,3-DICHLORO-1-PROPANOL	ALPHA,BETA-DICHLOROHYDRIN|BETA,GAMMA-DICHLOROHYDRIN|BETA-DICHLOROHYDRIN|(+-)-2,3-DICHLORO-1-PROPANOL|2,3-DICHLORO-1-PROPANOL|1,2-DICHLORO-3-PROPANOL|1,2-DICHLOROPROPANOL-3|2,3-DICHLOROPROPANOL|2,3-DICHLOROPROPYL ALCOHOL|GLYCEROL 1,2-DICHLOROHYDRIN|GLYCEROL ALPHA,BETA-DICHLOROHYDRIN|GLYCEROL-2,3-DICHLOROHYDRIN|GLYCEROL-ALPHA,BETA-DICHLOROHYDRIN|RS)-2,3-DICHLORO-1-PROPANOL	616-23-9	PHYSICAL DESCRIPTION: Viscous colorless to amber liquid with an ethereal odor. (NTP, 1992)	2.5	5.0	2.5	4399.0	437.0	1492.0	795.0	484.0	1093.0	113.0	373.0	216.0	117.0	(BLOB)	Unstabilized hydrocyanic acid may polymerize spontaneously with explosive violence. Flashback along vapor trail may occur. The explosion hazard is severe when this material is exposed to heat, flame, or oxidizers. It forms explosive mixtures with air, and will react with water, steam, acid, or acid fumes to produce highly toxic fumes of cyanides. It may decompose explosively upon contact with alkaline material. Avoid acetylaldehyde, alkaline materials, oxidizers, water, steam, acid, and acid fumes. Hydrocyanic acid solution is sensitive to light. It may become unstable and subject to explosion if stored for an extended time or exposed to high temperature and pressure. Avoid heat, flame or oxidizers. Hazardous polymerization may occur. Unstabilized hydrocyanic acid may polymerize spontaneously with explosive violence. Can polymerize at 122-140F or when catalyzed with	(BLOB)
2402	2,3-DICHLOROPROPENE	2-CHLOROALLYL CHLORIDE|2,3-DICHLORO-1-PROPANE|2,3-DICHLORO-1-PROPENE|2,3-DICHLOROPROPENE|2,3-DICHLOROPROPYLENE|PROPENE, 2,3-DICHLORO-|PROPENE,2,3-DICHLORO|1-PROPENE,2,3-DICHLORO	78-88-6	Colorless to yellow liquid with an odor of chloroform. Sinks in water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	4401.0	437.0	1492.0	795.0	484.0	1094.0	113.0	373.0	216.0	117.0	Eye: If this chemical in liquid form or in solution contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical in solution or in liquid form contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2403	2',3'-DIDEOXYADENOSINE	BETA-D-ERYTHRO-PENTOFURANOSIDE, ADENINE-9 2,3-DIDEOXY-|DDA|DDADO|2,3-DIDEOXY-BETA-D-RIBOFURANOSYLADENINE|DIDEOXYADENOSINE|2',3'-DIDEOXYADENOSINE|GLYCERO-PENTOPYRANOSYLADENINE|NSC 98700	4097-22-7	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	4401.0	437.0	1492.0	795.0	484.0	1094.0	113.0	373.0	216.0	117.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2404	2,3-DIMETHYLBUTANE	BIISOPROPYL|BUTANE, 2,3-DIMETHYL-|DIISOPROPYL|2,3-DIMETHYLBUTANE|1,1,2,2-TETRAMETHYLETHANE	79-29-8	A clear colorless liquid with a petroleum-like odor. Flash point -20Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4401.0	437.0	1494.0	795.0	484.0	1094.0	113.0	374.0	216.0	117.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2400	2,3-DIBROMO-1-PROPANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Strong reducing agents will produce toxic gases ammonia and hydrogen sulfide.					0																		(NTP, 1992)			523 to 527
2401	2,3-DICHLORO-1-PROPANOL	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	(BLOB)	Highly flammable. Flame may easily travel back to source of leak. Vapors forms explosive mixtures with air. Soluble in water.	HYDROCYANIC ACID, [LIQUEFIED] reacts as an oxidizing agent and as a weak acid. Presents a severe explosion hazard when heated or exposed to oxidizing agents. Reacts violently with acetaldehyde. May polymerize explosively at elevated temperature (50-60Â°C). Polymerizes in the presence of traces of alkali [Wohler, L. et al., Chem. Ztg., 1926, 50, p. 761, 781]. May undergo rapid spontaneous polymerization leading to a fire Should be stabilized against this reaction by the addition of acid (such as phosphoric acid [Bond, J., Loss Prev. Bull., 1991, 101, p.3]. During the preparation of imidoester hydrochlorides, hydrogen chloride was rapidly passed over all alcoholic solution of hydrogen cyanide. An explosion ensued, even with cooling of the process [J. Org. Chem., 1955, 20, 1573].	Highly Flammable; Polymerizable	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1051 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5		(EPA, 1998)		0	(EPA, 1998)		5.6		%	(EPA, 1998)		40		%	(USCG, 1999)		1004		(EPA, 1998)		7.9	
2402	2,3-DICHLOROPROPENE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Fumes in air. Fumes are highly irritating, corrosive, and poisonous. Generates much heat on dissolution [Merck, 11th ed., 1989]. Heat can cause spattering, fuming, etc.	(BLOB)	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1														(USCG, 1999)	Not flammable			(NIOSH, 2003)		-118	
2403	2',3'-DIDEOXYADENOSINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Sensitive to heat and light. Incompatible with acids. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)	(decomposes)	432	
2404	2,3-DIMETHYLBUTANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Finely divided platinum and some other metals will cause a mixture of hydrogen and oxygen to explode at ordinary temperatures. If a jet of hydrogen in air impinges on platinum black the metal surface gets hot enough to ignite the gases, [Mellor 1:325(1946-1947)]. Explosive reactions occur upon ignition of mixtures of nitrogen trifluoride with good reducing agents such as ammonia, hydrogen, hydrogen sulfide or methane. Mixtures of hydrogen, carbon monoxide, or methane and oxygen difluoride are exploded when a spark is discharged, [Mellor 2, Supp. 1:192(1956)]. An explosion occurred upon heating 1'-pentol and 1''-pentol under hydrogen pressure. It appears that this acetylenic compound under certain conditions suddenly breaks down to form elemental carbon, hydrogen, and carbon monoxide with the release of sufficient energy to develop pressures in excess of 1000 atmospheres, [AIChE Loss Prevention, p1, (1967)].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	4	0	4					(USCG, 1999)		4		%	(USCG, 1999)		75		%	(USCG, 1999)		1065		(USCG, 1999)		-434	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2400	2,3-DIBROMO-1-PROPANOL																										(NTP, 1992)		297.75						(NTP, 1992)	at 72.5Â°F		less than 0.1	mg/mL			C7H8ClN3O4S2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	7.0	2.0	2.0
2401	2,3-DICHLORO-1-PROPANOL	(EPA, 1998)		630				mm Hg	(EPA, 1998)		0.901				(EPA, 1998)		0.699				(EPA, 1998)		78.1		760		(EPA, 1998)		27.03		(NIOSH, 2003)		50	ppm	(NIOSH, 2003)	Miscible				HCN	Poison Inhalation Hazard|Flammable Liquid	HCN	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2402	2,3-DICHLOROPROPENE	(NIOSH, 2003)		783				mm Hg							(USCG, 1999)		152				(USCG, 1999)		152		760		(NIOSH, 2003)		20		(NIOSH, 2003)		30	ppm	(NIOSH, 2003)	Miscible				HFA	Corrosive|Poison	HF (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2403	2',3'-DIDEOXYADENOSINE																										(NTP, 1992)		197.08						(NTP, 1992)	at 74.3Â°F		greater than or equal to 100	mg/mL		Poison	C6H8N2O.2ClH		5.0	0.0	10.0	2.0	2.0
2404	2,3-DIMETHYLBUTANE														(USCG, 1999)		0.071		-423.4		(USCG, 1999)		-423		760		(USCG, 1999)		2											HXX	Flammable Gas	H2		5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2405	2,3-DIMETHYLPHENOL	1,2-DIMETHYL-3-HYDROXYBENZENE|2,3-DIMETHYLPHENOL|1-HYDROXY-2,3-DIMETHYLBENZENE|3-HYDROXY-O-XYLENE|O-3-XYLENOL|O-XYLENOL|VIC-O-XYLENOL|2,3-XYLENOL	526-75-0	PHYSICAL DESCRIPTION: Colorless crystalline solid or brown chunky solid. Taste threshold concentration 0.03 mg/L. Odor threshold concentration 0.5 mg/L. (NTP, 1992)	1.0	2.5	5.0	4403.0	437.0	1494.0	795.0	484.0	1095.0	113.0	374.0	216.0	117.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2406	2,4,5-TRICHLOROPHENOL	COLLUNOSOL|DOWICIDE 2|DOWICIDE B|NCI-C61187|NURELLE|PREVENTOL I|TCP|2,4,5-TRICHLOROPHENIC ACID|2,4,5-TRICHLOROPHENOL	95-95-4	PHYSICAL DESCRIPTION: Colorless needles, gray flakes or off-white lumpy solid. Phenolic odor. Formerly used as a fungicide and bactericide.	1.0	2.5	5.0	4403.0	437.0	1494.0	795.0	484.0	1095.0	113.0	374.0	216.0	117.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2407	2,4,5-TRICHLOROPHENOXYACETIC ACID, [SODIUM SALT]	2,4,5-T ESTERS|2,4,5-T SALTS|2,4,5-T SODIUM SALT|2,4,5-TRICHLOROPHENOXYACETIC ACID, SODIUM SALT|2,4,5-TRICHLOROPHENOXYACETIC ACID, [SODIUM SALT]	2702-72-9	Light tan solid. Insoluble in water. Used as a defoliant and herbicide. Use in the U.S. has been restricted, because synthesis generates significant amounts of dioxin as a byproduct. A major component of "Agent Orange" during the Vietnam War era.	1.0	2.5	5.0	4403.0	439.0	1494.0	795.0	486.0	1095.0	114.0	374.0	216.0	118.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating hydrogen chloride or phosgene gases may form. (USCG, 1999)	Fire Extinguishing Agents: Water, foam (USCG, 1999)
2408	2,4,6-TRICHLOROANILINE	ANILINE, 2,4,6-TRICHLORO-|SYM-TRICHLOROANILINE|2,4,6-TRICHLORANILINE|2,4,6-TRICHLOROANILINE|2,4,6-TRICHLOROBENZENAMINE	634-93-5	PHYSICAL DESCRIPTION: Long needles or fine, light purple fibers. (NTP, 1992)	1.0	2.5	5.0	4403.0	439.0	1494.0	795.0	486.0	1095.0	114.0	374.0	216.0	118.0	(BLOB)	Flash point data for this compound are not available. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2409	2,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE	ALPHA,ALPHA,ALPHA,2,4-PENTACHLOROTOLUENE|2,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE|2,4-DICHLORO-1-(TRICHLOROMETHYL)BENZENE|1,3-DICHLORO-4-(TRICHLOROMETHYL)BENZENE|2,4-DICHLOROBENZOTRICHLORIDE|2,4-DICHLOROPHENYLTRICHLOROMETHANE|TOLUENE, ALPHA,ALPHA,ALPHA,2,4-PENTACHLORO-	13014-18-1	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4403.0	439.0	1496.0	795.0	486.0	1095.0	114.0	375.0	216.0	118.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2410	2,4-D SODIUM SALT	ACETIC ACID, (2,4-DICHLOROPHENOXY-), SODIUM SALT|AGRION|AGRION (PESTICIDE)|2,4-D SODIUM SALT|2,4-D, SODIUM SALT|DICHLORDON SODIUM|2,4-DICHLOROPHENOXYACETIC ACID SODIUM SALT|DICONIRT|DICONIRTD|DIKONIRT|DIKONIRTD|FERNOXENE|FERNOXONE|HORMIT|KAR D|PIELIKE|SODIUM (2,4-DICHLOROPHENOXY)ACETATE|SODIUM 2,4-D|SODIUM 2,4-DICHLOROPHENOXYACETATE|SODIUM DICLORDON|SPRAY-HORMITE|SPRITZ-HORMIT|SPRITZ-HORMITE|TAFICIDE|TORNADO DF|U 46D|U-460	2702-72-9	A clear brown to black liquid with a characteristic phenoxy odor. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.	2.5	5.0	2.5	4405.0	439.0	1496.0	795.0	486.0	1096.0	114.0	375.0	216.0	118.0	(BLOB)	When heated, it emits highly corrosive fumes of fluorides. Its corrosive action on metals can result in formation of hydrogen in containers and piping to create fire hazard. Toxic and irritating vapors are generated when heated. Will attack glass, concrete, and certain metals, especially those containing silica, such as cast iron. Will attack natural rubber, leather, and many organic materials. May generate flammable hydrogen gas in contact with some metals. (EPA, 1998)	Use water on fires in which hydrofluoric acid is involved. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2405	2,3-DIMETHYLPHENOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organonitrate compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for chloronitrobenzenes (mixed isomers), CAS numbers 121-73-3, 100-00-5, 88-73-3.	3	1	0	1																								
2406	2,4,5-TRICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)						0																				(NTP, 1992)		315 to 320
2407	2,4,5-TRICHLOROPHENOXYACETIC ACID, [SODIUM SALT]	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with sodium bicarbonate or lime solution. (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Decomposes rapidly in water.	2,4-DICHLOROPHENOXYACETIC ACID is incompatible with strong oxidizers. It is corrosive to metals. (NTP, 1992)	Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		280	
2408	2,4,6-TRICHLOROANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Upon storage, autooxidation forms unstable peroxides. Insoluble in water.	This compound was involved in an explosion during vacuum distillation. Autooxidation of this material forms the unstable peroxide.	Peroxidizable Compound					0																							
2409	2,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	CHLOROPENTAFLUOROETHANE is incompatible with the following: Alkalis, alkaline earth metals (e.g., aluminum powder, sodium, potassium, zinc) (NIOSH, 1997).		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NIOSH, 2003)		-223	
2410	2,4-D SODIUM SALT	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Fumes in air. Fumes are highly irritating, corrosive, and poisonous. Generates much heat on dissolution [Merck, 11th ed., 1989]. Heat can cause spattering, fuming, etc.	(BLOB)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1052 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1		(EPA, 1998)	Not Flammable		(EPA, 1998)	Non-Flammable			(EPA, 1998)	Non-Flammable			(USCG, 1999)	Not flammable			(EPA, 1998)		-118.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2405	2,3-DIMETHYLPHENOL																													(NIOSH, 2003)	(As p-Nitrochlorobenzene); A potential human carcinogen.	100	mg/m3							Poison	C6H4ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2406	2,4,5-TRICHLOROPHENOL																				(NTP, 1992)	Sublimes					(NTP, 1992)		191.01					(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C7H4Cl2O2		6.0	0.0	7.0	2.0	2.0
2407	2,4,5-TRICHLOROPHENOXYACETIC ACID, [SODIUM SALT]	(NTP, 1992)	; 0.4 mm Hg at 320Â° F	0		68		mm Hg	(NTP, 1992)		7.63				(USCG, 1999)		1.563		68		(NTP, 1992)	Decomposes					(NTP, 1992)		221.04		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	Decomposes				DCA	Class 9	C8H6Cl2O3		4.0	0.0	8.0	2.0	2.0
2408	2,4,6-TRICHLOROANILINE																										(NTP, 1992)		191.86													C4H2Cl4	Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2409	2,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE	(NIOSH, 2003)		7.9		70		atm													(NIOSH, 2003)		-38		760		(NIOSH, 2003)		154.5						(NIOSH, 2003)	at 77Â° F	0.006		%		Non-Flammable Gas	C2ClF5		7.0	0.0	9.0	2.0	2.0
2410	2,4-D SODIUM SALT	(EPA, 1998)		400		36.5		mm Hg	(EPA, 1998)		0.7				(EPA, 1998)		0.991		67.1		(EPA, 1998)		67.1		760		(EPA, 1998)		20.01		(NIOSH, 2003)		30	ppm	(NIOSH, 2003)	Miscible				HFX	Corrosive|Poison	FH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	4.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2411	2,4-D, N-BUTYL ESTER	BUTAPON|BUTYL (2,4-DICHLOROPHENOXY)ACETATE|BUTYL 2,4-D|BUTYL DICHLOROPHENOXYACETATE|BUTYL ESTER 2,4-D|BUTYL ESTER OF 2,4-D|BUTYL(2,4-DICHLOROPHENOXY) ACETATE|2,4-D BUTYL ESTER|2,4-D N-BUTYL ESTER|2,4-D, BUTYL ESTER|2,4-D, N-BUTYL ESTER|2,4-DBE|2,4-DICHLOROPHENOXY)ACETIC ACID, BUTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID BUTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID N-BUTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID, BUTYL ESTER|ESSO HERBICIDE 10|FERNESTA|HI-ESTER 2,4-D|LIRONOX|SHELL 40	94-80-4	PHYSICAL DESCRIPTION: Clear colorless to light brown liquid. (NTP, 1992)	2.5	5.0	2.5	4405.0	439.0	1496.0	795.0	486.0	1096.0	114.0	375.0	216.0	118.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2412	2,4-DIAMINOANISOLE SULFATE	ANISOLE, 2,4-DIAMINO-, HYDROGEN SULFATE TRIHYDRATE|ANISOLE, 2,4-DIAMINO-, SULFATE TRIHYDRATE|BASF URSOL SLA|1,3-BENZENEDIAMINE, 4-METHOXY-, SULFATE(1:1) TRIHYDRATE|C.I. 76051|C.I. OXIDATION BASE 12A|2,4-DAA SULFATE|2,4-DIAMINO-1-METHOXYBENZENE SULPHATE TRIHYDRATE|1,3-DIAMINO-4-METHOXYBENZENE SULPHATE TRIHYDRATE|2,4-DIAMINO-ANISOL SULPHATE TRIHYDRATE|2,4-DIAMINOANISOLE SULFATE|2,4-DIAMINOSOLE SULPHATE TRIHYDRATE|DURAFUR BROWN MN|FOURAMINE BA|FOURRINE 76|FOURRINE SLA|FURRO SLA|M-PHENYLENEDIAMINE, 4-METHOXY-, SULFATE TRIHYDRATE|4-METHOXY-1,3-BENZENEDIAMINE SULFATE TRIHYDRATE|4-	39156-41-7	PHYSICAL DESCRIPTION: Off-white to violet or dark brown powder. Emits toxic fumes of nitrogen oxides and sulfur oxides when heated to decomposition.	1.0	2.5	5.0	4405.0	439.0	1496.0	795.0	486.0	1096.0	114.0	375.0	216.0	118.0			
2413	2,4-DIMETHOXYANILINE	4-AMINORESORCINOL DIMETHYL ETHER|ANILINE, 2,4-DIMETHOXY-|2,4-DIM|METHOXYANILINE|2,4-DIMETHOXYPHENYLAMINE	2735-07-8	PHYSICAL DESCRIPTION: Black crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4407.0	439.0	1496.0	795.0	486.0	1097.0	114.0	375.0	216.0	118.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2414	2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE	2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE, [TECHNICALLY PURE]|2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE	13052-09-0		1.0	2.5	5.0	4407.0	439.0	1496.0	795.0	486.0	1097.0	114.0	375.0	216.0	118.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
2415	2,5-DITHIOBIUREA	1,2-BIS(THIOCARBAMOYL)HYDRAZINE|BIS(THIOUREA)|BISTHIOCARBAMYL HYDRAZINE|BITHIOUREA|BIUREA, 2,5-DITHIO-|DITHIOBIUREA|2,5-DITHIOBIUREA|DITHIOCARBAMOYLHYDRAZINE|1,2-DITHIOCARBAMOYLHYDRAZINE|2,5-DITHIODIUREA|DITHIOUREA|2,5-DITHIOUREA|1,2-HYDRAZINEDICARBOTHIOAMIDE|NCI-C03009|USAF B-44|USAF EK-P-6281	142-46-1	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	4407.0	439.0	1496.0	795.0	486.0	1097.0	114.0	375.0	216.0	118.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2411	2,4-D, N-BUTYL ESTER	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dissolves exothermically in water. The heat may raise toxic and corrosive acidic fumes. Fumes in air.	HYDROGEN IODIDE, [ANHYDROUS] is a strongly acidic gas. Reacts rapidly and exothermically with bases. Reacts with active metals in the presence of moisture, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates, dithionites, and carbonates. Can catalyze chemical reactions among other materials. Decomposes at high temperatures to generate toxic products. Reacts with oxidizing agents to give iodine (when passed through fuming nitric acid, each bubble produces iodine attended by a flash of red flame [Berichte 3:3660]. Ignites in contact with fluorine, dinitrogen trioxide, nitrogen dioxide/dinitrogen tetraoxide.	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2197 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									
2412	2,4-DIAMINOANISOLE SULFATE			No rapid reaction with air. No rapid reaction with water.	2,4-DP is an organic acid. Neutralizes bases in exothermic reactions.								0																									
2413	2,4-DIMETHOXYANILINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water	CHLOROPHENOLS are incompatible with acid chlorides, acid anhydrides and oxidizing agents. Also incompatible with iron (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2-chlorophenol, CAS number 95-57-8.	3	2	0	2		(NFPA, 2010)		147																				
2414	2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,1,3,3-TETRAMETHYLBUTYL PEROXY-2-ETHYLHEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2415	2,5-DITHIOBIUREA	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,5-BIS(TERT-BUTYLPEROXY)-2,5-DIMETHYL-3-HEXYNE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2411	2,4-D, N-BUTYL ESTER																																								Poison Gas|Corrosive	HI		3.0	0.0	6.0	2.0	2.0
2412	2,4-DIAMINOANISOLE SULFATE																																									C9H8Cl2O3		5.0	0.0	8.0	2.0	2.0
2413	2,4-DIMETHOXYANILINE																																								Poison	C6H5ClO		4.0	0.0	7.0	2.0	2.0
2414	2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY) HEXANE																																								Organic Peroxide	C16H32O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	10.0	2.0	2.0
2415	2,5-DITHIOBIUREA																																								Organic Peroxide|Explosive	C16H30O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2416	2,5-NORBORNADIENE, INHIBITED	BICYCLOHEPTADIENE|BICYCLO[2.2.1]HEPTA-2,5-DIENE|BICYCLO[2.2.1]HEPTA-2,5-DIENE, INHIBITED|BICYCLO[2.2.1]HEPTADIENE|DICYCLOHEPTADIENE|3,6-METHANO-1,4-CYCLOHEXADIENE|NORBORNADIENE|2,5-NORBORNADIENE, INHIBITED|2,5-NORBORNADIENE	121-46-0	A colorless liquid. Insoluble in water and less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. When heated will polymerize and at decomposition emits acrid smoke and irritating fumes.	2.5	5.0	2.5	4409.0	439.0	1498.0	795.0	486.0	1098.0	114.0	376.0	216.0	118.0	The only effect of exposure to liquid hydrogen is that caused by its unusually low temperature and its action as a simple asphyxiant. INHALATION: if victim is unconscious (due to oxygen deficiency), move him to fresh air and apply resuscitation methods; call physician. EYES: treat for frostbite. SKIN: treat for frostbite; soak in lukewarm water; get medical attention if burn is severe. (USCG, 1999)	Behavior in Fire: Burns with an almost invisible flame. (USCG, 1999)	(BLOB)
2417	2,6-DINITROPHENOL	BETA-DINITROPHENOL|2,6-DINITROPHENOL|DNPO-O-DINITROPHENOL	573-56-8	Yellow crystalline solid with a sweet musty odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	4411.0	439.0	1498.0	797.0	486.0	1099.0	114.0	376.0	217.0	118.0	(BLOB)	Special Hazards of Combustion Products: Decomposes yielding toxic fumes Behavior in Fire: Dangerous when exposed to heat or flame (USCG, 1999)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2418	2,6-DINITROTOLUENE	2,6-DINITROTOLUENE|2,6-DNT|2-METHYL-1,3-DINITROBENZENE|1-METHYL-2,6-DINITROBENZENE|TOLUENE, 2,6-DINITRO-	606-20-2	Yellow to red solid or heated liquid with a slight odor. Solidifies in cool water. Solid and liquid sink in water. (USCG, 1999)	1.0	2.5	5.0	4413.0	439.0	1498.0	797.0	486.0	1100.0	114.0	376.0	217.0	118.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2419	2,7-DINITRO-9H-FLUOREN-9-ONE	2,7-DINITRO-9-FLUORENONE|2,7-DINITRO-9H-FLUOREN-9-ONE|2,7-DINITROFLUORENONE|FLUOREN-9-ONE, 2,7-DINITRO-|9-OXO-2,7-DINITROFLUORENE	31551-45-8	PHYSICAL DESCRIPTION: Light green solid. Used a photo conducting material. (NTP, 1992)	1.0	2.5	5.0	4413.0	439.0	1498.0	797.0	486.0	1100.0	114.0	376.0	217.0	118.0	(BLOB)	Flash point data for this chemical is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2420	2-ACETYLAMINO-4-METHYLPHENOL	2-ACETYLAMINO-4-METHYLPHENOL|2'-HYDROXY-5'-METHYLACETANILIDE|M-ACETOTOLUIDIDE, 6'-HYDROXY-|4-METHYL-6-ACETAMIDOPHENOL|N-(2-HYDROXY-5-METHYLPHENYL)ACETAMIDE	6375-17-3	PHYSICAL DESCRIPTION: Solid. (NTP, 1992)	1.0	2.5	5.0	4415.0	439.0	1498.0	797.0	486.0	1101.0	114.0	376.0	217.0	118.0	Call a doctor. INHALATION: Remove from contaminated area. Administer oxygen and artificial respiration as needed. EYES: Flush with water. SKIN: Wash with soap and water. INGESTION: Gastric lavage and saline cathartics. OTHER: If patient is feverish use cold packs and alcohol sponges. (USCG, 1999)	Special Hazards of Combustion Products: Vapors are toxic. Behavior in Fire: Can detonate or explode when heated under confinement. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, CO 2 , foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2416	2,5-NORBORNADIENE, INHIBITED	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Safety goggles or face shield; insulated gloves and long sleeves; cuffless trousers worn outside boots or over high-top shoes to shed spilled liquid; self-contained breathing apparatus containing air (never use oxygen). (USCG, 1999)	Highly flammable.	(BLOB)	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4					(USCG, 1999)		4		%	(USCG, 1999)		75		%	(USCG, 1999)		1065		(USCG, 1999)		-434	
2417	2,6-DINITROPHENOL	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	CHLOROPRENE emits highly toxic fumes of chlorine gas when heated to decomposition. Autooxidizes very rapidly with air and, even at 0A° C, produces unstable peroxides that catalyze exothermic polymerization [Bretherick, 5th ed., 1995, p. 507]. This reactivity is greatly slowed by presence of an inhibitor.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		-4		(NTP, 1992)		4		%	(NTP, 1992)		20		%				(NTP, 1992)		-202	
2418	2,6-DINITROTOLUENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as TETRACHLORO-O-XYLENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2419	2,7-DINITRO-9H-FLUOREN-9-ONE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 2,5-DINITRO-9H-FLUORENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.						0																							
2420	2-ACETYLAMINO-4-METHYLPHENOL	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Self-contained breathing apparatus, butyl rubber gloves, goggles, protective shoes and laboratory coat. (USCG, 1999)	Slowly mixes with water.	2,5-DINITROPHENOL can detonate or explode when heated under confinement (USCG, 1999). Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2416	2,5-NORBORNADIENE, INHIBITED														(USCG, 1999)		0.071		-423.4		(USCG, 1999)		-423		760		(USCG, 1999)		2											HXX	Flammable Gas	H2		7.0	0.0	9.0	2.0	2.0
2417	2,6-DINITROPHENOL	(NTP, 1992)	; 188 mm Hg at 68Â° F	118		50		mm Hg	(NTP, 1992)		3				(USCG, 1999)		0.9583		68		(NTP, 1992)		138.9		760		(NTP, 1992)		88.54		(NIOSH, 2003)	; A potential human carcinogen.	300	ppm	(NTP, 1992)	Slightly soluble				CRP	Flammable Liquid|Poison	C4H5Cl	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	5.0	0.0	6.0	2.0	2.0
2418	2,6-DINITROTOLUENE																																							Corrosive	C8H6Cl4		5.0	0.0	6.0	2.0	2.0
2419	2,7-DINITRO-9H-FLUOREN-9-ONE																											(NTP, 1992)		256.2						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C13H8N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2420	2-ACETYLAMINO-4-METHYLPHENOL														(USCG, 1999)		1.68				(USCG, 1999)		184.11																	DNE	Flammable Solid|Poison	C6H4N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2421	2-AMINO-2-THIAZOLINE HYDROCHLORIDE	2-AMINO-1,3-THIAZOLINE MONOHYDROCHLORIDE|2-AMINO-2-THIAZOLINE HYDROCHLORIDE|2-THIAZOLAMINE, 4,5-DIHYDRO-, MONOHYDROCHLORIDE|THIAZOLIDINE|2-IMINO-, HYDROCHLORIDE	3882-98-2	PHYSICAL DESCRIPTION: Cream colored crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4417.0	439.0	1498.0	797.0	486.0	1102.0	114.0	376.0	217.0	118.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2422	2-AMINO-4-CHLOROBENZOTHIAZOLE	2-AMINO-4-CHLOROBENZOTHIAZOLE|BENZOTHIAZOLE, 2-AMINO-4-CHLORO-|4-CHLORO-2-BENZOTHIAZOLAMINE	19952-47-7	PHYSICAL DESCRIPTION: Cream colored crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4419.0	439.0	1498.0	797.0	486.0	1103.0	114.0	376.0	217.0	118.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2423	2-AMINO-4-METHOXYBENZOTHIAZOLE	2-AMINO-4-METHOXYBENZOTHIAZOLE|BENZOTHIAZOLE, 2-AMINO-4-METHOXY-|4-METHOXY-2-AMINOBENZOTHIAZOLE|4-METHOXY-2-BENZOTHIAZOLAMINE	5464-79-9	PHYSICAL DESCRIPTION: Beige chunky solid. (NTP, 1992)	1.0	2.5	5.0	4419.0	439.0	1498.0	797.0	486.0	1103.0	114.0	376.0	217.0	118.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2424	2-AMINO-4-METHYLBENZOTHIAZOLE	2-AMINO-4-METHYLBENZOTHIAZOLE|BENZOTHIAZOLE, 2-AMINO-4-METHYL-|4-METHYL-2-AMINOBENZOTHIAZOLE|4-METHYL-2-BENZOTHIAZOLAMINE	1477-42-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4419.0	439.0	1498.0	797.0	486.0	1103.0	114.0	376.0	217.0	118.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2425	2-AMINO-5-DIETHYLAMINOPENTANE	4-AMINO-1-(DIETHYLAMINO)PENTANE|2-AMINO-5-(DIETHYLAMINO)PENTANE|2-AMINO-5-DIETHYLAMINOPENTANE|DELTA-(DIETHYLAMINO)-ALPHA-METHYLBUTYLAMINE|4-(DIETHYLAMINO)-1-METHYLBUTYLAMINE|5-(DIETHYLAMINO)-2-PENTANAMINE|5-(DIETHYLAMINO)-2-PENTYLAMINE|1-(DIETHYLAMINO)-4-AMINOPENTANE|1-METHYL-4-(DIETHYLAMINO)BUTYLAMINE|N1,N1-DIETHYL-1,4-PENTANEDIAMINE|N5,N5-DIETHYL-2,5-PENTANEDIAMINE|NOVOLDIAMINE	140-80-7	A colorless liquid. Toxic by ingestion, inhalation and skin absorption. Irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4421.0	439.0	1498.0	801.0	486.0	1104.0	114.0	376.0	219.0	118.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2421	2-AMINO-2-THIAZOLINE HYDROCHLORIDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides(ClxSiHy) are spontaneously flammable in air, NFPA 1991.	Chlorosilanes are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2985 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water																								
2422	2-AMINO-4-CHLOROBENZOTHIAZOLE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides(ClxSiHy) are spontaneously flammable in air, NFPA 1991.	Chlorosilanes are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Pyrophoric	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2987 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water																								
2423	2-AMINO-4-METHOXYBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	(BLOB)						0																				(NTP, 1992)		291	
2424	2-AMINO-4-METHYLBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,6-DICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		154 to 156
2425	2-AMINO-5-DIETHYLAMINOPENTANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Sensitive to prolonged exposure to air. Water soluble. Reacts slowly with water.	A powerful reducing agent. Reacts with bases and oxidizing agents. (NTP, 1992)	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)	(Decomposes)	304	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2421	2-AMINO-2-THIAZOLINE HYDROCHLORIDE																																								Flammable Liquid|Corrosive	ClH3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2422	2-AMINO-4-CHLOROBENZOTHIAZOLE																																								Corrosive	ClH3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2423	2-AMINO-4-METHOXYBENZOTHIAZOLE																				(NTP, 1992)	Sublimes					(NTP, 1992)		191.01						(NTP, 1992)	at 66Â° F		1 to 10	mg/mL			C7H4Cl2O2		5.0	0.0	7.0	2.0	2.0
2424	2-AMINO-4-METHYLBENZOTHIAZOLE	(NTP, 1992)	; 5 mm Hg at 189.7Â° F; 10 mm Hg at 213.8Â° F	1		139.1		mm Hg													(NTP, 1992)			424 to 428	760		(NTP, 1992)		163						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H4Cl2O		5.0	0.0	10.0	2.0	2.0
2425	2-AMINO-5-DIETHYLAMINOPENTANE															(NTP, 1992)		1.67		63	(NTP, 1992)	Decomposes					(NTP, 1992)		69.49						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Corrosive|Poison	ClH.H3NO		3.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2426	2-AMINO-6-ETHOXYBENZOTHIAZOLE	2-AMINO-6-ETHOXYBENZOTHIAZOLE|BENZOTHIAZOLE, 2-AMINO-6-ETHOXY-|6-ETHOXY-2-AMINOBENZOTHIAZOLE|6-ETHOXY-2-BENZOTHIAZOLAMINE	94-45-1	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	4421.0	439.0	1498.0	801.0	488.0	1104.0	114.0	376.0	219.0	119.0	(BLOB)	Flash point data are not available for this chemical. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2427	2-AMINO-6-NITROBENZOTHIAZOLE	2-AMINO-6-NITROBENZOTHIAZOLE|2-BENZOTHIAZOLAMINE, 6-NITRO-|BENZOTHIAZOLE, 2-AMINO-6-NITRO-|6-NITRO-2-AMINOBENZOTHIAZOLE|6-NITRO-2-BENZOTHIAZOLAMINE	6285-57-0	PHYSICAL DESCRIPTION: Orange crystals or yellow powder. (NTP, 1992)	1.0	2.5	5.0	4423.0	439.0	1498.0	801.0	488.0	1105.0	114.0	376.0	219.0	119.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2428	2-AMINOANTHRAQUINONE	AAQ|2-AMINO-9,10-ANTHRACENEDIONE|2-AMINO-9,10-ANTHRAQUINONE|AMINOANTHRAQUINONE|2-AMINOANTHRAQUINONE|9,10-ANTHRACENEDIONE, 2-AMINO-|ANTHRAQUINONE, 2-AMINO-|BETA-AMINOANTHRAQUINONE|BETA-ANTHRAQUINONYLAMINE|NCI-C01876	117-79-3	PHYSICAL DESCRIPTION: Red needle-like crystals or dark brown granular solid. (NTP, 1992)	1.0	2.5	5.0	4423.0	439.0	1498.0	801.0	488.0	1105.0	114.0	376.0	219.0	119.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2429	2-AMINOBENZENE SULFONIC ACID	2-AMINOBENZENE SULFONIC ACID|1-AMINOBENZENE-2-SULFONIC ACID|2-AMINOBENZENESULFONIC ACID|2-AMINOBENZENESULPHONIC ACID|2-AMINOPHENYLSULFONIC ACID|ANILINE-2-SULPHONIC ACID|ANILINE-O-SULFONIC ACID|ANILINE-O-SULPHONIC ACID|2-ANILINESULFONIC ACID|BENZENESULFONIC ACID, O-AMINO-|O-AMINO BENZENE SULFONIC ACID|O-AMINOBENZENESULFONIC ACID|O-AMINOPHENYLSULFONIC ACID|O-SULFANILIC ACID|ORTHANILIC ACID|2-SULFOANILINE	88-21-1	PHYSICAL DESCRIPTION: Light brown powder. (NTP, 1992)	1.0	2.5	5.0	4425.0	439.0	1498.0	801.0	488.0	1106.0	114.0	376.0	219.0	119.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2430	2-BROMO-1-CHLOROPROPANE	(.+-.)-2-BROMO-1-CHLOROPROPANE|2-BROMO-1-CHLOROPROPANE|1-CHLORO-2-BROMOPROPANE	3017-95-6	Colorless odorless liquid. Insoluble in water. Nonflammable.	2.5	5.0	2.5	4427.0	439.0	1498.0	801.0	488.0	1107.0	114.0	376.0	219.0	119.0	(BLOB)	Special Hazards of Combustion Products: Sulfuric acid fumes may form in fires. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2431	2-BROMO-4,6-DINITROANILINE	ANILINE, 2-BROMO-4,6-DINITRO-|6-BROMO-2,4-DINITROANILINE|2-BROMO-4,6-DINITROAMINOBENZENE|2-BROMO-4,6-DINITROANILINE|2-BROMO-4,6-DINITROBENZENAMINE|2,4-DINITRO-6-BROMOANILINE|NCI-C60844	1817-73-8	PHYSICAL DESCRIPTION: Bright yellow powder. (NTP, 1992)	1.0	2.5	5.0	4427.0	439.0	1498.0	801.0	488.0	1107.0	114.0	376.0	219.0	119.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2426	2-AMINO-6-ETHOXYBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)			394 to 396
2427	2-AMINO-6-NITROBENZOTHIAZOLE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Combines with water with explosive force(heat of dilution 504 cal/g) forming Sulfuric Acid, [Merck, 11th ed., 1989]. Chlorosulfonic acid reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.04 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1754 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for chlorosulfonic acid, CAS number 7790-94-5	4	0	2	2	No Water; Oxidizer																							
2428	2-AMINOANTHRAQUINONE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLOROTHALONIL is stable in neutral or acidic aqueous media. May react violently with strong oxidizing acids [Farm Chemicals Handbook]. Incompatible with other oxidizing agents such as peroxides and epoxides. Breaks down slowly in basic aqueous media (half-life 38.1 days at pH 9). [Farm Chemicals Handbook].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)			482 to 484
2429	2-AMINOBENZENE SULFONIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	An amine/nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2430	2-BROMO-1-CHLOROPROPANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Acid-resistant protective clothing, including coveralls, wrist-length gloves, cap, goggles, and dust mask (USCG, 1999)	Water soluble.	Sulfuric acid fumes may form in fires (USCG, 1999). Solid hydroxylamine sulfate explodes when heated to 170Â° C [Chem. Process 26:30(1963)]. Sodium ignites on contact with hydroxylamine. (Mellor, 1940, Vol. 8, 292.)	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)	(decomposes)	338	
2431	2-BROMO-4,6-DINITROANILINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to light and air. Insoluble in water.	2-AMINO-3-METHYLIMIDAZO(4,5-F)QUINOLINE may be sensitive to prolonged exposure to heat. It is stable under moderately acidic and alkaline conditions and in cold dilute aqueous solutions when protected from light. This compound is rapidly degraded by dilute hypochlorite. (NTP, 1992)					0																						(NTP, 1992)			greater than 572

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2426	2-AMINO-6-ETHOXYBENZOTHIAZOLE																									(NTP, 1992)		253.08						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Class 9	C12H6Cl2O2		7.0	0.0	10.0	2.0	2.0
2427	2-AMINO-6-NITROBENZOTHIAZOLE																																							Corrosive; Poison Inhalation Hazard	HOSO2Cl (chlorosulfonic acid);SO3 (sulfur trioxide)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0
2428	2-AMINOANTHRAQUINONE	(NTP, 1992)	; 9.2 mm Hg at 338.7Â° F		less than 0.01	104		mm Hg							(NTP, 1992)		1.7		77		(NTP, 1992)		662		760		(NTP, 1992)		265.91						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C8Cl4N2		4.0	0.0	6.0	2.0	2.0
2429	2-AMINOBENZENE SULFONIC ACID																																							Poison	C7H14N2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	10.0	2.0	2.0
2430	2-BROMO-1-CHLOROPROPANE														(USCG, 1999)			greater than 1	68								(NTP, 1992)		164.14						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	HAS	Corrosive	(NH2OH)2 H2SO4		4.0	0.0	6.0	2.0	2.0
2431	2-BROMO-4,6-DINITROANILINE																									(NTP, 1992)		198.23						(NTP, 1992)	Insoluble						C11H10N4	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2432	2-BROMOETHYL ETHYL ETHER	1-BROMO-2-ETHOXYETHANE|1-BROMO-2-ETHOXYETHYLENE|1-BROMO-3-OXAPENTANE|5-BROMO-3-OXAPENTANE|2-BROMOETHOXYETHANE|BROMOETHYL ETHYL ETHER|2-BROMOETHYL ETHYL ETHER|ETHER, 2-BROMOETHYL ETHYL|1-ETHOXY-2-BROMOETHANE|2-ETHOXYETHYL BROMIDE	592-55-2	A colorless liquid. Vapors are heavier than air.	2.5	5.0	2.5	4429.0	439.0	1498.0	801.0	488.0	1108.0	114.0	376.0	219.0	119.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2433	2-CHLORO-1,1,1,2-TETRAFLUOROETHANE	2-CHLORO-1,1,1,2-TETRAFLUOROETHANE|HCFC-124	2837-89-0	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	4431.0	439.0	1498.0	805.0	488.0	1109.0	114.0	376.0	221.0	119.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2434	2-CHLORO-1,3-BUTADIENE MIXTURE	2-CHLORO-1,3-BUTADIENE MIXTURE|CHLOROERYTHRENE|2-CHLOROPRENE|COMPONENT 1 (50%): 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE|COMPONENT 2 (50%): XYLENE|METHYL TOLUENE|NCI-C55232|VIOLET 3	126-99-8	PHYSICAL DESCRIPTION: A clear tan liquid mixture. Composed of 50% 2-chloro-1,3-butadiene, which has a slight ethereal odor; and 50% xylene, which has an aromatic hydrocarbon odor. (NTP, 1992)	2.5	5.0	2.5	4433.0	439.0	1498.0	805.0	488.0	1110.0	114.0	376.0	221.0	119.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2435	2-CHLOROETHANAL	ACETALDEHYDE, CHLORO-|ALPHA-CHLOROACETALDEHYDE|2-CHLORO-1-ETHANAL|CHLOROACETALDEHYDE|CHLOROACETALDEHYDE (40% AQUEOUS SOLUTION)|CHLOROACETALDEHYDE MONOMER|CHLOROACETALDEHYDE, MONOMER|2-CHLOROACETALDEHYDE|CHLOROETHANAL|2-CHLOROETHANAL|MONOCHLOROACETALDEHYDE	107-20-0	A clear colorless liquid with a pungent odor. Flash point about 190Â°F. Corrosive to skin and mucous membranes. It is very toxic by inhalation.	2.5	5.0	2.5	4433.0	439.0	1498.0	805.0	488.0	1110.0	114.0	376.0	221.0	119.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2436	2-CHLOROETHYL VINYL ETHER	BETA-CHLOROETHYL VINYL ETHER|1-CHLORO-2-VINYLOXYETHANE|(2-CHLOROETHOXY) ETHENE|(2-CHLOROETHOXY)ETHENE|2-CHLOROETHYL ETHENYL ETHER|2-CHLOROETHYL VINYL ETHER|2-CHLOROETHYLVINYL ETHER|2-CHLOROETHYLVINYLETHER|ETHER, 2-CHLOROETHYL VINYL|VINYL 2-CHLOROETHYL ETHER|VINYL BETA-CHLOROETHYL ETHER|2-VINYLOXYETHYL CHLORIDE	110-75-8	Liquid boiling at 209Â°C. Density 1.048 g / cm3 and insoluble in water. Hence sinks in water. Flash point 142Â°F. Toxic.	2.5	5.0	2.5	4433.0	439.0	1498.0	805.0	488.0	1110.0	114.0	376.0	221.0	119.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2432	2-BROMOETHYL ETHYL ETHER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Water soluble.	HYPOPHOSPHOROUS ACID decomposes when heated into phosphoric acid and spontaneously flammable phosphine. Is oxidized by sulfuric acid with release of sulfur dioxide and sulfur. Reacts explosively with mercury(II) oxide [Mellor, 1940, Vol. 4, 778]. Reacts violently with mercury(II) nitrate [Mellor, 1940, Vol. 4, 993]. Neutralizes bases in exothermic reactions.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2433	2-CHLORO-1,1,1,2-TETRAFLUOROETHANE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Safety glasses, all-purpose canister mask, sleeve-closed gown, gloves and long boots. (USCG, 1999)	This chemical decomposes at higher temperatures in water and at pH <5.5. It is sensitive to prolonged exposure to moisture. It is unstable in alkaline solutions.	TRICHLORFON is incompatible with alkalis. It is corrosive to black iron and mild steel. It is corrosive to metals. It is subject to hydrolysis. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			181 to 183
2434	2-CHLORO-1,3-BUTADIENE MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	May be sensitive to air. (NTP, 1992)	ICR 170 reacts as as a weak acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)		464 to 465
2435	2-CHLOROETHANAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	If left exposed to air for more than 120 minutes, it will turn to blue then black within 6 hours. Water soluble.	INDOL-3-YL SODIUM PHOSPHATE is incompatible with oxidizing agents. It is hydrolyzed rapidly by alkaline phosphatase to form a compound which is readily oxidized in solution by ambient oxygen under basic environment. (NTP, 1992)						0																							(NTP, 1992)	(decomposes)		greater than 662
2436	2-CHLOROETHYL VINYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Practically insoluble in water. Decomposes in alkali.	A weak organic acid. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	311 or 323.6Â° F		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2432	2-BROMOETHYL ETHYL ETHER																																								Corrosive	H3O2P		7.0	0.0	10.0	2.0	2.0
2433	2-CHLORO-1,1,1,2-TETRAFLUOROETHANE	(NTP, 1992)		7.80E-06		68		mm Hg							(USCG, 1999)		1.73		68		(NTP, 1992)		212		0.1		(NTP, 1992)		257.44						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL	TRC	Poison	C4H8Cl3O4P	Cellulose-Based Absorbents	5.0	0.0	10.0	2.0	2.0
2434	2-CHLORO-1,3-BUTADIENE MIXTURE																										(NTP, 1992)		479.31												Poison	C21H25Cl2N3O.2ClH	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2435	2-CHLOROETHANAL	(NTP, 1992)			less than 1			mm Hg	(NTP, 1992)			less than 1									(NTP, 1992)			greater than or equal to 482	760		(NTP, 1992)		311.15						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C8H8NO4P.2Na	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2436	2-CHLOROETHYL VINYL ETHER																										(NTP, 1992)		357.81												Poison	C19H16ClNO4		5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2437	2-CHLORONAPHTHALENE	BETA-CHLORONAPHTHALENE|2-CHLORONAPHTHALENE|HALOWAX	91-58-7	PHYSICAL DESCRIPTION: Monoclinic plates or off-white crystalline powder. Melting point 59.5Â°C.	1.0	2.5	5.0	4433.0	439.0	1500.0	805.0	488.0	1110.0	114.0	377.0	221.0	119.0	INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. SKIN: Wash affected areas with warm water. DO NOT USE HOT WATER. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of Cl and F (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2438	2-CHLOROPROPENE	BETA-CHLOROPROPENE|BETA-CHLOROPROPYLENE|2-CHLORO-1-PROPENE|2-CHLOROPROPENE|2-CHLOROPROPYLENE|ISOPROPENYL CHLORIDE|1-METHYLVINYL CHLORIDE|PROPENE, 2-CHLORO-|1-PROPENE, 2-CHLORO-	557-98-2	A clear colorless volatile liquid. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4435.0	439.0	1500.0	805.0	488.0	1111.0	114.0	377.0	221.0	119.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2439	2-CHLOROPROPIONIC ACID	(-+-)-ALPHA-CHLOROPROPANOIC ACID|ALPHA-CHLOROPROPIONIC ACID|(-+-)-2-CHLOROPROPANOIC ACID|2-CHLOROPROPANOIC ACID|(+-)-2-CHLOROPROPIONIC ACID|2-CHLOROPROPIONIC ACID|DL-2-CHLOROPROPIONIC ACID|PROPANOIC ACID, 2-CHLORO-|PROPIONIC ACID, 2-CHLORO-|(RS)-2-CHLOROPROPIONIC ACID|(RS)-ALPHA-CHLOROPROPIONIC ACID	598-78-7	A pale liquid with a slight odor. Sinks in and mixes with water. Only aluminum, stainless steel or steel covered with a protective lining or coating may contact the liquid or vapor.	2.5	5.0	2.5	4437.0	439.0	1500.0	805.0	488.0	1112.0	114.0	377.0	221.0	119.0	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: May ignite combustibles (wood, paper, oil, clothing, etc.). React vigorously and/or explosively with water. Produce toxic and/or corrosive substances on contact with water. Flammable/toxic gases may accumulate in tanks and hopper cars. Some may produce flammable hydrogen gas upon contact with metals. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash or lime. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2440	2-DIMETHYLAMINOACETONITRILE	(DIMETHYLAMINO)ACETONITRILE|2-(DIMETHYLAMINO)ACETONITRILE|DIMETHYLAMINOACETONITRILE|2-DIMETHYLAMINOACETONITRILE|DIMETHYLCYANOMETHYLAMINE|GLYCINONITRILE, N,N-DIMETHYL-|N-(CYANOMETHYL)DIMETHYLAMINE	926-64-7	A liquid with a fishlike odor. May be toxic by inhalation and skin absorption. Slightly soluble in water. Used to make other chemicals.	2.5	5.0	2.5	4439.0	441.0	1502.0	805.0	490.0	1113.0	115.0	378.0	221.0	120.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires associated with this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2441	2-DIMETHYLAMINOETHYL ACRYLATE	ACRYLIC ACID, 2-(DIMETHYLAMINO)ETHYL ESTER|2-(DIMETHYLAMINO)ETHYL ACRYLATE|DIMETHYLAMINOETHYL ACRYLATE|2-DIMETHYLAMINOETHYL ACRYLATE|2-PROPENOIC ACID, 2-(DIMETHYLAMINO)ETHYL ESTER	2439-35-2	A colorless to light yellow liquid with an acrid odor. Insoluble in water and floats on water. Irritates the eyes and produces tears.	2.5	5.0	2.5	4441.0	441.0	1504.0	805.0	490.0	1114.0	115.0	379.0	221.0	120.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2437	2-CHLORONAPHTHALENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Approved respirator, safety goggles, rubber gloves, safety shoes. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure, [Chem. Eng. News 39(27):44(1961)].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)		-294	
2438	2-CHLOROPROPENE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with air to form iodine pentaoxide (I2O5), which decomposes into iodine (I2) and oxygen (O2) with heat beginning at 275Â°C and proceeding rapidly at 350Â°C. Soluble in water; reacts with water or steam to produce toxic and corrosive fumes [Lewis].	IODINE MONOCHLORIDE is moderately explosive when heated [Lewis]. Reacts with rubber and many organic materials. Enflames (after a period of delay) with aluminum foil [Mellor 2:119(1946-1947)]. Reacts dangerously with other active metals. Reacts vigorously with cadmium sulfide, lead sulfide, silver sulfide, and zinc sulfide [Mellor 2, Supp. 1:502(1956)]. Combines very exothermically with phosphorus trichloride [Mellor 2, Supp. 1:502(1956)]. Forms Iodine pentaoxide in air which reacts explosively when warmed with carbon, sulfur, sugar, resin, or powdered combustible elements [Mellor 8: 841(1946-1947)].	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
2439	2-CHLOROPROPIONIC ACID	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Reaction with water or water-containing materials is violent, [Mellor 2, Supp. 1:176, 1956]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	A powerful oxidizer. Attack glass. Reacts violently with water or strong bases (potassium hydroxide, sodium hydroxide). It chars and usually ignites organic matter. Contact with boron, silicon, red phosphorus, sulfur, arsenic, antimony, bismuth, molybdenum and tungsten causes incandescence. Contact with potassium or sodium leads to explosions. Causes aluminum (foil, powder) to ignite. Explosive reactions with tetraiodoethylene, diethylaminotrimethylsilane. Violent reactions with benzene, dimethyl sulfoxide, tetraiodoethylene [Bretherick, 5th ed., 1995, p. 1434]. IF5 reacts explosively with diethylaminotrimethylsilane even at low temperature. (Oates, G. et al., J. Chem. Soc., Dalton Trans., 1974, 1383).	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2495 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
2440	2-DIMETHYLAMINOACETONITRILE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	IODOFORM decomposes at high temperatures. Decomposes slowly in light at room temperature. Reacts violently with lithium. Is incompatible with mercuric oxide, calomel, silver nitrate, tannin, and balsam Peru. Is also incompatible with strong bases, strong oxidizing agents and magnesium. Vigorous reactions occur with acetone in the presence of solid potassium hydroxide or calcium hydroxide, hexamethyleneetramine at 352Â° F, mercury(I) fluoride and finely divided reduced silver. (NTP, 1992)							0																										(NTP, 1992)		248	
2441	2-DIMETHYLAMINOETHYL ACRYLATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	IODOMETHYLPROPANES are incompatible with strong oxidizing and reducing agents. Also, incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2437	2-CHLORONAPHTHALENE	(USCG, 1999)		24816				mm Hg	(USCG, 1999)		1.298		-22								(USCG, 1999)		-114		760		(USCG, 1999)		104.46											MCM	Non-Flammable Gas	CCIF3		4.0	0.0	6.0	2.0	2.0
2438	2-CHLOROPROPENE																																								Corrosive	ICl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2439	2-CHLOROPROPIONIC ACID																																								Oxidizer|Poison|Corrosive	F5I	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Sand|Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2440	2-DIMETHYLAMINOACETONITRILE								(NTP, 1992)		4.1				(NTP, 1992)		4.008		68		(NTP, 1992)	(Sublimes)	424		760		(NTP, 1992)		393.73						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			CHI3		5.0	0.0	7.0	2.0	2.0
2441	2-DIMETHYLAMINOETHYL ACRYLATE																																								Flammable Liquid	C4H9I		8.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2442	2-DODECEN-1-YLSUCCINIC ANHYDRIDE	DDS|3-(2-DODECEN-1-YL)DIHYDRO-2,5-FURANDIONE|2-DODECEN-1-YL)SUCCINIC ANHYDRIDE|2-DODECEN-1-YLSUCCINIC ANHYDRIDE|DODECENYL SUCCINIC ANHYDRIDE|2-DODECENYL SUCCINIC ANHYDRIDE|3-(DODECENYL)DIHYDRO-2,5-FURANDIONE|3-(2-DODECENYL)DIHYDRO-2,5-FURANDIONE|DODECENYLSUCCINIC ANHYDRIDE|2-DODECENYLSUCCINIC ANHYDRIDE|2,5-FURANDIONE, 3-(DODECENYL)DIHYDRO-|SUCCINIC ANHYDRIDE, (2-DODECENYL)-	19780-11-1	PHYSICAL DESCRIPTION: Light yellow clear viscous oil. (NTP, 1992)	1.0	2.5	5.0	4441.0	441.0	1506.0	805.0	490.0	1114.0	115.0	380.0	221.0	120.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2443	2-ETHYLBUTYRALDEHYDE	ALPHA-ETHYLBUTANAL|ALPHA-ETHYLBUTYRALDEHYDE|BUTYRALDEHYDE, 2-ETHYL-|DIETHYLACETALDEHYDE|ETHYL BUTYRALDEHYDE|2-ETHYLBUTANAL|2-ETHYLBUTYRALDEHYDE|2-ETHYLBUTYRIC ALDEHYDE|3-FORMYLPENTANE	97-96-1	A clear colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4441.0	441.0	1506.0	805.0	490.0	1114.0	115.0	380.0	221.0	120.0			
2444	2-ETHYLHEXYL DIPHENYL PHOSPHATE	DIPHENYL 2-ETHYLHEXYL PHOSPHATE|ETHYL HEXYL DIPHENYLPHOSPHATE|2-ETHYLHEXYL DIPHENYL PHOSPHATE|2-ETHYLHEXYL DIPHENYL PHOSPHORATE|2-ETHYLHEXYL DIPHENYLPHOSPHATE|1-HEXANOL, 2-ETHYL-, ESTER WITH DIPHENYL PHOSPHATE|OCTICIZER|PHOSPHORIC ACID, 2-ETHYLHEXYL DIPHENYL ESTER|SANTICIZER 141|SANTICIZER 141(MONSANTO)	1241-94-7	PHYSICAL DESCRIPTION: Pale yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	4441.0	441.0	1508.0	805.0	490.0	1114.0	115.0	381.0	221.0	120.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2445	2-IODOBUTANE	IODOBUTANE|2-IODOBUTANE	513-48-4	A colorless liquid. Less dense than water. Vapors heavier than air. Used to make other chemicals and as a solvent.	2.5	5.0	2.5	4443.0	441.0	1508.0	805.0	490.0	1115.0	115.0	381.0	221.0	120.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
2446	2-METHOXYETHYL ACRYLATE	ACRYLIC ACID, 2-METHOXYETHYL ESTER|AGEFLEX MEA|ETHANOL, 2-METHOXY-, ACRYLATE|ETHYLENE GLYCOL MONOMETHYL ETHER ACRYLATE|GLYCOL MONOMETHYL ETHER ACRYLATE|2-METHOXYETHANOL, ACRYLATE|METHOXYETHYL ACRYLATE|2-METHOXYETHYL ACRYLATE|METHYL CELLOSOLVE ACRYLATE|2MTA|2-PROPENOIC ACID, 2-METHOXYETHYL ESTER|SR 244	3121-61-7	PHYSICAL DESCRIPTION: Clear colorless liquid with a sharp musty odor. (NTP, 1992)	2.5	5.0	2.5	4445.0	441.0	1508.0	805.0	490.0	1116.0	115.0	381.0	221.0	120.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2447	2-METHYL-2-BUTENE	ISOAMYLENE|ISOPENTENE|METHYL BUTENE|2-METHYL-2-BUTENE|METHYLBUTENE|2-METHYLBUTENE|TERT-AMYLENE|TRIMETHYLETHENE|TRIMETHYLETHYLENE	513-35-9	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	4447.0	441.0	1510.0	805.0	490.0	1117.0	115.0	382.0	221.0	120.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2442	2-DODECEN-1-YLSUCCINIC ANHYDRIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,1-DICHLORO-1,2,2-TRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2443	2-ETHYLBUTYRALDEHYDE			Flammable. Insoluble in water.	(BLOB)								0																								
2444	2-ETHYLHEXYL DIPHENYL PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: PVA (NTP, 1992)	Highly flammable. Decomposes on exposure to air and light. Insoluble in water.	ISOAMYL NITRITE is an oxidizing agent but can serve as a reducing agent. Forms explosive mixtures with air or oxygen. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)			less than 69										(NTP, 1992)		408						
2445	2-IODOBUTANE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable. Insoluble in water.	ISOBUTYL ISOBUTYRATE, [FLAMMABLE LIQUID] reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	0	3		(USCG, 1999)		99													(USCG, 1999)		-113.3		
2446	2-METHOXYETHYL ACRYLATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	Isocyanates and thioisocyanates, such as ISOBUTYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2486 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2447	2-METHYL-2-BUTENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	ISOBUTYL PROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2442	2-DODECEN-1-YLSUCCINIC ANHYDRIDE																																								Non-Flammable Gas	C2HCl2F3		3.0	0.0	7.0	2.0	2.0
2443	2-ETHYLBUTYRALDEHYDE																																									C7H16O	Cellulose-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2444	2-ETHYLHEXYL DIPHENYL PHOSPHATE														(NTP, 1992)		0.8528		68		(NTP, 1992)			205 to 210	760		(NTP, 1992)		117.15						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Flammable Liquid	C5H11NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2445	2-IODOBUTANE														(USCG, 1999)			0.853 to 0.857	68		(USCG, 1999)		299.7		760		(USCG, 1999)		144.24										BIB	Flammable Liquid	C8H16O2		5.0	0.0	10.0	2.0	2.0
2446	2-METHOXYETHYL ACRYLATE																																								Poison Inhalation Hazard|Flammable Liquid	C5H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	10.0	2.0	2.0
2447	2-METHYL-2-BUTENE																																								Flammable Liquid	C7H14O2		6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2448	2-METHYL-3-BUTENENITRILE	3-CYANOBUT-1-ENE|2-METHYL-3-BUTENENITRILE|2-METHYL-3-BUTENONITRILE	16529-56-9	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4447.0	441.0	1510.0	805.0	490.0	1117.0	115.0	382.0	221.0	120.0	(BLOB)	Vapor may explode if ignited in an enclosed area. Toxic oxides of nitrogen are produced during combustion. It is a flammable/combustible material and may be ignited by heat, sparks, or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Hazardous polymerization may not occur. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Spray cooling water on containers that are exposed to flames until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Extinguish with dry chemical, carbon dioxide, water spray, foam, or fog. (EPA, 1998)
2449	2-METHYL-6-NITROBENZOIC ACID	BENZOIC ACID, 2-METHYL-6-NITRO-|6-METHYL-2-NITROBENZOIC ACID|2-METHYL-6-NITROBENZOIC ACID|6-NITRO-O-TOLUIC ACID|O-TOLUIC ACID, 6-NITRO-	13506-76-8	PHYSICAL DESCRIPTION: Pale yellow needles or tan powder. (NTP, 1992)	1.0	2.5	5.0	4449.0	441.0	1510.0	805.0	490.0	1118.0	115.0	382.0	221.0	120.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2450	2-NITRO-1,1'-BIPHENYL	BIPHENYL, 2-NITRO-|2-NITRO-1,1'-BIPHENYL|2-NITROBIPHENYL|2-NITRODIPHENYL|O-NITROBIPHENYL|O-NITRODIPHENYL|ONB|2-PHENYLNITROBENZENE	86-00-0	PHYSICAL DESCRIPTION: Gold to tan crystals or brown solid. (NTP, 1992)	1.0	2.5	5.0	4451.0	441.0	1512.0	805.0	490.0	1119.0	115.0	383.0	221.0	120.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2451	2-NITROETHANOL	BETA-NITROALCOHOL|BETA-NITROETHANOL|BETA-NITROETHYL ALCOHOL|ETHANOL, 2-NITRO-|1-NITRO-2-HYDROXYETHANE|2-NITROETHANOL	625-48-9	PHYSICAL DESCRIPTION: Mobile dark brown-red liquid with a pungent odor. (NTP, 1992)	2.5	5.0	2.5	4453.0	441.0	1514.0	805.0	490.0	1120.0	115.0	384.0	221.0	120.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2452	2-TRIDECANONE	HENDECYLMETHYLKETONE|METHYL UNDECYL KETONE|TRIDECANONE-2|2-TRIDECANONE	593-08-8	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4455.0	441.0	1514.0	805.0	490.0	1121.0	115.0	384.0	221.0	120.0	Get medical aid. INHALATION: Move to fresh air. EYES: Wash with large amounts of water, get medical attention. SKIN: Wash with large amounts of water. (USCG, 1999)		
2453	3-((2-ETHYLHEXYL)OXY)PROPYLAMINE	3-AMINOPROPYL 2-ETHYLHEXYL ETHER|3-(2-ETHYLHEXOXY)PROPYLAMINE|2-ETHYLHEXYL 3-AMINOPROPYL ETHER|3-((2-ETHYLHEXYL)OXY)PROPYLAMINE|2-ETHYLHEXYL-3-AMINOPROPYL ETHER|3-(2-ETHYLHEXYLOXY)-1-PROPANAMINE|3-(2-ETHYLHEXYLOXY)PROPYLAMINE|2-ETHYLHEXYLOXYPROPYLAMINE|PROPYLAMINE, 3-[(2-ETHYLHEXYL)OXY]-	5397-31-9	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4457.0	441.0	1514.0	809.0	490.0	1122.0	115.0	384.0	223.0	120.0	INHALATION: maintain respiration, give oxygen if needed. ASPIRATION: enforce bed rest; give oxygen. INGESTION: do NOT induce vomiting; call a doctor. EYES: wash with copious amount of water. SKIN: wipe off, wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2448	2-METHYL-3-BUTENENITRILE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	ISOBUTYRONITRILE is incompatible with the following: Oxidizers, reducing agents, strong acids & bases (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(EPA, 1998)		47												(EPA, 1998)		-96.7	
2449	2-METHYL-6-NITROBENZOIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	2-AMINO-5-DIETHYLAMINOPENTANE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
2450	2-NITRO-1,1'-BIPHENYL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water. Reacts slowly with water. The reaction is promoted by acid such that the pH is less than 5.0 (1/2 life of 24-48 hrs.). Reaction is also promoted by polar organic solvents such as methanol and acetone.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
2451	2-NITROETHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may hydrolyze under high or low pH conditions. (NTP, 1992). Insoluble in water.	Organophosphates, such as ISODECYL DIPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200												(NTP, 1992)		-31	
2452	2-TRIDECANONE		Rubber gloves, safety glasses, laboratory coat. If powder becomes airborne, wear approved mechanical filter respirator. (USCG, 1999)	Water soluble.	CHROMIC ACETATE gives aqueous solutions that are basic (neutralize acids). These neutralizations generate only a little heat. Neither a strong reducing agent nor oxidizing agent, but can serve as both.						0													(USCG, 1999)	Not flammable				
2453	3-((2-ETHYLHEXYL)OXY)PROPYLAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Eye protection (as for gasoline). (USCG, 1999)	Highly flammable.	Saturated aliphatic hydrocarbons, such as ISOHEXENE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		-20		(USCG, 1999)		1.2		%	(USCG, 1999)		7.7		%	(USCG, 1999)		585		(USCG, 1999)		-244.6	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2448	2-METHYL-3-BUTENENITRILE	(NIOSH, 2003)		100		130		mm Hg	(EPA, 1998)		2.38				(EPA, 1998)			0.733 to 0.7608		68 to 86	(EPA, 1998)		219		760		(EPA, 1998)		69.1						(NIOSH, 2003)	Slight				IBN	Flammable Liquid|Poison	C4H7N		5.0	0.0	6.0	2.0	2.0
2449	2-METHYL-6-NITROBENZOIC ACID																																									Poison	C9H22N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2450	2-NITRO-1,1'-BIPHENYL																																								Class 9	C12H12ClN5O4S	Mineral-Based & Clay-Based Absorbents	6.0	0.0	10.0	2.0	2.0
2451	2-NITROETHANOL														(NTP, 1992)		1.074				(NTP, 1992)	Decomposes					(NTP, 1992)		390.44						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)					Class 9	C22H31O4P		5.0	0.0	7.0	2.0	2.0
2452	2-TRIDECANONE														(USCG, 1999)		1.3				(USCG, 1999)	For aqueous solution	212		760		(USCG, 1999)		229.14 (anhydrous); 247.16 (hydrate)				(NIOSH, 2003)	[as Cr(III)]	25	mg/m3					CRT		Cr(C2H3O2)3.H2O		5.0	0.0	8.0	2.0	2.0
2453	3-(2-ETHYLHEXYLOXY)PROPYLAMINE	(USCG, 1999)		310.2				mm Hg							(USCG, 1999)		0.653		68		(USCG, 1999)		140.5		760		(USCG, 1999)		86.18										IHA	Flammable Liquid	C6H14		8.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2454	3,3,5-TRIMETHYLCYCLOHEXYLSALICYLATE	CYCLOHEXANOL, 3,3,5-TRIMETHYL-, SALICYLATE|FILTROSOLA|HELIOPAN|HELIOPHAN|HOMOMENTHYL SALICYLATE|HOMOSALATE|2-HYDROXYBENZOIC ACID, 3,3,5-TRIMETHYLCYCLOHEXYL ESTER|KEMESTER|NEO HELIOPAN|SALICYLIC ACID 3,3,5-TRIMETHYLCYCLOHEXYL ESTER|SALICYLIC ACID, 3,3,5-TRIMETHYLCYCLOHEXYL ESTER|3,3,5-TRIMETHYLCYCLOHEXYL SALICYLATE|3,3,5-TRIMETHYLCYCLOHEXYLSALICYLATE	118-56-9	PHYSICAL DESCRIPTION: Viscous or light yellow to slightly tan liquid or oil. (NTP, 1992)	2.5	5.0	2.5	4459.0	441.0	1516.0	809.0	490.0	1123.0	115.0	385.0	223.0	120.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2455	3,3'-DIMETHYL-4,4'-DIPHENYLENE DIISOCYANATE	3,3'-DIMETHYL-4,4'-DIPHENYLENE DIISOCYANATE	91-97-4		1.0	2.5	5.0	4459.0	441.0	1516.0	809.0	490.0	1123.0	115.0	385.0	223.0	120.0	(BLOB)	Flash point data for this chemical is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2456	3,4,5-TRICHLORONITROBENZENE	BENZENE, 1,2,3-TRICHLORO-5-NITRO|3,4,5-TRICHLORO-1-NITROBENZENE|1,2,3-TRICHLORO-5-NITROBENZENE|3,4,5-TRICHLORONITROBENZENE	20098-48-0	PHYSICAL DESCRIPTION: Pale-yellow crystals or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1516.0	809.0	490.0	1124.0	115.0	385.0	223.0	120.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2457	3,4-DIHYDROXYL-ALPHA-[METHYLAMINO]METHYLBENZYL ALCOHOL	ADNEPHRINE|ADRENAL|ADRENALIN(.+-.)-ADRENALINE|ADRENAMINE|ADRIN|1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, (.+-.)-|BENZYL ALCOHOL, 3,4-DIHYDROXY-ALPHA-[(METHYLAMINO)METHYL]-, (.+-.)-|CHELOFRIN|-(3,4-DIHYDROXY)PHENYL-2-METHYLAMINOETHANOL|3,4-DIHYDROXY-1-[1-HYDROXY-2-2-(METHYLAMINO)-ETHYL]BENZENE|3,4-DIHYDROXYL-ALPHA-[METHYLAMINO]METHYLBENZYL ALCOHOL|1-(3,4-DIHYDROXYPHENYL)-2-(METHYLAMINO)ETHANOL|DL-ADRENALINE|DL-EPINEPHRINE|EPINEPHRINE|(.+-.)-EPINEPHRINE|EPIRENAMINE|EPIRENAN|EPPY|HEMISINE|HEMOSTASIN|HEMOSTATIN|4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-1,2	329-65-7	PHYSICAL DESCRIPTION: Odorless light brown or nearly white crystals. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1516.0	809.0	490.0	1124.0	115.0	385.0	223.0	120.0	(BLOB)	Flash point data for this chemical is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2458	3-AMINO-4-METHYLPHENOL	2-AMINO-4-HYDROXYTOLUENE|3-AMINO-4-METHYLPHENOL|3-AMINO-P-CRESOL|5-HYDROXY-O-TOLUIDINE|P-CRESOL, 3-AMINO-	2836-00-2	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1516.0	809.0	490.0	1124.0	115.0	385.0	223.0	120.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2459	3-CHLORO-4-METHYLPHENYL ISOCYANATE	3-CHLORO-4-METHYLPHENYL ISOCYANATE|3-CHLORO-4-TOLYL ISOCYANATE|3-CHLORO-P-TOLYL ISOCYANATE|CHLOROMETHYLPHENYLISOCYANATE|ISOCYANIC ACID, 3-CHLORO-P-TOLYL ESTER	28479-22-3	A colorless liquid with an acrid odor. Denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4461.0	441.0	1516.0	809.0	490.0	1124.0	115.0	385.0	223.0	120.0	INHALATION: remove victim to uncontaminated area; get medical attention if complications arise. INGESTION: get medical attention if complications arise. EYES: flush with large amounts of water for 15 min.; get prompt medical attention. SKIN: wash with water. (USCG, 1999)	Behavior in Fire: Dust forms explosive mixture in air. (USCG, 1999)	Fire Extinguishing Agents: Water, dry powder, foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2454	3,3,5-TRIMETHYLCYCLOHEXYLSALICYLATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ISOHEXENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2455	3,3'-DIMETHYL-4,4'-DIPHENYLENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Amines/imides are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.				0																											
2456	3,4,5-TRICHLORONITROBENZENE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Self-reactive. Chromium nitrates may be shock sensitive. Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick, 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2457	3,4-DIHYDROXYL-ALPHA-[METHYLAMINO]METHYLBENZYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It may be sensitive to prolonged exposure to air. Insoluble in water.	2-AMINOPHENOL-4-SULFONIC ACID may react with strong oxidizers and mineral acids or bases. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2458	3-AMINO-4-METHYLPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Acidic organic salt of an amine. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																									
2459	3-CHLORO-4-METHYLPHENYL ISOCYANATE		If without adequate ventilation, use respirator with dust filter, goggles, and gloves (USCG, 1999)	Dust forms explosive mixture in air (USCG, 1999).	(BLOB)							0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2454	3,3,5-TRIMETHYLCYCLOHEXYLSALICYLATE																																								Flammable Liquid	C6H12	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2455	3,3'-DIMETHYL-4,4'-DIPHENYLENE DIISOCYANATE																									(NTP, 1992)		186						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C9H18N2O2	Cellulose-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2456	3,4,5-TRICHLORONITROBENZENE																														(NIOSH, 2003)	[as Cr(III)]	25	mg/m3							Oxidizer	Cr.xHNO3|Cr.3HNO3|Cr.2HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2457	3,4-DIHYDROXYL-ALPHA-[METHYLAMINO]METHYLBENZYL ALCOHOL																									(NTP, 1992)		189.19						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Corrosive	C6H7NO4S		5.0	0.0	7.0	2.0	2.0
2458	3-AMINO-4-METHYLPHENOL																									(NTP, 1992)		205.7						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C12H11N.ClH		4.0	0.0	7.0	2.0	2.0
2459	3-CHLORO-4-METHYLPHENYL ISOCYANATE															(USCG, 1999)		1.54		77						(USCG, 1999)		166												IPL		C8H6O4		4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2460	3-DIMETHYLAMINOPHENOL	3-(DIMETHYLAMINO)PHENOL|3-DIMETHYLAMINOPHENOL|3-HYDROXY-N,N-DIMETHYLANILINE|3-HYDROXYDIMETHYLAMINOBENZENE|(3-HYDROXYPHENYL)DIMETHYLAMINE|M-(DIMETHYLAMINO)PHENOL|M-(N,N-DIMETHYLAMINO)PHENOL|N,N-DIMETHYL-M-AMINOPHENOL|3-N,N-DIMETHYLAMINOPHENOL|PHENOL, M-(DIMETHYLAMINO)-	99-07-0	PHYSICAL DESCRIPTION: Needles (from ligroin) or a dark gray solid. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1518.0	809.0	490.0	1124.0	115.0	386.0	223.0	120.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2461	3-ETHYLAMINO-4-METHYLPHENOL	3-ETHYLAMINO-4-CRESOL|2-ETHYLAMINO-4-HYDROXYTOLUENE|3-ETHYLAMINO-4-METHYLPHENOL|3-ETHYLAMINO-P-CRESOL|4-METHYL-3-ETHYLAMINOPHENOL|P-CRESOL, 3-(ETHYLAMINO)-	120-37-6	PHYSICAL DESCRIPTION: Purple solid. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1520.0	809.0	490.0	1124.0	115.0	387.0	223.0	120.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2462	3-HYDROXY-N-PHENYLANILINE	3-ANILINOPHENOL|3-HYDROXY-N-PHENYLANILINE|3-HYDROXYDIPHENYLAMINE|3-HYDROXYPHENYLAMINE PHENYL|M-(PHENYLAMINO)PHENOL|M-ANILINOPHENOL|M-HYDROXYDIPHENYLAMINE|PHENOL, M-ANILINO-|3-(PHENYLAMINO)PHENOL|3-PHENYLAMINOPHENOL	101-18-8	PHYSICAL DESCRIPTION: Beige powder. (NTP, 1992)	1.0	2.5	5.0	4461.0	441.0	1520.0	809.0	490.0	1124.0	115.0	387.0	223.0	120.0	EYES: Check for contact lenses and remove them at once if present. You should then immediately flush eyes with water for 15 minutes. Do not use oil or ointment in eyes. Arrange immediate transportation to a medical facility. SKIN: You should remove all contaminated clothing and flood skin with water. Wash all affected skin areas thoroughly with soap and water. If symptoms develop, seek medical attention. INHALATION: If any of your laboratory personnel should inhale this chemical, remove them at once to open air and arrange for immediate transportation to a medical facility. INGESTION: If the exposed person is convulsing or unconscious, do not attempt first aid. Transport immediately to a hospital emergency room or poison control center. If the	Component 1 is flammable. Component 2 is flammable. (NTP, 1992)	Fires involving this mixture can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2463	3-PENTENENITRILE, [LIQUID]	CROTYL CYANIDE|1-CYANO-2-BUTENE|3-PENTENENITRILE, [LIQUID]|3-PENTENONITRILE	4635-87-4	A clear colorless to amber liquid. Less dense than water. Flash point 104Â°F. Boiling point 296Â°F. Generally stable and not liable to polymerization. May be toxic by skin absorption, inhalation or ingestion. Prolonged exposure may result in delayed cyanide poisoning. Avoid direct contact with vapors, mists or liquid. May produce cyanide gas and carbon monoxide during combustion. Used in the manufacture of various organic chemicals.	2.5	5.0	2.5	4463.0	441.0	1520.0	809.0	490.0	1125.0	115.0	387.0	223.0	120.0	Call a physician. INHALATION: Remove from exposure and place on bed rest. EYES: Wash for 15 minutes with running water. Call a physician. SKIN: Wash with soap and water. INGESTION: Excretion is speeded by sodium bicarbonate (10 g in water every hour). Sodium citrate may offer protection to kidneys. (USCG, 1999)	Behavior in Fire: Decomposes to form U 2 O 7 then to UO 3 and oxygen. (USCG, 1999)	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Presence of radioactive material will not influence the fire control processes and should not influence selection of techniques. Move containers from fire area if you can do it without risk. Do not move damaged packages; move undamaged packages out of fire zone. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog (flooding amounts). (ERG, 2012)
2464	3-SULFOLENE	BETA-SULFOLENE|BUTADIENE SULFONE|2,5-DIHYDROTHIOPHENE 1,1-DIOXIDE|2,5-DIHYDROTHIOPHENE DIOXIDE|2,5-DIHYDROTHIOPHENE S,S-DIOXIDE|2,5-DIHYDROTHIOPHENE SULFONE|NCI-C04557|SULFOL-3-ENE|SULFOLENE|3-SULFOLENE|SULPHOLENE|1-THIA-3-CYCLOPENTENE 1,1-DIOXIDE|THIOPHENE, 2-5-DIHYDRO- 1.1-DIOXIDE	77-79-2	PHYSICAL DESCRIPTION: White crystals with a pungent odor. Melting point 64-65.5Â°C.	1.0	2.5	5.0	4465.0	441.0	1520.0	809.0	490.0	1126.0	115.0	387.0	223.0	120.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2460	3-DIMETHYLAMINOPHENOL	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as 2-BUTENE-CIS, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions. Aluminum borohydride reacts with alkenes and in the presence of oxygen, combustion is initiated even in the absence of moisture.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2-butene-cis, CAS number 590-18-1	1	4	0	4																						
2461	3-ETHYLAMINO-4-METHYLPHENOL	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	2-CHLORO-1,1,1,2-TETRAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
2462	3-HYDROXY-N-PHENYLANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	(BLOB)	Highly flammable. Insoluble in water.	2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE plus XYLENE mixture is sensitive to exposure to air and light. May also be sensitive to heat. Mixtures with water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions. 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE)can react with oxygen to form polymeric peroxides. It is incompatible with peroxides and other oxidizing agents. Attacks some forms of plastics, rubbers and coatings. XYLENE is incompatible with strong oxidizing agents. Attacks some forms of plastics, rubbers and coatings (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE): -4Â° F; Component 2 (50%: XYLENE): 85Â° F			(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE)	4		%	(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE): 977Â° F; Component 2 (50%: XYLENE): 870Â° F			(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE)	20		%						
2463	3-PENTENENITRILE, [LIQUID]	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: Do not touch damaged packages or spilled material. Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. (ERG, 2012)	Approved respirator, leather, gloves and protective goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	URANIUM PEROXIDE reacts rapidly with liquid bromine trifluoride.	Strong Oxidizing Agent; Radioactive Material	Excerpt from GUIDE 161 [Radioactive Materials (Low Level Radiation)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)					0																(USCG, 1999)	Not flammable			(USCG, 1999)		239	
2464	3-SULFOLENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Somewhat soluble in water.	2-CHLOROBENZYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2460	3-DIMETHYLAMINOPHENOL																																								Flammable Gas	C4H8	Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2461	3-ETHYLAMINO-4-METHYLPHENOL																																							Non-Flammable Gas	C2HClF4		4.0	0.0	7.0	2.0	2.0
2462	3-HYDROXY-N-PHENYLANILINE	(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE): 3.06; Component 2 (50%: XYLENE): 3.7	188		68		mm Hg	(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE): 3.06; Component 2 (50%: XYLENE): 3.7					(NTP, 1992)		0.905		66.4									(NTP, 1992)	Component 1 (50%: 2-CHLORO-1,3-BUTADIENE CHLOROBUTADIENE): 88.54; Component 2 (50%: XYLENE): 106.17									(NTP, 1992)	at 68.9Â°F		less than 1	mg/mL		Flammable Liquid	C4H5Cl (2-chloro-1,3-butadiene)|C8H10 (xylene)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2463	3-PENTENENITRILE, [LIQUID]																										(USCG, 1999)		338.06		(NIOSH, 2003)	(insoluble compounds, as U); A potential human carcinogen.	10	mg/m3						URP	Radioactive	UO4.2H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2464	3-SULFOLENE																																							Corrosive	C7H8ClN	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2465	4-(2,4-DINITROANILINO)PHENOL	ACETAMINE YELLOW 2R|ACETOQUINONE LIGHT YELLOW 2RZ|AMACEL YELLOW RR|C.I. 10345|C.I. DISPERSE YELLOW 1|C.I. SOLVENT YELLOW 52|CELLITON FAST YELLOW RR|CELLITON FAST YELLOW RRA-CF|CILLA FAST YELLOW RR|2,4-DINITRO-4'-HYDROXYDIPHENYLAMINE|4-(2,4-DINITROANILINO)PHENOL|4-[(2,4-DINITROPHENYL)AMINO]PHENOL|DISPERSE FAST YELLOW 2 K|DISPERSE FAST YELLOW 2K|DISPERSE YELLOW R|DISPERSOL FAST YELLOW A|DISPERSOL PRINTING YELLOW A|DISPERSOL YELLOW B-A|FAST DISPERSE YELLOW 2K|FENACET FAST YELLOW 2R|4-HYDROXY-2',4'-DINITRODIPHENYLAMINE|4'-HYDROXY-2,4-DINITRODIPHENYLAMINE|K	119-15-3	PHYSICAL DESCRIPTION: Reddish-brown solid. (NTP, 1992)	1.0	2.5	5.0	4465.0	441.0	1520.0	811.0	490.0	1126.0	115.0	387.0	224.0	120.0	(BLOB)	Special Hazards of Combustion Products: Contain poisonous and irritating chloride gases. Behavior in Fire: May yield highly toxic chloride fumes when heated to decomposition. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2466	4,4'-DIMETHOXYDIPHENYLAMINE	BENZENAMINE, 4-METHOXY-N-(4-METHOXYPHENYL)-|4-BIPHENYLAMINE, 4,4'-DIMETHOXY-|BIS(4-METHOXYPHENYL)AMINE|BIS(P-ANISYLAMINE)|BIS(P-METHOXYPHENYL)AMINE|DI(P-METHOXYPHENYL)AMINE|DI-P-ANISYLAMINE|DI-P-METHOXYPHENYLAMINE|DIFENAM|4,4'-DIMETHOXYDIPHENYLAMINE|DIPHENYLAMINE, 4,4'-DIMETHOXY-|N-(P-METHOXYPHENYL)-P-ANISIDINE|P,P'-DIMETHOXYDIPHENYLAMINE|THERMOFLEX	101-70-2	PHYSICAL DESCRIPTION: Fine very light gray to silver-gray crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4465.0	441.0	1520.0	811.0	490.0	1126.0	115.0	387.0	224.0	120.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2467	4,4'-DINITRO-2,2'-STILBENEDISULFONIC ACID DISODIUM SALT	4,4'-DINITRO-2,2'-STILBENEDISULFONIC ACID DISODIUM SALT|DINITROSTILBENEDISULFONIC ACID DISODIUM SALT|DISODIUM 4,4'-DINITRO-2,2'-STILBENEDISULFONATE|DISODIUM 4,4'-DINITRO-2,2'-STILBENEDISULFONIC ACID|2,2'-(1,2-ETHENEDIYL)BIS(5-NITROBENZENESULFONIC ACID) DISODIUM SALT|2,2'-STILBENEDISULFONIC ACID, 4,4'-DINITRO-, DISODIUM SALT	3709-43-1	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4465.0	441.0	1520.0	811.0	490.0	1126.0	115.0	387.0	224.0	120.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2468	4,4'-DIOCTYLDIPHENYLAMINE	ANOX NS|BIS(P-OCTYLPHENYL)AMINE|DAT 4,4'-DIOCTYLDIPHENYLAMINE|DIPHENYLAMINE, 4,4'-DIOCTYL-|NOCRAC AD|4-OCTYL-N-(4-OCTYLPHENYL)BENZENAMINE|P,P'-DIOCTYLDIPHENYLAMINE|PERMANAX OD	101-67-7	PHYSICAL DESCRIPTION: White powder or beige solid. Slight amine odor. (NTP, 1992)	1.0	2.5	5.0	4467.0	441.0	1520.0	811.0	490.0	1127.0	115.0	387.0	224.0	120.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
2469	4,4'-METHYLENEBIS(N,N-DIMETHYL)BENZENAMINE	(BLOB)	101-61-1	PHYSICAL DESCRIPTION: Yellowish glistening leaflets or plates or tan crystals. Weak odor. Sublimes without decomposition. (NTP, 1992)	1.0	2.5	5.0	4467.0	441.0	1520.0	811.0	490.0	1127.0	115.0	387.0	224.0	120.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2465	4-(2,4-DINITROANILINO)PHENOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water. Forms an insoluble hemihydrate at greater than 50% concentration.	2-CHLOROETHANAL polymerizes on standing. At greater than 50% concentration in water, it forms an insoluble hemihydrate. Sensitive to heat. Reacts with oxidizing agents. Incompatible with acids and water (NTP, 1992). Burns to give poisonous and irritating gases.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2232 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		190																(USCG, 1999)		3	
2466	4,4'-DIMETHOXYDIPHENYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CLONITRALID is hydrolyzed by concentrated acid or alkali. (NTP, 1992)						0																			(NTP, 1992)			421 to 446
2467	4,4'-DINITRO-2,2'-STILBENEDISULFONIC ACID DISODIUM SALT	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-CHLORONAPHTHALENE may react with strong oxidizing agents (NTP, 1992).						0																			(NTP, 1992)		139.1	
2468	4,4'-DIOCTYLDIPHENYLAMINE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CLOPIDOL is a non-combustible as a solid, but dust may burn rapidly or explode when mixed with air and ignited.						0																			(NIOSH, 2003)			greater than 608
2469	4,4'-METHYLENEBIS(N,N-DIMETHYL)BENZENAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable. Slightly soluble in water.	Halogenated aliphatic compounds, such as 2-CHLOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NTP, 1992)		-26															(NTP, 1992)		1099	(NTP, 1992)		-178.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2465	4-(2,4-DINITROANILINO)PHENOL	(NTP, 1992)	(40% aqueous solution)	100		113		mm Hg	(NTP, 1992)	(40% aqueous solution)	2.7				(USCG, 1999)		1.19		77		(NTP, 1992)		185		760		(NTP, 1992)		78.5		(NIOSH, 2003)		45	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	CHO	Poison Inhalation Hazard	C2H3ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2466	4,4'-DIMETHOXYDIPHENYLAMINE																									(NTP, 1992)		388.23						(NTP, 1992)	Insoluble						C13H8Cl2N2O4.C2H7NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0
2467	4,4'-DINITRO-2,2'-STILBENEDISULFONIC ACID DISODIUM SALT	(NTP, 1992)		0.017		77		mm Hg							(NTP, 1992)		1.1377		160		(NTP, 1992)		493		760		(NTP, 1992)		162.62						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C10H7Cl		4.0	0.0	6.0	2.0	2.0
2468	4,4'-DIOCTYLDIPHENYLAMINE																									(NIOSH, 2003)		192.1						(NIOSH, 2003)	Insoluble						C7H7Cl2NO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2469	4,4'-METHYLENEBIS(N,N-DIMETHYL)BENZENAMINE														(NTP, 1992)		0.8617		68		(NTP, 1992)		96.33		760		(NTP, 1992)		78.54											Flammable Liquid	C3H7Cl			6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2470	4,4'-THIOBIS(6-TERT-BUTYL-M-CRESOL)	(BLOB)	96-69-5	PHYSICAL DESCRIPTION: White or light gray to tan powder. (NTP, 1992)	1.0	2.5	5.0	4467.0	441.0	1520.0	811.0	490.0	1127.0	115.0	387.0	224.0	120.0	INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. INGESTION: If conscious have victim drink eggs, milk or water. DO NOT INDUCE VOMITING. If unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain hydrogen chloride and phosgene. Behavior in Fire: Fires produces highly toxic chloride fumes. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. Water or foam may cause frothing. (USCG, 1999)
2471	4,4'-THIODIANILINE	ANILINE, 4,4'-THIODI-|BIS(4-AMINOPHENYL) SULFIDE|BIS(4-AMINOPHENYL)SULFIDE|BIS(P-AMINOPHENYL)SULFIDE|DI(P-AMINOPHENYL) SULFIDE|DI(P-AMINOPHENYL)SULFIDE|DI(P-AMINOPHENYL)SULPHIDE|4,4'-DIAMINODIPHENYL SULFIDE|4,4'-DIAMINODIPHENYLSULFIDE|4,4'-DIAMINOPHENYL SULFIDE|NCI-C01707|P,P'-DIAMINODIPHENYL SULFIDE|P,P'-DIAMINODIPHENYLSULFIDE|P,P'-THIODIANILINE|P,P-THIODIANILINE|THIOANILINE|THIOANLINE|4,4'-THIOBISBENZENAMINE|4,4'-THIOBIS[ANILINE]|THIODI-P-PHENYLENEDIAMINE|4,4'-THIODIANILINE	139-65-1	PHYSICAL DESCRIPTION: Needles or brown powder. (NTP, 1992)	1.0	2.5	5.0	4467.0	441.0	1520.0	811.0	490.0	1127.0	115.0	387.0	224.0	120.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2472	4-AMINOAZOBENZENE	AAB|4-AMINO-1,1'-AZOBENZENE|AMINOAZOBENZENE|AMINOAZOBENZENE (INDICATOR)|4-AMINOAZOBENZENE|4-AMINOAZOBENZOL|ANILINE YELLOW|ANILINE, P-(PHENYLAZO)-|AZOBENZENE, 4-AMINO-|BENZENAMINE, 4-(PHENYLAZO)-|4-BENZENEAZOANILINE|BRASILAZINA OIL YELLOW G|C.I. 11000|C.I. SOLVENT BLUE 7|C.I. SOLVENT YELLOW 1|CELLITAZOL R|CERES YELLOW R|FAST SPIRIT YELLOW|FAST SPIRIT YELLOW AAB|FAT YELLOW AAB|INDULINE R|OIL SOLUBLE ANILINE YELLOW|OIL YELLOW 2G|OIL YELLOW AAB|OIL YELLOW AB|OIL YELLOW AN|OIL YELLOW B|OIL YELLOW R|OIL-SOL. ANILINE YELLOW|ORGANOL YELLOW|ORGANOL	60-09-3	PHYSICAL DESCRIPTION: Odorless brownish-yellow needles with bluish coating, or an orange powder. (NTP, 1992)	1.0	2.5	5.0	4469.0	441.0	1520.0	811.0	490.0	1128.0	115.0	387.0	224.0	120.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2473	4-AMINOBIPHENYL	4-AMINOBIPHENYL|4-AMINODIPHENYL|ANILINOBENZENE|(1,1'-BIPHENYL)-4-AMINE|BIPHENYLAMINE|4-BIPHENYLAMINE|4-BIPHENYLYLAMINE|P-AMINOBIPHENYL|P-AMINODIPHENYL|P-BIPHENYLAMINE|P-DIPHENYLAMINE|P-PHENYLANILINE|P-XENYLAMINE|PARAAMINODIPHENYL|4-PHENYLANILINE|4-PHENYLBENZENEAMINE|XENYLAMINE	92-67-1	PHYSICAL DESCRIPTION: Colorless to yellowish-brown crystals or light brown solid. (NTP, 1992)	1.0	2.5	5.0	4469.0	441.0	1520.0	811.0	490.0	1128.0	115.0	387.0	224.0	120.0	(BLOB)	When heated to decomposition, it emits carbon monoxide. Slowly attacked by hydrochloric acid and sulfuric acid, more rapidly by nitric acid and bromine. Unstable, decomposes on exposure to air. (EPA, 1998)	(BLOB)
2474	4-BROMOPHENYL PHENYL ETHER	1-BROMO-4-PHENOXYBENZENE|4-BROMODIPHENYL ETHER|4-BROMOPHENOXYBENZENE|4-BROMOPHENYL PHENYL ETHER|4-BROMOPHENYLPHENYL ETHER|4-BROMOPHENYLPHENYLETHER|ETHER, P-BROMOPHENYL PHENYL|P-BROMODIPHENYL ETHER|P-BROMOPHENOXYBENZENE|P-BROMOPHENYL PHENYL ETHER|P-PHENOXYBROMOBENZENE|P-PHENOXYPHENYL BROMIDE|4-PHENOXYPHENYL BROMIDE	101-55-3	PHYSICAL DESCRIPTION: Liquid. Freezing point 18Â°C. Density 1.423 g / cm3. Insoluble or slightly soluble in water.	2.5	5.0	2.5	4471.0	441.0	1520.0	811.0	490.0	1129.0	115.0	387.0	224.0	120.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2470	4,4'-THIOBIS(6-TERT-BUTYL-M-CRESOL)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(USCG, 1999)		225							(USCG, 1999)	(calculated)	3.6		%	(USCG, 1999)		932					
2471	4,4'-THIODIANILINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and away from oxidizers. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water and denser than water.	O-CHLOROPYRIDINE is incompatible with strong oxidizing agents and strong acids. (NTP, 1992) Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2472	4-AMINOAZOBENZENE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. 2-DIAZO-1-NAPHTHOL-5-SULFOCHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2473	4-AMINOBIPHENYL	Avoid inhalation and skin contact. (EPA, 1998)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	This compound is incompatible with the following: Air [Note: Decomposes on exposure to air or heat; stable in atmosphere of hydrogen & carbon monoxide.] (NIOSH, 1997).	When heated to decomposition, COBALT CARBONYL emits carbon monoxide. Slowly attacked by hydrochloric acid and sulfuric acid, more rapidly by nitric acid and bromine. Unstable, decomposes on exposure to air [EPA, 1998].	Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		124	
2474	4-BROMOPHENYL PHENYL ETHER	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	Isocyanates and thioisocyanates, such as ISOPROPYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2483 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2470	4,4'-THIOBIS(6-TERT-BUTYL-M-CRESOL)														(USCG, 1999)		1.2585		68		(USCG, 1999)		366		760		(USCG, 1999)		108.53											CLA	Corrosive	C3H5ClO2		7.0	0.0	10.0	2.0	2.0
2471	4,4'-THIODIANILINE																																									Poison	C5H4ClN	Mineral-Based & Clay-Based Absorbents	6.0	0.0	9.0	2.0	2.0
2472	4-AMINOAZOBENZENE																																								Flammable Solid		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2473	4-AMINOBIPHENYL	(EPA, 1998)		0.07		59		mm Hg							(EPA, 1998)		1.73		64.4		(EPA, 1998)	Decomposes at 126Â° F					(EPA, 1998)		341.94						(NIOSH, 2003)	Insoluble					Spontaneously Combustible	C8Co2O8		7.0	0.0	8.0	2.0	2.0
2474	4-BROMOPHENYL PHENYL ETHER																																								Poison Inhalation Hazard|Flammable Liquid	C4H7NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2475	4-CHLOROBIPHENYL	BIPHENYL, 4-CHLORO-|4-CHLORO-1,1'-BIPHENYL|1-CHLORO-4-PHENYL BENZENE|1-CHLORO-4-PHENYLBENZENE|4-CHLOROBIPHENYL|4-CHLORODIPHENYL|P-CHLOROBIPHENYL|P-CHLORODIPHENYL|PCB 3	2051-62-9	PHYSICAL DESCRIPTION: Colorless crystals or shiny off-white flakes. (NTP, 1992)	1.0	2.5	5.0	4471.0	441.0	1520.0	811.0	490.0	1129.0	115.0	387.0	224.0	120.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2476	4-CHLORO-M-PHENYLENEDIAMINE	C.I. 76027|4-CHLORO-1,3-BENZENEDIAMINE|4-CHLORO-1,3-DIAMINOBENZENE|4-CHLORO-1,3-PHENYLENEDIAMINE|1-CHLORO-2,4-DIAMINOBENZENE|4-CHLORO-3-AMINOANILINE|4-CHLORO-M-PHENYLENEDIAMINE|4-CHLOROPHENE-1,3-DIAMINE|4-CHLOROPHENYLENE-1,3-DIAMINE|4-CL-M-PD|M-PHENYLENEDIAMINE, 4-CHLORO-|NCI-C03305	5131-60-2	PHYSICAL DESCRIPTION: Gray powder or dark purple solid. (NTP, 1992)	1.0	2.5	5.0	4473.0	441.0	1520.0	811.0	490.0	1130.0	115.0	387.0	224.0	120.0	INHALATION: move victim to fresh air; if breathing has stopped, begin artificial respiration and call a doctor. INGESTION: give large amount of water; induce vomiting. EYES: flush with water at least 15 min.; consult physician if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cobalt oxide fumes may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2477	4-CHLORO-O-TOLUIDINE	(BLOB)	95-69-2	Gray to white solid with a weak fishy odor. Sinks in water. Freezing point is 77Â°F. (USCG, 1999)	1.0	2.5	5.0	4473.0	441.0	1520.0	811.0	490.0	1130.0	115.0	387.0	224.0	120.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2478	4-CHLORO-O-TOLUIDINE HYDROCHLORIDE	(BLOB)	3165-93-3	A white crystalline solid. Toxic by skin absorption and inhalation (dust).	1.0	2.5	5.0	4475.0	441.0	1520.0	813.0	490.0	1131.0	115.0	387.0	225.0	120.0	Call a doctor. EYES: Flush with plenty of water for at least 15 minutes. SKIN: Flush with soap and water. INGESTION: Induce vomiting. Get medical attention. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2479	4-CHLOROPHENYL PHENYL ETHER	1-CHLORO-4-PHENOXYBENZENE|4-CHLORODIPHENYL ETHER|4-CHLOROPHENOXYBENZENE|4-CHLOROPHENYL PHENYL ETHER|4-CHLOROPHENYLPHENYLETHER|ETHER, P-CHLOROPHENYL PHENYL|P-CHLORODIPHENYL ETHER|P-CHLORODIPHENYL OXIDE|P-CHLOROPHENOXYBENZENE|P-CHLOROPHENYL PHENYL ETHER	7005-72-3	PHYSICAL DESCRIPTION: Liquid. Density 1.193 g / cm3. Insoluble or slightly soluble in water.	2.5	5.0	2.5	4477.0	441.0	1522.0	813.0	490.0	1132.0	115.0	388.0	225.0	120.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2480	4-N-HEXYL-4'-CYANOBIPHENYL	(1,1'-BIPHENYL)-4-CARBONITRILE, 4'-HEXYL-|CB 6|CB 6 (LIQUID CRYSTAL)|6CB|4-CYANO-4'-HEXYLBIPHENYL|4-CYANO-4'-N-HEXYLBIPHENYL|4'-HEXYL-(1,1'-BIPHENYL)-4-CARBONITRILE|4-HEXYL-4'-CYANOBIPHENYL|4-HEXYL-4'-CYANODIPHENYL|4'-HEXYL-4-BIPHENYLCARBONITRILE|4'-HEXYL-4-CYANOBIPHENYL|K 18|K 18 (LIQUID CRYSTAL)|4-N-HEXYL-4'-CYANOBIPHENYL|4'-N-HEXYL-4-CYANOBIPHENYL|P-HEXYL-P'-CYANOBIPHENYL	41122-70-7	PHYSICAL DESCRIPTION: Milky-white thick liquid. (NTP, 1992)	2.5	5.0	2.5	4479.0	441.0	1524.0	813.0	490.0	1133.0	115.0	389.0	225.0	120.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2475	4-CHLOROBIPHENYL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-ETHOXYBENZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																								(NTP, 1992)		270 to 273
2476	4-CHLORO-M-PHENYLENEDIAMINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; side-shield goggles; Bu. of Mines respirator; protective clothing (USCG, 1999)	Hygroscopic. Soluble in water.	A 0.2 molar aqueous solution has a pH of 4.6. COBALT CHLORIDE acts as a weakly acidic inorganic salt, which is soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. Potassium or sodium metals act to reduce metal halides, producing exothermic reactions, even explosions [Bretherick, 5th Ed., 1995].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(USCG, 1999)		187	
2477	4-CHLORO-O-TOLUIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-ETHOXYETHYL-P-METHOXYCINNAMATE may hydrolyze under acidic or alkaline conditions. (NTP, 1992)			0		(NTP, 1992)			greater than 212																				
2478	4-CHLORO-O-TOLUIDINE HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Safety glasses, polyvinyl chloride gloves, filter respirator (dust, fume, mist), chemical apron. (USCG, 1999)	Mixes slowly with water.	COBALT FLUORIDE is a toxic, light brown crystalline material, when exposed to water it forms highly corrosive hydrofluoric acid. When heated to decomposition it emits toxic fumes of metallic cobalt and fluorides [Lewis, 3rd ed., 1993, p. 344].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(USCG, 1999)		2192	
2479	4-CHLOROPHENYL PHENYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber, PVA (NTP, 1992)	Highly flammable. Insoluble in water.	ISOPROPYL METHACRYLATE may be sensitive to heat and light during long term storage. It can also polymerize.(NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		70																				
2480	4-N-HEXYL-4'-CYANOBIPHENYL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ISOPROPYL-N-(3-CHLOROPHENYL)CARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		106.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2475	4-CHLOROBIPHENYL																									(NTP, 1992)		169.19						(NTP, 1992)	at 61Â° F		less than 1	mg/mL			C9H11NO2		7.0	0.0	10.0	2.0	2.0
2476	4-CHLORO-M-PHENYLENEDIAMINE														(USCG, 1999)		1.924		68								(USCG, 1999)		237.9											CBC	Poison	CoCl2		7.0	0.0	9.0	2.0	2.0
2477	4-CHLORO-O-TOLUIDINE														(NTP, 1992)			1.1000 to 1.1035	77								(NTP, 1992)		250.28						(NTP, 1992)	Insoluble						C14H18O4	Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2478	4-CHLORO-O-TOLUIDINE HYDROCHLORIDE														(USCG, 1999)		4.46		77		(USCG, 1999)	Volatilizes at about 2552.0Â° F					(USCG, 1999)		96.94											COF	Corrosive	CoF2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2479	4-CHLOROPHENYL PHENYL ETHER														(NTP, 1992)		0.8847		68		(NTP, 1992)		257		760		(NTP, 1992)		128.17						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)					Flammable Liquid	C7H12O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	6.0	2.0	2.0
2480	4-N-HEXYL-4'-CYANOBIPHENYL	(NTP, 1992)		2		300		mm Hg							(NTP, 1992)		1.18		86		(NTP, 1992)	(decomposition)	477		760		(NTP, 1992)		213.5						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Class 9	C10H12ClNO2		5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2481	4-NITROBIPHENYL	4-NITROBIPHENYL|4-NITRODIPHENYL|P-NITROBIPHENYL|P-NITRODIPHENYL|P-PHENYLNITROBENZENE|4-PHENYLNITROBENZENE|PNB	92-93-3	White to yellow needle-like crystalline solid with a sweetish odor. (NIOSH, 1997)	1.0	2.5	5.0	4481.0	441.0	1524.0	813.0	490.0	1134.0	115.0	389.0	225.0	120.0	INHALATION: Move to fresh air; if breathing has stopped, begin artificial respiration and call a doctor. INGESTION: Give large amount of water; induce vomiting; call a doctor. EYES: Flush with water for at least 15 minutes. SKIN: Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase the intensity of a fire. (USCG, 1999)	
2482	4-NITROQUINOLINE-1-OXIDE	NITROCHIN|4-NITROQUINOLINE 1-OXIDE|4 NITROQUINOLINE N-OXIDE|4-NITROQUINOLINE OXIDE|4-NITROQUINOLINE-1-OXIDE|4-NITROQUINOLINE-N-OXIDE|4-NQO|QUINOLINE, 4-NITRO-, 1-OXIDE	56-57-5	PHYSICAL DESCRIPTION: Yellowish-brown plates or needles or yellow solid. (NTP, 1992)	1.0	2.5	5.0	4481.0	441.0	1524.0	813.0	490.0	1134.0	115.0	389.0	225.0	120.0	(BLOB)	Probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2483	5,6-DICHLORO-2-BENZOTHIAZOLAMINE	2-AMINO-5,6-DICHLOROBENZOTHIAZOLE|2-BENZOTHIAZOLAMINE, 5,6-DICHLORO-|BENZOTHIAZOLE, 2-AMINO-5,6-DICHLORO-|5,6-DICHLORO-2-AMINOBENZOTHIAZOLE|5,6-DICHLORO-2-BENZOTHIAZOLAMINE	24072-75-1	PHYSICAL DESCRIPTION: White solid or powder. (NTP, 1992)	1.0	2.5	5.0	4481.0	441.0	1524.0	813.0	490.0	1134.0	115.0	389.0	225.0	120.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2484	5,7-DIHYDROXY-4-METHYL COUMARIN	COUMARIN, 5,7-DIHYDROXY-4-METHYL-|5,7-DIHYDROXY-4-METHYL COUMARIN|5,7-DIHYDROXY-4-METHYL-2H-1-BENZOPYRAN-2-ONE|5,7-DIHYDROXY-4-METHYLCOUMARIN|5-HYDROXY-4-METHYLUMBELLIFERONE|4-METHYL-5,7-DIHYDROXYCOUMARIN	2107-76-8	PHYSICAL DESCRIPTION: Yellow powder. Fluoresces blue. Absorbs ultraviolet light. (NTP, 1992)	1.0	2.5	5.0	4483.0	441.0	1524.0	813.0	490.0	1135.0	115.0	389.0	225.0	120.0	INHALATION: Remove victim from exposure immediately; if needed, administer oxygen; refer to physician. EYES: Flush with water for at least 15 min. SKIN: Remove victim from exposure immediately; remove contaminated clothing; wash contacted area with copious amounts of water and soap; if needed, administer oxygen; refer to physician. INGESTION: Induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic hydrogen fluoride and oxides of nitrogen may form in fires. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, foam or carbon dioxide (USCG, 1999)
2485	5-CHLORO-2-METHYL-1H-BENZIMIDAZOLE	BENZIMIDAZOLE, 5(OR 6)-CHLORO-2-METHYL-|BENZIMIDAZOLE, 5-CHLORO-2-METHYL-|BENZIMIDAZOLE, 6-CHLORO-2-METHYL-|5-CHLORO-2-METHYL-1H-BENZIMIDAZOLE|5-CHLORO-2-METHYLBENZIMIDAZOLE|6-CHLORO-2-METHYLBENZIMIDAZOLE|1H-BENZIMIDAZOLE, 5-CHLORO-2-METHYL-|2-METHYL-5-CHLOROBENZIMIDAZOLE|ROSALIN|ROZALIN	2818-69-1	PHYSICAL DESCRIPTION: Light brown solid or fluffy powder. (NTP, 1992)	1.0	2.5	5.0	4485.0	441.0	1526.0	813.0	490.0	1136.0	115.0	390.0	225.0	120.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2486	5-METHOXYPSORALEN	BERGAPTAN|BERGAPTEN|BERGAPTENE|7H-FURO(3,2-G)(1)BENZOPYRAN-7-ONE, 4-METHOXY-|HERACLIN|6-HYDROXY-4-METHOXY-5-BENZOFURANACRYLIC ACID, GAMMA-LACTONE|MAJUDIN|5-METHOXY-6,7-FURANOCOUMARIN|4-METHOXY-7H-FURO(3,2-G)(1)BENZOPYRAN-7-ONE|4-METHOXYFURO(3,2-G)CHROMEN-7-ONE|5-METHOXYPSORALEN|5-MOP|PSORADERM	484-20-8	PHYSICAL DESCRIPTION: Grayish-white microcrystalline powder or yellow fluffy solid. (NTP, 1992)	1.0	2.5	5.0	4485.0	441.0	1526.0	813.0	490.0	1136.0	115.0	390.0	225.0	120.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2481	4-NITROBIPHENYL		Approved respirator, rubber gloves, safety goggles, protective clothing. (USCG, 1999)	Water soluble.	Salts, basic, such as COBALTOUS SULFAMATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Contact with wood or paper may cause fire (USCG, 1999). Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire.								0																									
2482	4-NITROQUINOLINE-1-OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as 2-ETHYLHEXYL DIPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									
2483	5,6-DICHLORO-2-BENZOTHIAZOLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	COCO AMIDES are incompatible with strong oxidizers such as hydrogen peroxide, bromine and chromic acid. (NTP, 1992)							0		(NTP, 1992)			greater than 200																	
2484	5,7-DIHYDROXY-4-METHYL COUMARIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; chemical goggles; protective clothing; approved respirator. (USCG, 1999)	Water soluble.	2-FLUOROANILINE is a base. Neutralizes acids to form salts plus water in an exothermic reaction. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)		140																(USCG, 1999)		-19.3	
2485	5-CHLORO-2-METHYL-1H-BENZIMIDAZOLE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	COLLIDINE neutralizes acids in exothermic reactions to form salts plus water. These acid-base reactions are exothermic. Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate flammable gaseous hydrogen in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									
2486	5-METHOXYPSORALEN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									(NTP, 1992)		313 to 325

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2481	4-NITROBIPHENYL																									(USCG, 1999)		253.13															Co.2H3NO3S		7.0	0.0	8.0	2.0	2.0
2482	4-NITROQUINOLINE-1-OXIDE																									(NTP, 1992)		362.44						(NTP, 1992)	Insoluble					Class 9	C20H27O4P		5.0	0.0	6.0	2.0	2.0
2483	5,6-DICHLORO-2-BENZOTHIAZOLAMINE	(NTP, 1992)			less than 1	68		mm Hg							(NTP, 1992)		1																	(NTP, 1992)	at 68Â° F		less than 1	mg/mL					5.0	0.0	7.0	2.0	2.0
2484	5,7-DIHYDROXY-4-METHYL COUMARIN														(USCG, 1999)		1.1513		69.8		(USCG, 1999)		347		760		(USCG, 1999)		111.2										FAN	Poison	C6H6FN			5.0	0.0	7.0	2.0	2.0
2485	5-CHLORO-2-METHYL-1H-BENZIMIDAZOLE																																								Flammable Liquid	C8H11N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0
2486	5-METHOXYPSORALEN																									(NTP, 1992)		361.31						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C14H30N2O4.2Cl		6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2487	5-METHYL-2-THIOURACIL	4(1H)-PYRIMIDINONE, 2,3-DIHYDRO-5-METHYL-2-THIOXO- (9CI)|4-HYDROXY-5-METHYLPYRIMIDINE-2-THIONE|5-METHYL-2-THIOURACIL|THIOTHYMINE|2-THIOTHYMINE|THYMINE, 2-THIO-	636-26-0	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4487.0	443.0	1526.0	813.0	492.0	1137.0	116.0	390.0	225.0	121.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
2488	5-METHYLHEXAN-2-ONE	ISOAMYL METHYL KETONE|ISOPENTYL METHYL KETONE|METHYL ISOAMYL KETONE|METHYL ISOPENTYL KETONE|5-METHYL-2-HEXANONE|2-METHYL-5-HEXANONE|3-METHYLBUTYL METHYL KETONE|5-METHYLHEXAN-2-ONE|METHYLHEXANONE|MIAK	110-12-3	A colorless liquid with a pleasant fruity odor. Less dense than water. Vapors heavier than air. Flash point 110Â°F. Used as a solvent and for making other chemicals.	2.5	5.0	2.5	4487.0	443.0	1528.0	813.0	492.0	1137.0	116.0	391.0	225.0	121.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2489	6-NITROBENZIMIDAZOLE	BENZIMIDAZOLE, 5(OR 6)-NITRO-|BENZIMIDAZOLE, 5-NITRO-(NCI-C01912)|5-NITRO-1H-BENZIMIDAZOLE|6)-NITROBENZIMIDAZOLE|5-NITROBENZIMIDAZOLE|6-NITROBENZIMIDAZOLE	94-52-0	PHYSICAL DESCRIPTION: Off-white to pale yellow fluffy powder. (NTP, 1992)	1.0	2.5	5.0	4489.0	443.0	1530.0	813.0	492.0	1138.0	116.0	392.0	225.0	121.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2490	9-AMINOACRIDINE HYDROCHLORIDE	ACRAMINE YELLOW|9-ACRIDINAMINE, MONOHYDROCHLORIDE|ACRIDINE, 9-AMINO-, MONOHYDROCHLORIDE|AMINACRINE HYDROCHLORIDE|AMINOACRIDINE HYDROCHLORIDE|5-AMINOACRIDINE HYDROCHLORIDE|9-AMINOACRIDINE HYDROCHLORIDE|9-AMINOACRIDINE MONOHYDROCHLORIDE|MONACRIN|MONACRIN HYDROCHLORIDE|NSC-7571	134-50-9	PHYSICAL DESCRIPTION: Pale yellow crystals. One of the most highly fluorescent substances. (NTP, 1992)	1.0	2.5	5.0	4489.0	443.0	1530.0	813.0	492.0	1138.0	116.0	392.0	225.0	121.0	Get medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic gases, such as carbon dioxide and carbon monoxide, may be produced in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam or carbon dioxide. (USCG, 1999)
2491	9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE	9-ACRIDINAMINE HYDROCHLORIDE MONOHYDRATE|AMINACRINE HYDROCHLORIDE MONOHYDRATE|AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE|5-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE|9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE|9-AMINOACRIDINE MONOHYDROCHLORIDE MONOHYDRATE|MONACRIN HYDROCHLORIDE MONOHYDRATE	52417-22-8	PHYSICAL DESCRIPTION: Bright yellow to yellow-green powder. (NTP, 1992)	1.0	2.5	5.0	4491.0	443.0	1532.0	813.0	492.0	1139.0	116.0	393.0	225.0	121.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2492	9-NITROANTHRACENE	MS-NITROANTHRACENE|5-NITROANTHRACENE|9-NITROANTHRACENE	602-60-8	PHYSICAL DESCRIPTION: Yellow solid. (NTP, 1992)	1.0	2.5	5.0	4493.0	443.0	1532.0	813.0	492.0	1140.0	116.0	393.0	225.0	121.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2487	5-METHYL-2-THIOURACIL		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Solid pieces are very slowly oxidized by air to give a green basic carbonate. Solid pieces become covered by a black oxide when heated in air. Insoluble in water.	COPPER combines violently with chlorine trifluoride in the presence of carbon [Mellor 2, Supp. 1, 1956]. Is oxidized by sodium peroxide with incandescence [Mellor 2:490-93, 1946-1947]. Forms an unstable acetylide when acetylene is passed over samples that have been heated enough to form an oxide coating. Reacts more rapidly in powdered or granular form. Subject to explosive reaction then mixed in finely divided form with finely divided bromates chlorates and iodates of barium, calcium, magnesium, potassium, sodium, or zinc; these reactions are initiated by heat, percussion, and occasionally light friction [Mellor 2:310, 1946-1947]. A solution of sodium azide in copper pipe with lead joints formed copper azide and lead azide, both of these compounds can detonate [Klotz, 1973].						0																								(NIOSH, 2003)		1981	
2488	5-METHYLHEXAN-2-ONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to exposure to air and light. (NTP, 1992). Water soluble.	An acid organic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.				0																									(NTP, 1992)		338 to 340
2489	6-NITROBENZIMIDAZOLE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	2-METHYL-2-BUTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		less than 20																		
2490	9-AMINOACRIDINE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear full impervious protective clothing and approved respirator. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Highly flammable.	2-METHYL-2-HYDROXY-3-BUTYNE is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)		77																	(USCG, 1999)		36.7	
2491	9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in an explosion-proof freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Soluble in water.	Nitriles, such as 2-METHYL-3-BUTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		less than 71																		
2492	9-NITROANTHRACENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	2-METHYL-3-NITROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		198	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2487	5-METHYL-2-THIOURACIL	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		8.94				(NIOSH, 2003)		4703		760		(NIOSH, 2003)		63.5		(NIOSH, 2003)	(as Cu)	100	mg/m3	(NIOSH, 2003)	Insoluble						Cu		5.0	0.0	6.0	2.0	2.0
2488	5-METHYLHEXAN-2-ONE																										(NTP, 1992)		247.75						(NTP, 1992)	Soluble						C11H17NO3.ClH	Cellulose-Based Absorbents	5.0	0.0	7.0	2.0	2.0
2489	6-NITROBENZIMIDAZOLE																																									Flammable Liquid	C5H10	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	10.0	2.0	2.0
2490	9-AMINOACRIDINE HYDROCHLORIDE														(USCG, 1999)		0.8672				(USCG, 1999)		219.2 to 221	760			(USCG, 1999)		84.12										MBY	Flammable Liquid	C5H8O	Cellulose-Based Absorbents	6.0	0.0	9.0	2.0	2.0
2491	9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE	(NTP, 1992)	; 59.7 mm Hg at 103.1Â° F: 180.2 mm Hg at 155.3Â° F	29.5		72		mm Hg							(NTP, 1992)		0.813		69.1								(NTP, 1992)		81.11						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL		Flammable Liquid|Poison	C5H7N	Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2492	9-NITROANTHRACENE																				(NTP, 1992)	(decomposes)	581		760		(NTP, 1992)		152.15						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2493	ACENAPHTHYLENE	ACENAPHTHYLENE|CYCLOPENTA[DE]NAPHTHALENE	208-96-8	Colorless crystalline solid. Insoluble in water. Used in dye synthesis, insecticides, fungicides, and in the manufacture of plastics.	1.0	2.5	5.0	4495.0	443.0	1532.0	815.0	492.0	1141.0	116.0	393.0	226.0	121.0	Call a doctor. EYES: Flush with water. SKIN: Wash with water. INGESTION: Induce vomiting and administer gastric lavage. Give saline cathartic. (USCG, 1999)		
2494	ACETIN	ACETIC ACID, MONOGLYCERALDEHYDE|ACETIN|ACETIN, MONO-|ACETOGLYCERIDE|ACETYL MONOGLYCERIDE|ALPHA-MONOACETIN|GLYCERIN MONOACETATE|GLYCEROL ACETATE|GLYCEROL ALPHA-MONOACETATE|GLYCEROL MONOACETATE|GLYCEROL,, 1-ACETATE|GLYCERYL ACETATE|GLYCERYL MONOACETATE|MONOACETIN|1-MONO-ACETIN|MONOACETIN|1-MONOACETIN|MONOACETYL GLYCERINE|1,2,3-PROPANETRIOL, MONOACETATE	26446-35-5	PHYSICAL DESCRIPTION: Clear colorless to pale yellow viscous liquid with a characteristic odor. (NTP, 1992)	2.5	5.0	2.5	4495.0	443.0	1532.0	819.0	492.0	1141.0	116.0	393.0	228.0	121.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2495	ACID BUTYL PHOSPHATE	ACID BUTYL PHOSPHATE|BAP|BAP (ESTER)|BUTYL HYDROGEN PHOSPHATE|BUTYL PHOSPHATE|JP 504|N-BUTYL ACID PHOSPHATE|N-BUTYL PHOSPHATE|N-BUTYLPHOSPHORIC ACID|PHOSLEX A 4|PV 1|PV 1 (ANTIFOAMING AGENT)	12788-93-1	A colorless liquid. Insoluble in water. Density about 9.4 lb / gal. Corrosive to metals and tissues. Flash point of 230Â°F. A mixture of mono- and dibutylphosphoric acids.	2.5	5.0	2.5	4495.0	443.0	1532.0	819.0	492.0	1141.0	116.0	393.0	228.0	121.0	(BLOB)		
2496	ACIFLUORFEN SODIUM SALT	ACIFLUORFEN SODIUM SALT|ACIFLUORFEN, SODIUM SALT|5-(2-CHLORO-4-(TRIFLUOROMETHYL)PHENOXY)-2-NITROBENZOIC ACID, SODIUM SALT	62476-59-9	White powder. Melting point 255- 257Â°F (124-125Â°C). Irritates skin and eyes. Used as a herbicide.	1.0	2.5	5.0	4497.0	443.0	1532.0	819.0	492.0	1142.0	116.0	393.0	228.0	121.0	INHALATION: Remove to fresh air; call a physician. EYES: Flush eyes with plenty of running water for at least 15 minutes. Call a physician. SKIN: Wash thoroughly with soap and water. Flush with running water for at least 15 minutes. INGESTION: If victim is conscious, have victim drink water or milk and induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Contain poisonous oxides of nitrogen and carbon dioxide. Behavior in Fire: Produces poisonous gases. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, foam, carbon dioxide. (USCG, 1999)
2497	ACRIDINE	ACRIDINE|9-ASAANTHRACENE|10-AZAANTHRACENE|9-AZAANTHRACENE|BENZO(B)QUINOLINE|BENZO(B)QUINOLINE|2,3-BENZOQUINOLINE|BENZO[B]QUINOLINE|DIBENZO [B,E]PYRIDINE|DIBENZO(B,C)PYRIDINE|DIBENZO(B,E)PYRIDINE|2,3,5,6-DIBENZOPYRIDINE|DIBENZO[B,E]PYRIDINE	260-94-6	Small colorless needle-like crystalline solid. Slightly soluble in hot water. Slightly denser than water. Contact may irritate skin, eyes, and mucous membranes. Sublimes before melting when heated. May be toxic by ingestion.	1.0	2.5	5.0	4497.0	443.0	1532.0	819.0	494.0	1142.0	116.0	393.0	228.0	122.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2498	AFLATOXIN B-1	2,3,6A,9A-TETRAHYDRO-4-METHOXYCYCLOPENTA(C)FURO(3',2':4,5)FURO(2,3-H)(1)BENZO-PYRAN-1,11-DIONE|AFB1|AFB|AFLATOXIN B|AFLATOXIN B-1|AFLATOXIN B1|CYCLOPENTA[C]FURO[3',2':4,5]FURO[2,3-H][1]BENZOPYRAN-1,11-DIONE, 2,3,6A,9A-TETRAHYDRO-4-METHOXY-, (6AR-CIS)-CYCLOPENTA[C]FURO[3',2':4,5]FURO[2,3-H][1]BENZOPYRAN-1,11-DIONE, 2,3,6AALPHA,9AALPHA-TETRAHYDRO-4-METHOXY-|1-CYCLOPENTENE-1-CARBOXYLIC ACID, 2-(3A,8A-DIHYDRO-4-HYDROXY-6-METHOXYFURO[2,3-B]BENZOFURAN-5-YL)-5-OXO-, DELTA-LACTONE	1162-65-8	PHYSICAL DESCRIPTION: Colorless to pale yellow crystals or white powder. Exhibits blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	4497.0	445.0	1534.0	819.0	496.0	1142.0	117.0	394.0	228.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2493	ACENAPHTHYLENE			Very slightly soluble in water [Hawley].	COPPER SUBACETATE is soluble in acids.								0																								
2494	ACETIN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, contained in KEROSENE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)			95 to 145	(NTP, 1992)		0.6		%	(NTP, 1992)		4.9		%	(USCG, 1999)		444		(NTP, 1992)		less than -54.4
2495	ACID BUTYL PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	A dipeptide; hence an amide.							0																		(NTP, 1992)	(decomposes)		379 to 383
2496	ACIFLUORFEN SODIUM SALT		Chemical goggles - face shield, protective gloves, organic vapor canister mask. (USCG, 1999)	Insoluble in water.	2-METHYL-6-ETHYL ANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.						0		(USCG, 1999)		215														(USCG, 1999)		-27.4	
2497	ACRIDINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	COUMARIN is sensitive to exposure to light. It is also sensitive to heat. This chemical is incompatible with strong acids, strong bases and oxidizers. It is hydrolyzed by hot concentrated alkalis. It can be halogenated, nitrated and hydrogenated (in the presence of catalysts). (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		304														(NTP, 1992)			154 to 158
2498	AFLATOXIN B-1	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to exposure to air. Slightly soluble in water.	Phenols, such as CREOSOTE, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. This compound is incompatible with acacia, albumin, oxidizers and cupric, ferric, gold and silver salts. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		165														(NTP, 1992)			less than -4

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2493	ACENAPHTHYLENE																										(USCG, 1999)		369.26												CST		(C2H3O2)2Cu2O, blue(CuO.2Cu(C2H3O2)2, green		4.0	0.0	7.0	2.0	2.0
2494	ACETIN	(NTP, 1992)		0.1		100		psi	(NTP, 1992)		4.5				(USCG, 1999)		0.8		59		(NTP, 1992)		338 to 617	760		(NIOSH, 2003)	(approx)	170							(NTP, 1992)	Insoluble				KRS	Flammable Liquid			4.0	0.0	7.0	2.0	2.0
2495	ACID BUTYL PHOSPHATE																										(NTP, 1992)		321.33						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C6H14N4O2.C5H9NO4	Mineral-Based & Clay-Based Absorbents	6.0	0.0	7.0	2.0	2.0
2496	ACIFLUORFEN SODIUM SALT														(USCG, 1999)		0.969		68		(USCG, 1999)		447.8		760		(USCG, 1999)		135.2										MEN		C9H13N		5.0	0.0	6.0	2.0	2.0
2497	ACRIDINE	(NTP, 1992)	; 1 mm Hg at 223Â° F	0.01		117		mm Hg							(NTP, 1992)		0.935		68		(NTP, 1992)		568		760		(NTP, 1992)		146.15						(NTP, 1992)	at 63.5Â° F		less than 0.1	mg/mL		Poison	C9H6O2		7.0	0.0	8.0	2.0	2.0
2498	AFLATOXIN B-1	(NTP, 1992)	; 58 mm Hg at 167Â° F; 98 mm Hg at 199Â° F	39		124		mm Hg							(NTP, 1992)			greater than 1.076	77		(NTP, 1992)		greater than or equal to 397.4	760											(NTP, 1992)	at 73Â° F		1 to 10	mg/mL		Corrosive;Poison			7.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2499	ALCOHOL C-12 C-16 POLY (1-6) ETHOXYLATE	50|ALCOHOL C-12 C-16 POLY (1-6) ETHOXYLATE|ALCOHOL C-12 C-16 POLY (1-6)ETHOXYLATE (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)|ALCOHOLS, C12-16, ETHOXYLATED|ALFONIC 1216-22|C12-16 ALCS., ETHOXYLATED|DEHYDOL LS5 5.5|DEHYDOL LT 6|ETHONIC 1214-2|ETHONIC 1214-6.5|ETHOXYLATED ALCOHOLS, C12-16|ETHOXYLATED ALCOHOLS, C7-C21|ETHOXYLATED C12-16 ALCS.|GENAPOL 24|GENAPOL 24L50|GENAPOL 26L3|GENAPOL 26L60|GENAPOL 26L80|MERPOL HCS|NEONOL P 12-16-3	68551-12-2	A colorless liquid with a mild odor. Completely miscible with water. A major threat to the environment in case of a spill. Immediate steps should be taken to limit spread. Can easily penetrate the soil and contaminate ground water and nearby streams. Very toxic to aquatic organisms. Irritating to the eyes and respiratory tract. Prolonged exposure to the skin can cause reddening and scaling. Used in the making of surfactants.	2.5	5.0	2.5	4497.0	445.0	1534.0	819.0	496.0	1142.0	117.0	394.0	228.0	123.0	EYES: wash with plenty of water for 15 min. and get medical attention. SKIN: wash with plenty of soap and water. INGESTION: administer an emetic to induce vomiting and call a physician (USCG, 1999)	Behavior in Fire: Can increase the severity of a fire. Becomes sensitive to shock when hot. Containers may explode in a fire. May ignite or explode spontaneously if mixed with flammable materials. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, foam, or carbon dioxide (USCG, 1999)
2500	ALDICARB	ALDECARB|ALDICARB|AMBUSH|CARBAMIC ACID, METHYL-, O-((2- METHYL-2-(METHYLTHIO)PROPYLIDENE) AMINO) DERIVATIVE|CARBAMIC ACID, METHYL-, O-((2-METHYL-2-(METHYLTHIO)PROPYLIDENE)AMINO) DERIV.|CARBAMYL|CARBANOLATE|ENT 27,093|2-METHYL-2-(METHYLTHIO)PROPANAL, O-((METHYLAMINO)CARBONYL) OXIME|2-METHYL-2-(METHYLTHIO)PROPANAL, O-((METHYLAMINO)CARBONYL)OXIME|2-METHYL-2-(METHYLTHIO)PROPIONALDEHYDE O-(METHYLCARBAMOYL)OXIME|NCI-C08640|OMS 771|OMS 771|PROPANAL, 2-METHYL-2-(METHYLTHIO)-, O-((METHYLAMINO)CARBONYL) OXIME|PROPANAL, 2-	116-06-3	White crystals with a slightly sulfurous odor. Commercial formulations are granular Used as an insecticide, acaricide, and nematocide. (EPA, 1998)	1.0	2.5	5.0	4497.0	445.0	1534.0	819.0	496.0	1142.0	117.0	394.0	228.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2501	ALDRIN MIXTURE, DRY	ALDRIN MIXTURE, DRY	309-00-2	A brown to white solid. If large pieces are broken up or powdered becomes toxic by inhalation and skin absorption. Insoluble in water. Noncombustible. Used as an insecticide.	1.0	2.5	5.0	4497.0	445.0	1534.0	819.0	496.0	1142.0	117.0	394.0	228.0	123.0	(BLOB)	It emits highly toxic chloride fumes when heated to decomposition. Avoid acids and acid fumes. Very stable in neutral medium. Avoid decomposing heat. (EPA, 1998)	Wear self-contained breathing apparatus for fumes. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2502	ALDRIN MIXTURE, LIQUID	ALDRIN MIXTURE, LIQUID	309-00-2	Oil solution of aldrin, a solid insoluble in water and noncombustible. Used as an insecticide. Mixed with a flammable carrier solvent.	1.0	2.5	5.0	4499.0	445.0	1534.0	819.0	496.0	1143.0	117.0	394.0	228.0	123.0	(BLOB)	Special Hazards of Combustion Products: When heated to decompo- sition, emits toxic fumes of cyanide. Behavior in Fire: Heat may cause pressure buildup in closed containers. Use water to keep container cool. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Carbon dioxide, dry chemical or ``alcohol'' foam. (USCG, 1999)
2503	ALDRIN, LIQUID	ALDOCIT|ALDREX 25|ALDREX 40|ALDRIN|ALDRIN, LIQUID|ANDREX|ANDREX 40|COMPOUND 118|ENT 15,949|HHDN|KORTOFIN|OCTALENE|SD 2794|SEEDRIN|TATUZINHO	309-00-2	A solution in oil of aldrin, a noncombustible water-insoluble solid. Used as an insecticide. Mixed with a flammable carrier solvent.	1.0	2.5	5.0	4499.0	445.0	1534.0	819.0	496.0	1143.0	117.0	394.0	228.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2504	ALDRIN, SOLID	(BLOB)	309-00-2	Aldrin, cast solid is a brown to white solid. If the large pieces are broken up or powdered, it is toxic by inhalation and skin absorption. It is insoluble in water and noncombustible. It is used as an insecticide.	1.0	2.5	5.0	4499.0	445.0	1534.0	819.0	496.0	1143.0	117.0	394.0	228.0	123.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_flre_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	hfpa_sour ce	hfpa_noee	hfpa_bash h	hfpa_flam	hfpa_reac t	hfpa_spec ial	fp_source	fp_note	fp_value	fp_range	fp_source	hel_note	hel_value	hel_range	hel_unit	hel_source	hel_note	hel_unit	hel_range	hel_value	hel_source	al_note	al_value	al_range	mp_sourc e	mp_note	mp_value	mp_range
2499	ALCOHOL C-12 C-16 POLY (1-6) ETHOXYLATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (EHC, 2012)	Protective gloves, goggles (USCG, 1999) Highly flammable. Insoluble in water.	LAUROYL PEROXIDE is an oxidizing agent. (Can ignite organic materials; hence a dangerous fire and explosion risk [Hawley]. Strongly reduced materials such as sulfides, amines, and hydrides may react explosively. Vigorous reactions with other reducing agents. With chlorosol sometimes ignites. [Bretherick, 5th ed., 1995, p. 1194]. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	3	3	0	3	0	(NFPA, 2010)	97	(NTP, 1992)	0																									
2500	ALDICARB	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Several wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and protect from exposure to light. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 2-NITHYL.PHENANTHRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. This chemical may be sensitive to prolonged exposure to light.						0																														(NTP, 1992)	135 to 138
2501	ALDRIN MIXTURE, DRY	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. If water pollution occurs, notify appropriate authorities. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	CRIMIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable hydrogen is generated in combination with strong reducing agents, such as hydrides.	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														(EPA, 1998)	189
2503	ALDRIN, LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the dust or chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-NAPHTHYL LACTATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																															
2504	ALDRIN, SOLID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Several wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the dust or chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	OILS, MISCELLANEOUS: CROTON react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.						0																														(USCG, 1999)	18

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2499	ALCOHOL C-12 C-16 POLY (1-6) ETHOXYLATE														(USCG, 1999)		0.91		77								(USCG, 1999)		399											LPO	Organic Peroxide	C24H46O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2500	ALDICARB																			(NTP, 1992)			311 to 320	3		(NTP, 1992)		197.27						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C15H12		4.0	0.0	6.0	2.0	2.0
2501	ALDRIN MIXTURE, DRY	(EPA, 1998)	Less than 10-5 at 68F																	(EPA, 1998)			284 to 297		4	(EPA, 1998)		171.65											Poison	C7H10Cl6N3	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2502	ALDRIN MIXTURE, LIQUID	(NTP, 1992)	; 40 mm Hg at 124.2Â° F; 100 mm Hg at 160.5Â° F	8		68		mm Hg	(NTP, 1992)		3.21				(USCG, 1999)		0.944		68		(NTP, 1992)			262 to 264	760		(NTP, 1992)		93.14						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	MPR	Flammable Liquid	C6H7N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2503	ALDRIN, LIQUID																									(NTP, 1992)		216.23						(NTP, 1992)	Insoluble						C13H12O3	Cellulose-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2504	ALDRIN, SOLID														(USCG, 1999)	(est.)	0.946		59																(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL	OCR				4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2505	ALLYL ACRYLATE	ACRYLIC ACID, ALLYL ESTER|ALLYL 2-PROPENOATE|ALLYL ACRYLATE|2-PROPENOIC ACID, 2-PROPENYL ESTER	999-55-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4499.0	445.0	1534.0	819.0	496.0	1143.0	117.0	394.0	228.0	123.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2506	ALLYL GLYCIDYL ETHER	AGE|ALLYL 2,3-EPOXYPROPYL ETHER|ALLYL GLYCIDYL ETHER|(.+-.)-ALLYL GLYCIDYL ETHER|ALLYL OXIRANEMETHYL ETHER|1-ALLYL-2,3-EPOXYPROPANE|1-(ALLYLOXY)-2,3-EPOXYPROPANE|(ALLYLOXY)METHYL]OXIRANE|1-ALLYLOXY-2,3-EPOXYPROPANE|1,2-EPOXY-3-ALLYLOXYPROPANE|ETHER, ALLYL 2,3-EPOXYPROPYL|GLYCIDYL 2-PROPENYL ETHER|GLYCIDYL ALLYL ETHER|NCI-C56666|PROPANE, 1-(ALLYLOXY)-2,3-EPOXY-|((2-PROPENYLOXY)METHYL)OXIRANE|[(2-PROPENYLOXY)METHYL] OXIRANE	106-92-3	A colorless liquid with a pleasant odor. Flash point 135Â°F. Slightly less dense than water and insoluble in water. Hence floats on water. Poisonous by ingestion and mildly toxic by inhalation and skin contact. Very irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4501.0	445.0	1534.0	819.0	496.0	1144.0	117.0	394.0	228.0	123.0	(BLOB)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2507	ALLYL IODIDE	ALLYL IODIDE|3-IODO-1-PROPENE|3-IODOPROPENE|3-IODOPROPYLENE|PROPENE, 3-IODO-|2-PROPENYL IODIDE	556-56-9	A yellow liquid with a pungent odor. Denser than water and insoluble in water. Hence sinks in water. Vapors are heavier than air. Very irritating to skin, eyes and mucous membranes. Poisonous by ingestion and inhalation. Used to make other chemicals.	2.5	5.0	2.5	4503.0	445.0	1534.0	819.0	496.0	1145.0	117.0	394.0	228.0	123.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES: flush with copious quantities of water for 15 min. SKIN: wash area with soap and water; treat as an acid burn. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating hydrogen fluoride gas may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2508	ALLYL NONANOATE	ALLYL NONANOATE|ALLYL PELARGONATE|NONANOIC ACID, 2-PROPENYL ESTER|NONANOIC ACID, ALLYL ESTER	7493-72-3	PHYSICAL DESCRIPTION: Clear very slightly yellow liquid with a fruity odor. (NTP, 1992)	2.5	5.0	2.5	4503.0	445.0	1534.0	819.0	496.0	1145.0	117.0	394.0	228.0	123.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2509	ALLYLAMINE	ALLYL AMINE|ALLYLAMINE|3-AMINO-1-PROPENE|1-AMINOPROP-2-ENE|3-AMINOPROPENE|3-AMINOPROPYLENE|MONOALLYLAMINE|2-PROPEN-1-AMINE|2-PROPENAMINE|2-PROPENYLAMINE	107-11-9	A colorless to light yellow colored liquid with a strong ammonia-like odor. Less dense than water. Vapors are heavier than air. Toxic by inhalation, ingestion and skin absorption. Irritates skin, eyes and mucous membranes. Flash point below 0Â°F. Boiling point 130Â°F. Used to make pharmaceuticals and other chemicals.	2.5	5.0	2.5	4505.0	445.0	1534.0	819.0	496.0	1146.0	117.0	394.0	228.0	123.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2505	ALLYL ACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from oxidizers. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly effloresces in air. Water soluble but solutions absorb carbon dioxide from the air and to give incompletely soluble products.	LEAD ACETATE TRIHYDRATE may react with acids and oxidizing agents. Is incompatible with sulfates, citrates, tartrates, chlorides, carbonates, alkalis, tannin, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions and tinctures. Incompatible with phosphates (NTP, 1992). Incompatible with KBrO3 and with EDTA.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		167	
2506	ALLYL GLYCIDYL ETHER	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	LEAD DIOXIDE is a strong oxidizing agent. Noncombustible but accelerates the burning of combustible material. Reacts violently with hydrogen sulfide [Bretherick 1979. p. 977-978]. Ignites with hydroxylamine [Mellor 8:291. 1946-47]. Reacts violently with hydrogen peroxide [Mellor 1:937 1946-47], with phenylhydrazine [Mellor 7:637 1946-47], or with sulfuryl chloride [Mellor 10:676. 1946-47]. Reacts with incandescence with sulfur dioxide [Mellor, 1941, Vol. 7, 689]. Explodes when ground with boron or yellow phosphorus [Mellor, 1946, Vol. 5, 17]. Mixtures with sulfur and red phosphorus ignite [Mellor, 1941, Vol. 7, 689]. Reacts vigorously when heated with calcium sulfide, strontium sulfide or barium sulfide [Mellor, 1941, Vol. 3, 745].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	554	
2507	ALLYL IODIDE	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute solution of sodium bicarbonate or soda ash. (USCG, 1999)	Rubber gloves; face shield; rubber apron (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Solution is acidic and will corrode most metals (USCG, 1999). Toxic and irritating hydrogen fluoride gas may form in fire (USCG, 1999).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
2508	ALLYL NONANOATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	LEAD MONONITRORESORCINATE is unstable, may decompose explosively if shocked or heated.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																												
2509	ALLYLAMINE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	LEAD PERCHLORATE is a strong oxidizing agent. Can react with reducing agents to generate heat and products that may be gaseous (causing pressurization in closed containers). The products may themselves be capable of further reactions (such as combustion in the air). Redox reactions can be rapid or even explosive, but often requires initiation (heat, spark, catalyst, addition of a solvent). Consequently explosive mixtures with reducing agents often persist unchanged for long periods. Such systems are typically mixtures of solids, but may involve any combination of physical states. Can react violently with active metals, cyanides, esters, and thiocyanates. May cause the acceleration of the burning of combustible materials. Prolonged exposure to heat of flames may result in an explosion. A flask of anhydrous lead perchlorate dissolved in methyl alcohol exploded when it was disturbed [J. Am. Chem. Soc. 52:2391. 1930].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2505	ALLYL ACRYLATE														(NTP, 1992)		2.55				(NTP, 1992)	(decomposes)	392		760		(NTP, 1992)		379.35						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	Pb(C2H3O2)2.3H2O.		5.0	0.0	6.0	2.0	2.0
2506	ALLYL GLYCIDYL ETHER														(NTP, 1992)		9.375		66								(NTP, 1992)		239.21						(NTP, 1992)	Insoluble					Oxidizer	O2Pb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2507	ALLYL IODIDE														(USCG, 1999)		1.75		68								(USCG, 1999)	Mixture												LFB	Poison	Pb(BF4)2		4.0	0.0	6.0	2.0	2.0
2508	ALLYL NONANOATE																																									Explosive 1.1A	C6H3NO4.Pb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0
2509	ALLYLAMINE																																									Oxidizer|Poison	Pb(ClO4)2. 3H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2510	ALLYLTHIOUREA	ALLYL SULFOCARBAMIDE|ALLYL SULFOUREA|1-ALLYL-2-THIOUREA|ALLYLTHIOCARBAMIDE|ALLYLTHIOUREA|1-ALLYLTHIOUREA|AMINOSIN|N-ALLYLTHIOUREA|2-PROPENYLTHIOUREA|2-PROPENYLTHIOUREA|RHODALLINE|RHODALLINE|THIOCYNAMINE|THIOSINAMIN|THIOSINAMINE|U 19571|UREA, 1-ALLYL-2-THIO-	109-57-9	PHYSICAL DESCRIPTION: White crystalline solid with a slight garlic odor. (NTP, 1992)	1.0	2.5	5.0	4507.0	445.0	1536.0	819.0	496.0	1147.0	117.0	395.0	228.0	123.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2511	ALPHA-HYDROXYBENZENEACETONITRILE	ALPHA-CYANOBENZYL ALCOHOL|ALPHA-HYDROXYBENZENEACETONITRILE|ALPHA-HYDROXYPHENYLACETONITRILE|AMYGDALONITRILE|BENZALDEHYDE CYANOHYDRIN|BENZALDEHYDE, CYANOHYDRIN|DL-MANDELONITRILE|2-HYDROXY-2-PHENYLACETONITRILE|HYDROXYPHENYLACETONITRILE|MANDELIC ACID NITRILE|MANDELONITRILE(-/-)-|MANDELONITRILE|PHENYLGLYCOLONITRILE	532-28-5	PHYSICAL DESCRIPTION: Reddish-brown to dark red-brown liquid. (NTP, 1992)	2.5	5.0	2.5	4507.0	445.0	1536.0	819.0	496.0	1147.0	117.0	395.0	228.0	123.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2512	ALPHA-NAPHTHYLISOTHIOCYANATE	ALPHA-NAPHTHYL ISOTHIOCYANATE|ALPHA-NAPHTHYL MUSTARD OIL|ALPHA-NAPHTHYLISOTHIOCYANATE|ANI|ANTI|1-ISOTHIOCYANATE-NAPHTHALENE|ISOTHIOCYANATONAPHTHALENE|1-ISOTHIOCYANATONAPHTHALENE|ISOTHIOCYANIC ACID, 1-NAPHTHYL ESTER|KESSCOCIDE|NAPHTHALENE, ISOTHIOCYANATO-|1-NAPHTHYL ESTER ISOTHIOCYANIC ACID|1-NAPHTHYL ISOTHIOCYANATE	551-06-4	PHYSICAL DESCRIPTION: Odorless white needles or powder. Tasteless. (NTP, 1992)	1.0	2.5	5.0	4509.0	445.0	1536.0	819.0	496.0	1148.0	117.0	395.0	228.0	123.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled using drychemicals, carbon dioxide or Halon extinguishers. (NTP, 1992)
2513	ALPHA-TOCOPHEROL	ALPHA-TOCOPHEROL|ANTISTERILITY VITAMIN|CONTROX VPCOVI-OX T 30P|COVI-OX T 50|COVIREL|E-MIX 40A|E-MIX 80|E-MIX D|E-VIMIN|EPHYNAL|EPROLIN-S|EPSILAN|ESORB|ETAVIT|EVION|EVIPHER OL|PHYTOGERMINE|PROFECUNDIN|RIKKIN 70|SYNTOPHEROL|TENOXGT|TOCOPHEROL|TOKOPHARM|5,7,8-TRIMETHYLTOCOL|VASCUALS|VITAMIN E|VITEOLIN	1406-66-2	PHYSICAL DESCRIPTION: Pale yellow, viscous liquid. (NTP, 1992)	2.5	5.0	2.5	4509.0	445.0	1536.0	819.0	496.0	1148.0	117.0	395.0	228.0	123.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES: flush with water for at least 15 min. SKIN: wash contaminated skin with large amounts of water for 15 min. (USCG, 1999)	Behavior in Fire: Can increase the intensity of a fire when in contact with combustible material. Cool containers with plenty of water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2514	ALUMINUM BROMIDE, ANHYDROUS	ALUMINUM BROMIDE|ALUMINUM BROMIDE, ANHYDROUS|ALUMINUM BROMIDE, [ANHYDROUS]|ALUMINUM TRIBROMIDE|ALUMINUM TRIBROMIDE (ALBR3)	7727-15-3	A white to yellowish-red, lumpy solid with a pungent odor.	1.0	2.5	5.0	4511.0	445.0	1536.0	819.0	496.0	1149.0	117.0	395.0	228.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2510	ALLYLTHIOUREA	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	CROTONYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	3	7		(NFPA, 2010)		-4																			
2511	ALPHA-HYDROXYBENZENEACETONITRILE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	LEAD STYPHNATE is a weak but highly sensitive explosive. An employee removing a beaker of lead styphnate from a laboratory oven caused a detonation when he bumped the beaker on the side of the oven [MCA Case History 957, 1966]. Three kilograms of lead styphnate exploded from an unknown cause. Wet material in two adjacent dry rooms did not detonate [Chem. Abs. 26:5210. 1932]. May react vigorously with reducing agents.		Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																									
2512	ALPHA-NAPHTHYLISOTHIOCYANATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		204														(NTP, 1992)		88 to 90
2513	ALPHA-TOCOPHEROL	Neutralizing Agents for Acids and Caustics: Dilute with water, rinse with dilute sodium bicarbonate or lime solution. (USCG, 1999)	Goggles or face shield; rubber gloves (USCG, 1999)	Unstable in air. Reacts with water to form brown lead dioxide and acetic acid [Merck 11th ed. 1989].	Lead tetraacetate is a metal carboxylate salt. It is commonly used as an oxidizing agent in organic chemistry.	Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		347	
2514	ALUMINUM BROMIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	2-NITRODIPHENYLAMINE is incompatible with strong oxidizers, strong acids and strong bases. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		167.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2510	ALLYLTHIOUREA																																								Flammable Liquid	C4H6	Dirt/Earth	7.0	0.0	8.0	2.0	2.0
2511	ALPHA-HYDROXYBENZENEACETONITRILE																																								Explosive 1.1A	C6HN3O8.Pb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0
2512	ALPHA-NAPHTHYLISOTHIOCYANATE																				(NTP, 1992)			219 to 221	20		(NTP, 1992)		191.11											Poison	C7H4F3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	10.0	2.0	2.0
2513	ALPHA-TOCOPHEROL															(USCG, 1999)		2.2		68							(USCG, 1999)		443.39											LTT	Poison	C8H12O8Pb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0
2514	ALUMINUM BROMIDE, ANHYDROUS																										(NTP, 1992)		214.22						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C12H10N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2515	ALUMINUM BROMIDE, SOLUTION	ALUMINUM BROMIDE|ALUMINUM BROMIDE SOLUTION|ALUMINUM BROMIDE, SOLUTION|ALUMINUM TRIBROMIDE|ALUMINUM TRIBROMIDE (ALBR3)	7727-15-3	A light-yellow colored liquid. Very corrosive to skin, eyes and mucous membranes. Used to make other chemical substances.	2.5	5.0	2.5	4513.0	445.0	1538.0	819.0	496.0	1150.0	117.0	396.0	228.0	123.0	Immediately place under medical care. INHALATION: Remove from further exposure. EYES: Flush with copious amounts of water. SKIN: Wash with soap and water. INGESTION: Induce vomiting and follow with gastric lavage at the earliest possible time. Administer a saline cathartic and an enema. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes Behavior in Fire: Can emit toxic metal fumes and oxides of sulfur. (USCG, 1999)	
2516	AMETRYN	AMETRYN|N-ETHYL-N'-(1-METHYLETHYL)-6-(METHYLTHIO)-1,3,5,-TRIAZINE-2,4-DIAMINE	834-12-8	Crystals. Melting point 190-192Â°F (88-89Â°C). Used as a herbicide.	1.0	2.5	5.0	4513.0	445.0	1540.0	819.0	496.0	1150.0	117.0	397.0	228.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2517	AMINOPROPYLDIETHANOLAMINE	3-(AMINOPROPYL)DIETHANOLAMINE|2,2'-[[3-AMINOPROPYL)IMINO]DIETHANOL|AMINOPROPYLDIETHANOLAMINE|3-[BIS(2-HYDROXYETHYL)AMINO]PROPYLAMINE|ETHANOL, 2,2'-[[3-AMINOPROPYL)IMINO]DI-|N,N-BIS(2-HYDROXYETHYL)-1,3-DIAMINOPROPANE|N,N-BIS(2-HYDROXYETHYL)-1,3-PROPANEDIAMINE|N,N-BIS(HYDROXYETHYL)TRIMETHYLENEDIAMINE|N,N-DI(2-HYDROXYETHYL)-1,3-PROPANEDIAMINE|N-(3-AMINOPROPYL)DIETHANOLAMINE	4985-85-7	A colorless liquid with a faint fishlike odor. May burn though it may require some effort to ignite. Corrosive to tissue. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	4513.0	445.0	1540.0	819.0	496.0	1150.0	117.0	397.0	228.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	The inhalation of smoke from a fire involving this chemical is dangerous. Extinguish fires with a dry chemical, carbon dioxide, foam or halon extinguisher. A water spray should not be used to extinguish fires involving this chemical. (NTP, 1992)
2518	AMMONIUM CARBAMATE	AMMONIUM AMINOFORMATE|AMMONIUM CARBAMATE|ANHYDRIDE OF AMMONIUM CARBONATE|CARBAMIC ACID, AMMONIUM SALT	1111-78-0	A white crystalline solid used as a fertilizer. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment.	1.0	2.5	5.0	4515.0	445.0	1540.0	819.0	496.0	1151.0	117.0	397.0	228.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2519	AMMONIUM CHROMATE	AMMONIUM CHROMATE|AMMONIUM CHROMATE ((NH4)2CRO4)|AMMONIUM CHROMATE(VI)|CHROMIC ACID AMMONIUM SALT|CHROMIC ACID, AMMONIUM SALT|DIAMMONIUM CHROMATE|DIAMMONIUM CHROMATE ((NH4)2CRO4)|NEUTRAL AMMONIUM CHROMATE	7788-98-9	A yellow crystalline solid. Density 1.866 g / cm3. Soluble in water. Toxic by inhalation (of dust). A strong irritant. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Used in dyeing, photography, chemical analysis, and as a corrosion inhibitor.	1.0	2.5	5.0	4517.0	445.0	1540.0	819.0	496.0	1152.0	117.0	397.0	228.0	123.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2515	ALUMINUM BROMIDE, SOLUTION		Rubber gloves, safety glasses, respirator. (USCG, 1999)	Water soluble.	Inorganic reducing agents, such as LEAD THIOSULFATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive.	Strong Reducing Agent							0																		(USCG, 1999)	Decomposes at melting point.		
2516	AMETRYN	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-PHENYL-2-ETHYLMALONDIAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																							(NTP, 1992)	(possible decomposition)		201 to 226
2517	AMINOPROPYLDIETHANOLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble and relatively stable in aqueous solutions..	A sodium sulfonate salt made from the lignin of sulfite pulp mill liquors, an amorphous poly phenylpropane polymer.						0																										
2518	AMMONIUM CARBAMATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air Slow reaction with water or mositure in air	CYANAMIDE is the amide of cyanic acid. Non-flammable but combustible (flash point: 140Â° C). Decomposes on warming above 49Â° C. Emits toxic fumes of CN- and NOx when heated to decomposition or on contact with acids or acid fumes (Hazardous Chemicals Desk Reference, p. 353 (1987)). Contact with moisture, acids or bases may cause a violent reaction at temperatures above about 40Â° C. Dry solid may polymerize at temperatures above 122Â° C. Rapid or explosive polymerization may occur during the evaporation of aqueous solutions. Reacts explosively with strong oxidizing agents and strong reducing agents. Attacks various metals (International Chemical Safety Card).	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		286																		(NIOSH, 2003)		113	
2519	AMMONIUM CHROMATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Inorganic cyanides react slowly with water to evolve gaseous hydrogen cyanide (HCN).	CYANIDE SOLUTIONS slowly evolve hydrogen cyanide, a flammable and poisonous gas. Acids cause the rapid evolution of HCN. Carbon dioxide from the air is sufficiently acidic to liberate HCN from solutions of cyanides. Incompatible with isocyanates, nitrides, and peroxides. Mayinitiate polymerization reactions of epoxides. May react exothermically with metal salts to produce explosive products or evolve gaseous hydrogen.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2515	ALUMINUM BROMIDE, SOLUTION														(USCG, 1999)		5.18		68								(USCG, 1999)		319.33													PbS2O3		2.0	0.0	6.0	2.0	2.0
2516	AMETRYN																									(NTP, 1992)		206.24						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C11H14N2O2		6.0	0.0	9.0	2.0	2.0
2517	AMINOPROPYLDIETHANOLAMINE																																	(NTP, 1992)	Soluble						C20H24Na2O10S2		7.0	0.0	8.0	2.0	2.0
2518	AMMONIUM CARBAMATE														(NIOSH, 2003)		1.28				(NIOSH, 2003)	(Decomposes)	500		760		(NIOSH, 2003)		42.1						(NIOSH, 2003)	at 59Â° F	78		%		Poison	NH2CN	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	10.0	2.0	2.0
2519	AMMONIUM CHROMATE																																							Poison	CN-(aqueous)		7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2520	AMMONIUM HYDROGEN SULFATE	ACID AMMONIUM SULFATE|AMMONIUM ACID SULFATE|AMMONIUM BISULFATE|AMMONIUM HYDROGEN SULFATE|AMMONIUM HYDROGEN SULFATE (NH4HSO4)|AMMONIUM HYDROGEN SULPHATE|AMMONIUM MONOHYDROGEN SULFATE|AMMONIUM SULFATE ((NH4)HSO4)|AMMONIUM SULFATE (NH4HSO4)|MONOAMMONIUM HYDROGEN SULFATE|MONOAMMONIUM SULFATE	7803-63-6	Ammonium hydrogen sulfate is a colorless to white, powdered solid. It is toxic by ingestion. When heated to high temperatures, it may release toxic sulfur oxide and nitrogen oxide fumes. It is soluble in water. It is a chemical catalyst, used in hair preparations.	1.0	2.5	5.0	4517.0	447.0	1540.0	819.0	496.0	1152.0	118.0	397.0	228.0	123.0	(BLOB)	Cyanogen bromide is not combustible itself, but impure cyanogen bromide decomposes rapidly and tends to explode. A violent reaction may take place on contact with large quantities of acid. Vapors are highly irritating. When material is heated to decomposition, it emits very toxic fumes of cyanide and bromide. Avoid water, acids. Avoid physical damage, contact with acids or water, and store away from a location where water may be needed for fire control. (EPA, 1998)	Wear full protective clothing. Avoid direct water contact as it will cause cyanogen bromide to decompose, releasing toxic gases. Avoid breathing vapors or dusts; keep upwind; wear self-contained breathing apparatus. Extinguish fire using agent suitable for type of surrounding fire. Material itself does not burn or burns with difficulty. Use foam, carbon dioxide, or dry chemical. Cool all affected containers with flooding quantities of water. Do not use water on material itself. If large quantities of combustibles are involved, use water in flooding quantities as spray and fog. Use water spray to absorb vapors. Keep material out of water sources and sewers. Use water spray to knock down vapors. (EPA, 1998)
2521	AMMONIUM HYPOPHOSPHITE	AMMONIUM HYPOPHOSPHITE|HOSPHINIC ACID, AMMONIUM SALT	7803-65-8	White crystalline solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4517.0	447.0	1540.0	819.0	496.0	1152.0	118.0	397.0	228.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical in liquid form contacts the skin, immediately wash the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and wash the skin with water. If symptoms occur after washing, get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Not flammable. POISONOUS GASES ARE PRODUCED WHEN HEATED IN FIRE. Overheated containers can explode. (USCG, 1999)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2522	AMMONIUM STEARATE	AMMONIUM STEARATE|al MMONIUM STEARATE DISPERSION|SOAP|STEARIC ACID, AMMONIUM SALT	1002-89-7	White to yellow paste or liquid with a weak ammonia odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	4517.0	447.0	1542.0	819.0	496.0	1152.0	118.0	398.0	228.0	123.0	Eye: If this chemical in liquid form contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical in liquid form contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 1997)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2523	AMMONIUM SULFITE	AMMONIUM SULFITE|AMMONIUM SULPHITE|DIAMMONIUM SULFITE|DIAMMONIUM SULFONATE	10196-04-0	Ammonium sulfite is a colorless crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in the manufacture of other chemicals, in medicine, and photography.	1.0	2.5	5.0	4517.0	447.0	1544.0	819.0	496.0	1152.0	118.0	399.0	228.0	123.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2524	AMPHETAMINE SULFATE	ACETDRON|ADIPAN|ADIPAR THROL|ALENTOL|ALPHA-METHYLBENZENEETHANAMINE SULFATE (2:1)|ALPHA-METHYLPHENETHYLAMINE|AMFETAMINA|AMFETAMINE|(+-)-2-AMINO-1-PHENYLPROPANE SULFATE|(+-)-2-AMINO-1-PHENYLPROPANE SULFATE|AMPHAMINE SULFATE|AMPHEDRINE|AMPHETAMINE SULFATE|(+)-AMPHETAMINE SULFATE|(.+-.)-AMPHETAMINE SULFATE|AMPHETAMINE SULPHATE|ANOREXINE|BENNIE|BENZAMPHETAMINE|BENZEDRINE SULFATE|BENZENEETHANAMINE, ALPHA-METHYL-, (.+-.)-, SULFATE (2:1)|BENZPROPAMINE|CENTRAMINE|DEOXYNORPHEDRINE|DL-ALPHA-METHYLPHENETHYLAMINE SULFATE|DL-AMPHETAMINE HYDROGEN SULFATE|DL-	60-13-9	PHYSICAL DESCRIPTION: White crystalline powder. Solution in water has a pH of 5-6. Odorless. Slightly bitter taste followed by a sensation of numbness. May be sensitive to light.	1.0	2.5	5.0	4517.0	447.0	1546.0	819.0	496.0	1152.0	118.0	400.0	228.0	123.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2520	AMMONIUM HYDROGEN SULFATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	It is slightly soluble in water. It is gradually decomposed by water and very rapidly by acids to give off hydrogen bromide, a poison gas.	CYANOGEN BROMIDE is not combustible itself, but impure cyanogen bromide decomposes rapidly and tends to explode. A violent reaction may take place on contact with large quantities of acid. Avoid physical damage, contact with acids or water, and store away from a location where water may be needed for fire control. [EPA, 1998]. Benzene and cyanogen halides yield HCl as a byproduct (Hagedorn, F. H. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.).		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1		(USCG, 1999)	Not Applicable. Not flammable.			(EPA, 1998)	Non-combustible.					(EPA, 1998)	Non-combustible.				(USCG, 1999)	Not Applicable. Not flammable.				(EPA, 1998)		126	
2521	AMMONIUM HYPOPHOSPHITE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Soluble in water. Very slow reaction with water to form hydrogen cyanide.	CYANOGEN CHLORIDE may trimerize violently to form cyanuric chloride, catalyzed by hydrogen chloride or ammonium chloride. Reacts exothermically with alkenes and alkynes. Benzene and cyanogen halides yield HCl as a byproduct (Hagedorn, F. H. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.).	Polymerizable	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1589 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.						(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)		20	
2522	AMMONIUM STEARATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. No reaction with water.	Saturated aliphatic hydrocarbons, contained in LPG, may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Propane: -156Â° F (cc); butane: -76Â° F (cc).		(USCG, 1999)	Propane: 2.2 %; butane: 1.8 %						(USCG, 1999)	Propane: 9.5 %; butane: 8.4 %				(USCG, 1999)	Propane: 871Â° F; butane: 761Â° F						
2523	AMMONIUM SULFITE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOBUTANE may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4																									
2524	AMPHETAMINE SULFATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Liquid nitrogen dioxide was fed into a nitration column containing hot CYCLOHEXANE, due to an error. An explosion resulted [MCA Case History 128(1962)] Incompatible with strong oxidizers.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		-4		(NTP, 1992)		1.3		%	(NTP, 1992)		8.4		%	(USCG, 1999)		518		(NTP, 1992)		43.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2520	AMMONIUM HYDROGEN SULFATE	(EPA, 1998)		92		68		mm Hg	(EPA, 1998)		3.62				(EPA, 1998)		2.015		68		(EPA, 1998)		142		760		(EPA, 1998)		105.93											CBR	Poison|Corrosive	CBrN		8.0	0.0	10.0	2.0	2.0
2521	AMMONIUM HYPOPHOSPHITE	(USCG, 1999)		704.36		50		mm Hg	(USCG, 1999)		2.1				(USCG, 1999)		1.222		32		(USCG, 1999)		55.6		760		(USCG, 1999)		61.48						(NIOSH, 2003)		7		%	CCL	Poison Gas|Corrosive	CNCl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2522	AMMONIUM STEARATE	(NIOSH, 2003)			greater than 1			atm							(USCG, 1999)			0.51 to 0.58	-58		(USCG, 1999)			greater than -40	760		(USCG, 1999)			greater than 44	(NIOSH, 2003)		2000	ppm	(NIOSH, 2003)	Insoluble				LPG	Flammable Gas			7.0	0.0	10.0	2.0	2.0
2523	AMMONIUM SULFITE																																								Flammable Gas	C4H8		7.0	0.0	10.0	2.0	2.0
2524	AMPHETAMINE SULFATE	(NTP, 1992)	; 100 mm Hg at 77.9Â° F	95		68		mm Hg	(NTP, 1992)		2.9				(USCG, 1999)		0.779		68		(NTP, 1992)		177.3		760		(NTP, 1992)		84.16		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1300	ppm	(NTP, 1992)	at 63Â° F		less than 1	mg/mL	CHX	Flammable Liquid	C6H12		5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2525	AMYL CHLORIDE	AMYL CHLORIDE|CHLORIDE OF AMYL|1-CHLOROPENTANE|1-CHLORPENTANE|N-AMYL CHLORIDE|N-BUTYLCARBINYL CHLORIDE|N-PENTYL CHLORIDE|PENTYL CHLORIDE|1-PENTYL CHLORIDE	543-59-9	A clear colorless to light-brown liquid with an aromatic odor. Flash point may vary from 35 to 54Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. Vapors may be narcotic in high concentrations.	2.5	5.0	2.5	4517.0	447.0	1546.0	819.0	496.0	1152.0	118.0	400.0	228.0	123.0			
2526	AMYL NITRITE	AMYL NITRITE|ISO-AMYL NITRITE|ISOPENTYL NITRITE|3-METHYLBUTYL NITRITE|N-AMYL NITRITE|N-PENTYL NITRITE|NITRAMYL|1-NITROPENTANE|NITROUS ACID, PENTYL ESTER|PENTYL ALCOHOL, NITRITE|PENTYL NITRITE|1-PENTYL NITRITE	463-04-7	A clear colorless to yellowish liquid with a fragrant, fruity odor and pungent aromatic taste. Flash point below 73Â°F. Boiling point 205-210Â°F (96-99Â°C). Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Used in medicine and to make other chemicals.	2.5	5.0	2.5	4519.0	447.0	1546.0	819.0	496.0	1153.0	118.0	400.0	228.0	123.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
2527	ANTIMONY PENTACHLORIDE, LIQUID	ANTIMONY (V) CHLORIDE|ANTIMONY PENTACHLORIDE|ANTIMONY PENTACHLORIDE (SBCL5)|ANTIMONY PENTACHLORIDE, LIQUID|ANTIMONY PERCHLORIDE|ANTIMONY(V) CHLORIDE|PENTACHLOROANTIMONY	7647-18-9	A reddish-yellow fuming liquid with a pungent odor. Fumes are irritating to the eyes and mucous membranes. Solidifies at 37Â°F. Corrosive to metals and tissue. Used to make other chemicals, and in chemical analysis.	2.5	5.0	2.5	4521.0	447.0	1546.0	819.0	496.0	1154.0	118.0	400.0	228.0	123.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2528	ANTIMONY PENTACHLORIDE, SOLUTION	ANTIMONY PENTACHLORIDE|ANTIMONY PENTACHLORIDE (SBCL5)|ANTIMONY PENTACHLORIDE SOLUTION|ANTIMONY PENTACHLORIDE, SOLUTION|ANTIMONY PERCHLORIDE|ANTIMONY(V) CHLORIDE|PENTACHLOROANTIMONY	7647-18-9	Antimony pentachloride solution is a reddish-yellow solution of antimony pentachloride in hydrochloric acid. It has a pungent odor and its fumes are irritating to the eyes and mucous membranes. It is decomposed by water into more hydrochloric acid with release of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	4521.0	447.0	1546.0	819.0	496.0	1154.0	118.0	400.0	228.0	123.0	(BLOB)	This compound is considered non-flammable. (NTP, 1992)	This material is considered to be non-flammable. (NTP, 1992)
2529	ANTIMONY PENTAFLUORIDE	ANTIMONY FLUORIDE|ANTIMONY PENTAFLUORIDE|ANTIMONY(V) FLUORIDE|ANTIMONY(V) PENTAFLUORIDE|PENTAFLUOROANTIMONY	7783-70-2	A colorless, oily liquid. Fumes irritate the eyes and mucous membranes. Toxic. Corrosive to metals and tissue. Extremely dangerous to tissue; its burns may be followed by gangrene. Only shipped in cylinders. Under prolonged exposure to heat cylinders may violently rupture and rocket. Used to make other chemicals as well as a catalyst in the manufacture of other chemicals.	2.5	5.0	2.5	4523.0	447.0	1546.0	819.0	496.0	1155.0	118.0	400.0	228.0	123.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2530	ANTIMONY TRIBROMIDE, SOLID	ANTIMONOUS BROMIDE|ANTIMONY BROMIDE (SBBR3)|ANTIMONY TRIBROMIDE|ANTIMONY TRIBROMIDE, SOLID|ANTIMONY TRIBROMIDE, [SOLID]|TRIBROMOSTIBINE	7789-61-9	Antimony tribromide, solid is a yellow crystalline solid. It is decomposed by water giving an antimony oxide and hydrobromic acid. It is corrosive to tissue. It is used to make other antimony compounds, in chemical analysis, and in dyeing.	1.0	2.5	5.0	4523.0	447.0	1546.0	819.0	496.0	1155.0	118.0	400.0	228.0	123.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2525	AMYL CHLORIDE			Slightly soluble in water.	Lithium carbonate is a carbonates salt. It is decomposed by acids with the evolution of carbon dioxide. Fluorine burns fiercely on contact with lithium carbonate.								0																								
2526	AMYL NITRITE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. The powder reacts with water or moisture in the air to form corrosive lithium hydroxide and flammable hydrogen gas. The heat may be sufficient to ignite the hydrogen generated.	LITHIUM FERROSILICON reacts with oxidizing agents. Reactivity is influenced by the state of subdivision: powdered material reacts more rapidly. Reacts exothermically with compounds having active hydrogen atoms (such as acids and water) to form flammable hydrogen gas and caustic products. The heat can ignite the released hydrogen. May react with azo/diazo compounds to form explosive products. Can catalyze polymerization reactions in several classes of organic compounds especially if corroded by air or water; these polymerizations sometimes proceed rapidly or even explosively.	Highly Flammable; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2527	ANTIMONY PENTACHLORIDE, LIQUID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TETRAETHYL DITHIOPYROPHOSPHATE is incompatible with the following: Strong oxidizers, iron [Note: Corrosive to iron.] (NIOSH, 1997). Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2528	ANTIMONY PENTACHLORIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as 1,2-DIBROMOPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound is considered nonflammable. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		-67.4	
2529	ANTIMONY PENTAFLUORIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. The powder is easily ignited and burns with intense heat. It may ignite spontaneously in moist air. Reacts with water or moisture in the air to generate corrosive lithium hydroxide and toxic ammonia gas. Sufficient heat may be generated during the reaction to ignite nearby combustible materials. Lithium nitride reacts vigorously with water to generate gaseous NH3. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Ammonia gas will be created in 0.04 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	LITHIUM NITRIDE is a strongly basic reducing agent. Incompatible with oxidizing agents such as atmospheric oxygen. Violently incompatible with acids, particularly oxidizing acids. Reacts violently with copper(I) chloride to produce metallic copper [Mellor, 1940, vol.8, 100]. Reacts exothermically with silicon tetrafluoride, leading to explosion [Chem. Brit., 1979, 15, 282-283].	Highly Flammable; Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2806 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2530	ANTIMONY TRIBROMIDE, SOLID	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Combines with water to form grayish paste. Insoluble in water.	Peroxides, such as CYCLOHEXANONE PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated.	Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2525	AMYL CHLORIDE																																									CLi2O3		5.0	0.0	8.0	2.0	2.0
2526	AMYL NITRITE																																								Dangerous When Wet	Fe-Si.Li		7.0	0.0	8.0	2.0	2.0
2527	ANTIMONY PENTACHLORIDE, LIQUID																															(NIOSH, 2003)	(as TEDP)	10	mg/m3							Poison	C8H20O5P2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0
2528	ANTIMONY PENTACHLORIDE, SOLUTION								(NTP, 1992)		7				(NTP, 1992)		1.94		68		(NTP, 1992)			284 to 288	760		(NTP, 1992)		201.9												Combustible Liquid	C3H6Br2		5.0	0.0	9.0	2.0	2.0
2529	ANTIMONY PENTAFLUORIDE																																								Dangerous When Wet	Li3N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	10.0	2.0	2.0
2530	ANTIMONY TRIBROMIDE, SOLID																																								Organic Peroxide	C12H22O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2531	ANTIMONY TRIBROMIDE, SOLUTION	ANTIMONY BROMIDE (SBBR3)|ANTIMONY TRIBROMIDE|ANTIMONY TRIBROMIDE SOLUTION|ANTIMONY TRIBROMIDE, SOLUTION|TRIBROMOSTIBINE	7789-61-9	Antimony tribromide, solution is the yellow crystalline solid dissolved in hydrobromic acid. It is decomposed by water giving an antimony oxide and hydrobromic acid. It is corrosive to metals and tissue. It is used to make other antimony compounds, in chemical analysis, and in dyeing.	1.0	2.5	5.0	4525.0	447.0	1548.0	819.0	496.0	1156.0	118.0	401.0	228.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2532	ANTU	ALPHA-NAPHTHOTHIOUREA|ALPHA-NAPHTHYL THIOCARBAMIDE|ALPHA-NAPHTHYL THIOUREA|ALPHA-NAPHTHYLTHIOCARBAMIDE|ALPHA-NAPHTHYLTHIOUREA|ALPHANAPHTHYL THIOUREA|ALRATO|ANTU|ANTURAT|BANTU|CHEMICAL 109|DIRAX|KILL KANTZ|KRIPID|KRISIDNAPHTHOTHIOUREA|KRYSID|KRYSID PI|N-(1-NAPHTHYL)-2-THIOUREA|N-1-NAPHTHYLTHIOUREA|1-NAPHTHYL THIOUREA|1-(1-NAPHTHYL)-2-THIOUREA|1-(1-NAPHTHYL)THIOUREA|1-NAPHTHYLTHIOUREA|NAPHTOX|RAT-TU|RATTRACK|SMEESANA|THIOUREA, 1-NAPHTHALENYL-|U 5227|U-5227|UREA, 1-(1-NAPHTHYL)-2-THIO-|UREA,1(1-NAPHTHYL)-2-THIO-|USAF	86-88-4	White crystal or powder; technical product is gray powder. Has no odor but a bitter taste. Used primarily as a rodenticide for control of adult Norway rats. Not produced commercially in the U.S. (EPA, 1998)	1.0	2.5	5.0	4525.0	447.0	1548.0	819.0	496.0	1156.0	118.0	401.0	228.0	123.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2533	ARSENIC	ARSENIC|ARSENIC BLACK|ARSENIC METAL: ARSENIA|ARSENIC, METALLIC|ARSENIC, SOLID|ARSENIC, [SOLID]|ARSENIC-75|GRAY ARSENIC	7440-38-2	A grayish metallic solid that turns black upon exposure to air. Insoluble in water. Toxic by ingestion.	1.0	2.5	5.0	4527.0	447.0	1548.0	819.0	496.0	1157.0	118.0	401.0	228.0	123.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2534	ARSENIC ACID, LIQUID	ARSENIC ACID|ARSENIC ACID SOLUTION|ARSENIC ACID, LIQUID|ORTHOARSENIC ACID	7778-39-4	A clear colorless aqueous solution. Noncombustible. Corrosive to metals. Toxic by ingestion. Confirmed human carcinogen. Detrimental to the environment. Immediate steps should be taken to limit release.	2.5	5.0	2.5	4527.0	447.0	1548.0	819.0	496.0	1157.0	118.0	401.0	228.0	123.0	INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Wash affected areas with soap and water. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2535	ARSENIC ACID, SOLID	ARSENIC ACID|ARSENIC ACID, SOLID|ARSENIC ACID, [SOLID]|ORTHOARSENIC ACID	7778-39-4	White crystals. Melting point 95Â°F. Excessive drying produces As2O5.5/3H2O.	1.0	2.5	5.0	4527.0	447.0	1548.0	821.0	496.0	1157.0	118.0	401.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2531	ANTIMONY TRIBROMIDE, SOLUTION	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	CYCLOHEXENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NIOSH, 2003)		11														(NIOSH, 2003)		-154	
2532	ANTU	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine and ester. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		greater than 220																		
2533	ARSENIC	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This type of compound is incompatible with strong bases and strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		162.5	
2534	ARSENIC ACID, LIQUID	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Approved respirator, rubber gloves, safety goggles, and safety shoes. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature. The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure [Chem. Eng. News 39(27):44(1961)].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		-137	
2535	ARSENIC ACID, SOLID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3,4,5-TRICHLOROPHENOL may be incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		214	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	sg_value_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_GC	bp_range_GC	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	adln_value	adln_note	adln_source	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chris_code	doe_labels	formulas	incompatible_substances	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2531	ANTIMONY TRIBROMIDE, SOLUTION	(NIOSH, 2003)	67	mm Hg	(NIOSH, 2003)	1.807	(NTP, 1992)	(NTP, 1992)	181	(NIOSH, 2003)	760	(NIOSH, 2003)	82.2	226.45	(NTP, 1992)	(NTP, 1992)	2000	ppm	(NIOSH, 2003)	Insoluble	(NIOSH, 2003)	1.455	77	(NIOSH, 1999)	(USCG, 1999)	170.93	DTE	Flammable Liquid	C6H10	Mineral-Based & Clay-Based Absorbents[Torr Earth	4.0	0.0	7.0	Distribution Score	2.0
2532	ANTU	(NIOSH, 2003)	6.0	mm Hg	(USCG, 1999)	1.117	(NTP, 1992)	(NTP, 1992)	66	(NTP, 1992)	746	520 to 531	38.8	219.29	(NTP, 1992)	(NTP, 1992)	760	ppm	(NTP, 1992)	less than 1	(NIOSH, 2003)	1.455	77	(NIOSH, 1999)	(USCG, 1999)	170.93	DTE	Non-Flammable Gas	C2Cl2F4	C13H17N O2	6.0	0.0	7.0	Distribution Score	2.0
2533	ARSENIC	(NIOSH, 2003)	67	mm Hg	(NTP, 1992)	1.807	(NTP, 1992)	(NTP, 1992)	181	(NIOSH, 2003)	760	(NIOSH, 2003)	82.2	226.45	(NTP, 1992)	(NTP, 1992)	2000	ppm	(NTP, 1992)	less than 1	(NIOSH, 2003)	1.455	77	(NIOSH, 1999)	(USCG, 1999)	170.93	DTE	Poison	C6H2Cl3 NO2	Cellulose-Based Absorbents[Cap anded Polymeric Absorbents	7.0	0.0	10.0	Distribution Score	2.0
2534	ARSENIC ACID, LIQUID	(USCG, 1999)	2616.02	mm Hg	(USCG, 1999)	1.455	77	(USCG, 1999)	38.8	(USCG, 1999)	760	(USCG, 1999)	170.93	DTE	Non-Flammable Gas	C2Cl2F4	2.0	3.0	0.0	6.0	2.0	2.0
2535	ARSENIC ACID, SOLID											520 to 531	746	(NTP, 1992)	(NTP, 1992)	197.45		(NTP, 1992)	less than 1	mg/mL	Poison	C6H3Cl3 O	2.0	3.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2536	ARSENIC PENTOXIDE	ARSENIC (V) OXIDE|ARSENIC ACID|ARSENIC ACID ANHYDRIDE|ARSENIC ANHYDRIDE|ARSENIC OXIDE|ARSENIC OXIDE (AS2O5)|ARSENIC OXIDE (AS4O10)|ARSENIC PENTAOXIDE|ARSENIC PENTOXIDE|ARSENIC PENTOXIDE, SOLID|ARSENIC PENTOXIDE, [SOLID]|ARSENIC(V) OXIDE|DIARSENIC PENTOXIDE|DIARSONIC PENTOXIDE|ORTHOARSENIC ACID|ZOTOX	1303-28-2	A white crystalline solid. Noncombustible. Corrosive to metals in the presence of moisture. Toxic by ingestion.	1.0	2.5	5.0	4527.0	447.0	1548.0	821.0	496.0	1157.0	118.0	401.0	229.0	123.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes. Vapor may travel a considerable distance to source of ignition and flash back. Toxic oxides of nitrogen are produced during combustion. Nitric acid; reacts vigorously with oxiding materials. Stable, avoid physical damage, storage with oxidizing material. (EPA, 1998)	Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Use dry chemical, alcohol foam or carbon dioxide; water may be ineffective. Move container from fire area if you can do it without risk. Stay away from ends of tanks. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Keep unnecessary people away; isolate hazard area and deny entry. Isolate for one-half mile in all directions if tank car or truck is involved in fire. Stay upwind; keep out of low areas. (EPA, 1998)
2537	ARSENIC TRICHLORIDE	ARSENIC BUTTER|ARSENIC CHLORIDE {ARSENIC TRICHLORIDE, LIQUID}|ARSENIC TRICHLORIDE|ARSENIC TRICHLORIDE, [LIQUID]|ARSENIC(III) CHLORIDE|ARSENIC(III) TRICHLORIDE|ARSENIOUS CHLORIDE|ARSENOUS CHLORIDE|ARSENOUS TRICHLORIDE|BUTTER OF ARSENIC|CAUSTIC ARSENIC CHLORIDE|CAUSTIC OIL OF ARSENIC|FUMING LIQUID ARSENIC|TRICHLOROARSINE	7784-34-1	A colorless to yellow oily fuming liquid. It is irritating to the skin, eyes, and mucous membranes. Very toxic by inhalation and ingestion.	2.5	5.0	2.5	4527.0	447.0	1548.0	821.0	496.0	1157.0	118.0	401.0	229.0	123.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2538	ARSENIC TRISULFIDE	ARSENIC SESQUISULFIDE|ARSENIC SESQUISULFIDE (AS2S3)|ARSENIC SULFIDE (AS0.4S0.6)|ARSENIC SULFIDE (ASS1.5)|ARSENIC TRISULFIDE|ARSENIC TRISULFIDE (AS2S3)|ARSENIC TRISULPHIDE|ARSENIC YELLOW|ARSENIC(III) SULFIDE|ARSENIOUS SULFIDE|ARSENOUS SULFIDE|AURIPIGMENT|AURIPIGMENTUM|C.I. 77086|C.I. PIGMENT YELLOW 39|DIARSENIC TRISULFIDE|KING'S GOLD|KING'S YELLOW|ORPIMENT|PIGMENT YELLOW 39|SHIO|YELLOW ARSENIC SULFIDE	1303-33-9	A yellow or red crystalline solid or powder. Combustible. Insoluble in water. Toxic by inhalation (dust) and ingestion.	1.0	2.5	5.0	4527.0	447.0	1548.0	821.0	496.0	1157.0	118.0	401.0	229.0	123.0	EYES: flush with water; if irritation persists, see a doctor. SKIN: wipe off, wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
2539	ARSINE	ARSENIC HYDRID|ARSENIC HYDRIDE|ARSENIC HYDRIDE (ASH3)|ARSENIC TRIHYDRIDE|ARSENIURETTED HYDROGEN|ARSENOUS HYDRIDE|ARSINE|HYDROGEN ARSENIDE	7784-42-1	A colorless gas with a disagreeable garlic odor. Flammable. Heavier than air. Flame easily flashes back to the source of leak. Extremely toxic by inhalation; has been used as a military poison gas. Confirmed human carcinogen. Under prolonged exposure to fire or heat containers may rupture violently and rocket. Boiling point -81Â°F (NIOSH). Rate of onset: Immediate to 24 hours Persistence: Minutes to hours Odor threshold: 0.5 ppm Source/use/other hazard: Used in electronics industry; reacts with H20 (don't use H2O in fire).	5.0	1.0	1.0	4529.0	447.0	1548.0	821.0	496.0	1158.0	118.0	401.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2540	AZOBENZENE	AZOBENZENE|AZOBENZIDE|AZOBENZOL|AZOBISBENZENE|AZODIBENZENE|AZODIBENZENEAZOFUME|AZOFUME|BENZENE, AZOBIS-|BENZENE, AZODI|BENZENEAZOBENZENE|BENZOFUME|DIAZOBENZENE|DIPHENYLDIAZENE|1,2-DIPHENYLDIAZENE|DIPHENYLDIIMIDE|ENT 14,611|1,2-DIPHENYLDIAZENE|NCI-C02926|PHENYLAZOBENZENE|USAF EK-704	103-33-3	PHYSICAL DESCRIPTION: Orange-red crystals or dark brown chunky solid. (NTP, 1992)	1.0	2.5	5.0	4531.0	447.0	1548.0	821.0	496.0	1159.0	118.0	401.0	229.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2536	ARSENIC PENTOXIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Sensitive to air and light. Soluble in water.	CYCLOHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(EPA, 1998)		88		(NTP, 1992)		1.5		%	(NTP, 1992)		9.4		%	(USCG, 1999)		560		(EPA, 1998)		0.1	
2537	ARSENIC TRICHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																		(NTP, 1992)		363 to 367
2538	ARSENIC TRISULFIDE		Goggles or face shield; rubber gloves. (USCG, 1999)	Insoluble in water.	(BLOB)						0		(USCG, 1999)			greater than 270														(USCG, 1999)		127	
2539	ARSINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	It is soluble in water with release of heat.	TRICHLOROACETIC ACID is a strong acid; when heated, in the presence of water, decomposes forming phosgene and HCl. [Handling Chemicals Safely 1980 p. 915]. The acid was added to copper wool and rinsed down with dimethyl sulfoxide. This caused what was thought to be an extremely exothermic dehydrohalogenation reaction that melted the neck of the flask, [Chem. Eng. News, 1981, 59(28), 4].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 230														(NTP, 1992)			135 to 136
2540	AZOBENZENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	(BLOB)	Highly Flammable; Explosive	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		77														(NIOSH, 2003)		-121	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2536	ARSENIC PENTOXIDE	(NIOSH, 2003)		11				mm Hg	(EPA, 1998)		3.42				(EPA, 1998)		0.8647		77		(EPA, 1998)		274.1		760		(EPA, 1998)		99.17						(NTP, 1992)	Very soluble				CHA	Corrosive; Flammable Liquid	C6H13N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	8.0	2.0	2.0
2537	ARSENIC TRICHLORIDE																										(NTP, 1992)		376.58						(NTP, 1992)	at 67.5Â° F		less than 1	mg/mL			C24H40O3	Cellulose-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2538	ARSENIC TRISULFIDE														(USCG, 1999)		0.81		77		(USCG, 1999)			greater than 480	760		(USCG, 1999)	(avg.)	262										TFA			Cellulose-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2539	ARSINE	(NTP, 1992)	: 5 mm Hg at 168.8Â° F	1		123.8		mm Hg	(NTP, 1992)		5.6				(NTP, 1992)		1.62		77		(NTP, 1992)			385 to 387	760		(NTP, 1992)		163.39						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Corrosive	C2HCl3O2		5.0	0.0	7.0	2.0	2.0
2540	AZOBENZENE	(NIOSH, 2003)		400				mm Hg							(NIOSH, 2003)		0.8				(NIOSH, 2003)		107		760		(NIOSH, 2003)		66.1		(NIOSH, 2003)		750	ppm	(NIOSH, 2003)	Insoluble				Combustible Liquid	C5H6	Dirt/Earth	7.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2541	BARIUM CHLORATE	BARIUM CHLORATE|BARIUM CHLORATE (BA(CLO3)2)|BARIUM CHLORATE MONOHYDRATE	10294-38-9	A white crystalline solid. Forms very flammable mixtures with combustible materials. Mixtures may be ignited by friction and may be explosive if the combustible material is finely divided. Contact with concentrated sulfuric acid solutions may cause fires or explosions. May spontaneously decompose and ignite when mixed with ammonium salt. May explode under prolonged exposure to heat or fire. Used in explosives and pyrotechnics, in dyeing textiles, and to make other chlorates.	1.0	2.5	5.0	4533.0	447.0	1548.0	821.0	496.0	1160.0	118.0	401.0	229.0	123.0	INHALATION: Call a physician. If inhaled, remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Separate eyelids with finger. Flush with copious amounts of water for at least 15 minutes. SKIN: Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flashback. Explosion may occur under fire condition. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2542	BARIUM PERCHLORATE	BARIUM DIPERCHLORATE|BARIUM PERCHLORATE|BARIUM PERCHLORATE TRIHYDRATE|CPS 55R	10294-39-0	PHYSICAL DESCRIPTION: A white crystalline solid. Noncombustible, but accelerates burning of combustible materials. May explode if large quantities are involved in a fire or the combustible material is finely divided. Prolonged exposure to fire or heat may result in an explosion. Used to make explosives. (NTP, 1992)	1.0	2.5	5.0	4533.0	447.0	1548.0	821.0	496.0	1160.0	118.0	401.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2543	BARIUM SELENATE	BARIUM SELENATE|BARIUM SELENATE (BASEO4)|SELCOTE ULTRA|SELENIC ACID (H2SEO4), BARIUM SALT (1:1)	7787-41-9		1.0	2.5	5.0	4535.0	447.0	1550.0	821.0	496.0	1161.0	118.0	402.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2544	BENDIOCARB	BENDIOCARB|2,2-DIMETHYL 1,3-BENZODIOXOL-4-OL METHYLCARBAMATE	22781-23-3	White solid. Melting point 265Â°F (129-130Â°C). Insoluble in water. Used as a contact insecticide.	1.0	2.5	5.0	4535.0	447.0	1550.0	821.0	496.0	1161.0	118.0	402.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2545	BENFLURALIN	BENEFIN|BENFLURALIN|N-BUTYL-N-ETHYL-2,6-DINITRO-4-(TRIFLUOROMETHYL) BENZENAMINE|N-BUTYL-N-ETHYL-2,6-DINITRO-4-(TRIFLUOROMETHYL)BENZENAMINE	1861-40-1	Yellow-orange solid. Herbicide.	1.0	2.5	5.0	4535.0	447.0	1552.0	821.0	496.0	1161.0	118.0	403.0	229.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2546	BENZ[A]ANTHRACENE	B(A)A|BA|BAA|1,2-BENZ(A)ANTHRACENE|BENZANTHRACENE|1,2-BENZANTHRACENE|BENZANTHRENE|1,2-BENZANTHRENE|BENZO(A)ANTHRACENE|BENZO(A)PHENANTHRENE|BENZOANTHRACENE|1,2-BENZOANTHRACENE|2,3-BENZOPHENANTHRENE|BENZO[A]ANTHRACENE|BENZO[B]PHENANTHRENE|2,3-BENZPHENANTHRENE|BENZ[A]ANTHRACENE|1,2-BENZ[A]ANTHRACENE|NAPHTHANTHRACENE|TETRAPHENE	56-55-3	PHYSICAL DESCRIPTION: Colorless leaflets or plates or coarse gold powder with a greenish-yellow fluorescence. May reasonably be expected to be a carcinogen.	1.0	2.5	5.0	4535.0	447.0	1552.0	821.0	496.0	1161.0	118.0	403.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2541	BARIUM CHLORATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus and protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	CYCLOPENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)		-30													(USCG, 1999)		-211	
2542	BARIUM PERCHLORATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	CYCLOSPORIN A is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).				0																				(NTP, 1992)		298 to 304
2543	BARIUM SELENATE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.Slightly soluble in water.	1,2-DICHLOROETHYLENE and potassium hydroxide forms chloroacetylene, which is explosive and spontaneously flammable in air. It is highly toxic, Rutledge, p134(1968).	Highly Flammable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1,2-dichloroethylene (mixed isomers), CAS number 540-59-0.	1	3	2	5		(NTP, 1992)		39		(NTP, 1992)		9.7		%	(NTP, 1992)		12.8		%	(NTP, 1992)		860		(NTP, 1992)		-112.9	
2544	BENDIOCARB	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is hygroscopic. Insoluble in water.	3,5-DIMETHYLPHENOL is incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. It corrodes steel, brass, copper, and copper alloys. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		147	
2545	BENFLURALIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	3,5-XYLIDINE ignites on contact with fuming nitric acid (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0		(NTP, 1992)		200														(NTP, 1992)		49.6	
2546	BENZ[A]ANTHRACENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as 3-[(2-ETHYLHEXYL)OXY]PROPIONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2541	BARIUM CHLORATE														(USCG, 1999)		0.774				(USCG, 1999)		112		760		(USCG, 1999)		68.12											CPE	Flammable Liquid	ClH8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2542	BARIUM PERCHLORATE																									(NTP, 1992)		1202.84						(NTP, 1992)	Slightly soluble					Cl2H111N11O12		6.0	0.0	8.0	2.0	2.0
2543	BARIUM SELENATE	(NTP, 1992)	; 400 mm Hg at 106Â° F	200		77		mm Hg	(NTP, 1992)		3.34				(NTP, 1992)		1.2837		68		(NTP, 1992)		140		760		(NTP, 1992)		96.94		(NIOSH, 2003)	(as mixed isomers)	1000	ppm	(NTP, 1992)	at 61Â° F		1 to 5	mg/mL	DEL	Flammable Liquid	C2H2Cl2	Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2544	BENDIOCARB	(NTP, 1992)	; 5 mm Hg at 192.6Â° F; 10 mm Hg at 216.3Â° F	1		143.6		mm Hg							(NTP, 1992)		0.968		68		(NTP, 1992)		427.1		760		(NTP, 1992)		122.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H10O		7.0	0.0	7.0	2.0	2.0
2545	BENFLURALIN														(NTP, 1992)		0.9706		68		(NTP, 1992)			428 to 430	760		(NTP, 1992)		121.2						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Explosive 1.3C|Poison	C8H11N		6.0	0.0	6.0	2.0	2.0
2546	BENZ[A]ANTHRACENE																									(NTP, 1992)		183.33						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C11H21NO		6.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2547	BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)-	BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)-|BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)-|PRONAMIDE|PROPYZAMIDE	23950-58-5	White solid. Used as a selective herbicide.	1.0	2.5	5.0	4535.0	447.0	1552.0	821.0	496.0	1161.0	118.0	403.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2548	BENZENEARSONIC ACID	BENZENEARSONIC ACID|MONOPHENYLARSONIC ACID|PHENYL ARSENIC ACID|PHENYLARSONIC ACID	98-05-5	Colorless solid. Used as an analytical reagent for tin. (EPA, 1998)	1.0	2.5	5.0	4535.0	447.0	1552.0	821.0	496.0	1161.0	118.0	403.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2549	BENZENEETHANAMINE, ALPHA,ALPHA-DIMETHYL-	BENZENEETHANAMINE, ALPHA,ALPHA-DIMETHYL-|PHENTERMINE	122-09-8	Oily liquid. Insoluble in water.	2.5	5.0	2.5	4537.0	447.0	1552.0	821.0	496.0	1162.0	118.0	403.0	229.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
2550	BENZENESULFONYL HYDRAZIDE	BENZENE SULFOHYDRAZIDE|BENZENE SULPHOHYDRAZIDE|BENZENESULFOHYDRAZIDE|BENZENESULFONIC HYDRAZIDE|BENZENESULFONOHYDRAZIDE|BENZENESULFONYL HYDRAZIDE|BENZENESULFONYLHYDRAZINE|BSH|BSH (BLOWING AGENT)|CELOGEN BSH|CHKHZ 9|GENITRON BSH|HYDRAZIDE BSG|N-BENZENESULFONYLHYDRAZIDE|NITROPORE OBSH|PHENYLSULFOHYDRAZIDE|PHENYLSULFONYL-HYDRAZIDE|PHENYLSULFONYLHYDRAZINE|POROFOR BSH|POROFOR CHKHZ 9|POROFOR-BSH-PULVER	80-17-1	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Readily ignited by sparks or flames and burns vigorously. Used to make other chemicals.	1.0	2.5	5.0	4537.0	447.0	1552.0	821.0	496.0	1162.0	118.0	403.0	229.0	123.0	(BLOB)		
2551	BENZIDINE	BENZIDINE|BENZIDINE BASE|BENZIDINE-BASED DYES|4,4'-BIANILINE|(1,1'-BIPHENYL)-4,4'-DIAMINE|1,1'-BIPHENYL-4,4'-DIAMINE|4,4'-BIPHENYLDIAMINE|4,4'-BIPHENYLENEDIAMINE|C.I. 37225|C.I. AZOIC DIAZO COMPONENT 112|4,4'-DIAMINO-1,1'-BIPHENYL|4,4'-DIAMINOBIPHENYL|4,4'-DIAMINODIPHENYL|4,4'-DIPHENYLENEDIAMINE|FAST CORINTH BASE B|NCI-C03361|P,P'-BIANILINE|P,P'-DIAMINOBIPHENYL|P,P'-DIANILINE|P-BENZIDINE|P-DIAMINODIPHENYL	92-87-5	A grayish-yellow to grayish-red, crystalline solid. Toxic by ingestion, inhalation, and skin absorption. Combustion produces toxic oxides of nitrogen. Used to make other chemicals and in chemical and biological analysis.	1.0	2.5	5.0	4537.0	447.0	1552.0	821.0	496.0	1162.0	118.0	403.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2552	BENZIDINE DIHYDROCHLORIDE	BENZIDINE DIHYDROCHLORIDE|BENZIDINE HYDROCHLORIDE|BENZIDINE, DIHYDROCHLORIDE|(1,1'-BIPHENYL)-4,4'-DIAMINE, DIHYDROCHLORIDE	531-85-1	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4539.0	447.0	1552.0	821.0	496.0	1163.0	118.0	403.0	229.0	123.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2547	BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)-	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	3-AMINO-5-SULFOSALICYLIC ACID may react with strong oxidizers and mineral acids or bases. (NTP, 1992)								0																						
2548	BENZENEARSONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	3-AMINO-9-ETHYLCARBAZOLE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		208 to 212
2549	BENZENEETHANAMINE, ALPHA,ALPHA-DIMETHYL-		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	MAGNESITE has generally low chemical reactivity. Non-flammable and non-combustible. Reacts with acids and acidic salts to generate gaseous carbon dioxide with effervescence (bubbling). The reaction may be rapid and exothermic with concentrated solutions of acids. The effervescence can create foaming. Incompatible with formaldehyde.								0																					(NIOSH, 2003)	(Decomposes)	662	
2550	BENZENESULFONYL HYDRAZIDE	STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																					(NTP, 1992)		414 to 415
2551	BENZIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																					(NTP, 1992)		500 to 505
2552	BENZIDINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, protect it from moisture, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is hygroscopic. Water soluble.	CYTIDINE is incompatible with strong oxidizing agents. (NTP, 1992). Will react as a weak base. [[Details on specifics of reactivity not yet available.]]								0																					(NTP, 1992)	(decomposes)		419 to 421

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2547	BENZAMIDE, 3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)-																										(NTP, 1992)		233.21														C7H7NO6S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	9.0	2.0	2.0
2548	BENZENEARSONIC ACID																										(NTP, 1992)		210.3						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C14H14N2		7.0	0.0	9.0	2.0	2.0
2549	BENZENEETHANAMINE, ALPHA,ALPHA-DIMETHYL-	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.96				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		84.3						(NIOSH, 2003)		0.01		%			MgCO3		6.0	0.0	7.0	2.0	2.0
2550	BENZENESULFONYL HYDRAZIDE																										(NTP, 1992)		243.25													C9H13N3O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	8.0	2.0	2.0
2551	BENZIDINE																										(NTP, 1992)		307.09						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C11H9BrO4.Na	Dirt/Earth	9.0	0.0	10.0	2.0	2.0
2552	BENZIDINE DIHYDROCHLORIDE	(NTP, 1992)	Negligible																								(NTP, 1992)		243.22						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL			C9H13N3O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2553	BENZO[A]PYRENE	B(A)P|BAP|BENZ(A)PYRENE|3,4-BENZ(A)PYRENE|BENZO(D,E,F)CHRYSENE|BENZOPYRENE|1,2-BENZOPYRENE|3,4-BENZOPYRENE|6,7-BENZOPYRENE|BENZO[A]PYRENE|BENZO[D,E,F]CHRYSENE|3,4-BENZPYRENE (CARCINOGEN)|3,4-BENZPYRENE|4,5-BENZPYRENE|3,4-BENZYLPYRENE|3,4-BENZYPYRENE|BENZ[A]PYRENE|3,4-BENZ[A]PYRENE|BP|3,4-BP	50-32-8	A liquid. Presents a threat to the environment. Immediate steps should be taken to limits its spread to the environment. Easily penetrates the soil and contaminates groundwater or nearby waterways.	2.5	5.0	2.5	4541.0	447.0	1552.0	821.0	496.0	1164.0	118.0	403.0	229.0	123.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2554	BENZYLIDENE CHLORIDE	ALPHA,ALPHA-DICHLOROTOLUENE|BENZAL CHLORIDE|BENZENE,(DICHLOROMETHYL)-|BENZYL DICHLORIDE|BENZYLENE CHLORIDE|BENZYLIDENE CHLORIDE|CHLORBENZAL|CHLOROBENZAL|DICHLOROMETHYL)BENZENE|DICHLOROPHENYLMETHANE|TOLUENE, ALPHA,ALPHA-DICHLORO-	98-87-3	A colorless oily liquid with a faint aromatic odor. Insoluble in water and denser than water. Strongly irritates skin and eyes. Used to manufacture dyes.	2.5	5.0	2.5	4543.0	447.0	1552.0	821.0	496.0	1165.0	118.0	403.0	229.0	123.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2555	BERYLLIUM COMPOUND, N.O.S.	BERYLLIUM COMPOUND, N.O.S.|BERYLLIUM COMPOUNDS	7440-41-7	Beryllium compounds, n.o.s. are generally white, crystalline or powdered material containing beryllium. They are generally soluble in water. They are toxic by inhalation and by ingestion.	1.0	2.5	5.0	4543.0	447.0	1552.0	821.0	496.0	1165.0	118.0	403.0	229.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2556	BERYLLIUM OXIDE	BERYLLIA|BERYLLIUM OXIDE|BROMELITE	1304-56-9	Odorless white solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	4543.0	447.0	1552.0	821.0	496.0	1165.0	118.0	403.0	229.0	123.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2557	BERYLLIUM POWDER	BERYLLIUM|BERYLLIUM ATOM|BERYLLIUM ELEMENT|BERYLLIUM METAL-BERYLLIUM|BERYLLIUM POWDER|BERYLLIUM, (DUST OR POWDER), METAL|BERYLLIUM, [POWDER]|BERYLLIUM-9|GLUCINIUM	7440-41-7	A grayish-white hard light metal. Denser than water, but the powder may float. May be toxic by inhalation. Will burn if involved in a fire.	1.0	2.5	5.0	4545.0	447.0	1552.0	821.0	496.0	1166.0	118.0	403.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2553	BENZO[A]PYRENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MAGNESIUM ARSENATE has generally low reactivity.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2554	BENZYLIDENE CHLORIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Contact with moisture under acidic condition generates silanes that ignite in air. Insoluble in water.	MAGNESIUM SILICIDE is a reducing agent. May react vigorously with oxidizing materials.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2555	BERYLLIUM COMPOUND, N.O.S.	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient conditions and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	D,L-MENTHOL is incompatible with butyl chloral hydrate, camphor, phenol, chloral hydrate, Exalgine, betanaphthol, resorcinol or thymol in triturations; potassium permanganate, chromium trioxide and pyrogallol. It is also incompatible with strong oxidizers. (NTP, 1992)					0		(NTP, 1992)		196																	(NTP, 1992)		100	
2556	BERYLLIUM OXIDE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2557	BERYLLIUM POWDER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Moderately soluble in water.	3-CHLOROPROPANOL-1 may be sensitive to prolonged exposure to light. This compound may react with oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		164																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chirls_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2553	BENZO(A)PYRENE																															(NIOSH, 2003)	for Arsenic (inorganic compounds, & As); & potential human carcinogen.	5	mg/m3																																																	

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2558	BERYLLIUM SULFATE TETRAHYDRATE	BERYLLIUM SULFATE|BERYLLIUM SULFATE TETRAHYDRATE|BERYLLIUM SULFATE TETRAHYDRATE (1:1:4)|SULFURIC ACID, BERYLLIUM SALT (1:1), TETRAHYDRATE	7787-56-6	PHYSICAL DESCRIPTION: White crystalline solid. Sinks in water and dissolves. Odorless. Highly toxic by inhalation and ingestion.	1.0	2.5	5.0	4545.0	447.0	1552.0	821.0	496.0	1166.0	118.0	403.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water fog may also be used. (NTP, 1992)
2559	BETA-(2-FURYL)ACROLEIN	3-(ALPHA-FURYL)PROPENAL|BETA-(2-FURYL)ACROLEIN|BETA-2-FURYLACROLEIN|FUFURYLIDENEACETALDEHYDE|2-FURANACROLEIN|1-(2-FURANYL)-1-PROPEN-3-AL|3-(2-FURANYL)-2-PROPENAL|3-(2-FURYL)-2-PROPENAL|3-(2-FURYL)ACROLEIN	623-30-3	PHYSICAL DESCRIPTION: Light brown powder. Cinnamon odor. (NTP, 1992)	1.0	2.5	5.0	4547.0	449.0	1554.0	821.0	496.0	1167.0	119.0	404.0	229.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
2560	BETA-NAPHTHYLAMINE	2-AMINONAPHTHALENE|BETA-NAPHTHYLAMINE|C.I. 37270|FAST SCARLET BASE B|2-NAPHTHALAMINE|2-NAPHTHALENAMINE|NAPHTHYLAMINE (BETA)|2-NAPHTHYLAMINE MUSTARD|2-NAPHTHYLAMINE|6-NAPHTHYLAMINE|USAF CB-22	91-59-8	A white to reddish colored solid in the form of flakes. Slightly soluble in hot water and denser than water. Toxic by ingestion, inhalation and skin absorption. Used to make dyes and agricultural chemicals.	1.0	2.5	5.0	4547.0	449.0	1554.0	821.0	496.0	1167.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2561	BETA-PROPIOLACTONE	BETA-LACTONE|BETA-PROPIOLACTONE|BETA-PROPIONOLACTONE|BETA-PROPROLACTONE|BETAPRONE|BETRAPRONE|BPL|HYDRACRYLIC ACID BETA-LACTONE|HYDRACRYLIC ACID, BETA LACTONE|HYDRACRYLIC ACID, BETA-LACTONE|HYDROACRYLIC ACID, BETA-LACTONE|3-HYDROXY-BETA-LACTONE|3-HYDROXY-PROPIONIC ACID|3-HYDROXYPROPIONIC ACID BETA-LACTONE|3-HYDROXYPROPIONIC ACID LACTONE|3-HYDROXYPROPIONIC ACID, BETA-LACTONE|NSC-21626|OXETAN-2-ONE|2-OXETANONE|PROPANILIDE|PROPANOIC ACID, 3-HYDROXY-, BETA-LACTONE|PROPANOIC ACID, 3-HYDROXY-,BETA-LACTONE|PROPANOLIDE|3-PROPANOLIDE|3-	57-57-8	A colorless liquid with a slightly sweetish, pungent odor. Used as an intermediate in organic synthesis; disinfectant, sterilant for blood plasma, tissue grafts, vaccines, enzymes and surgical instruments. (EPA, 1998)	2.5	5.0	2.5	4547.0	449.0	1554.0	821.0	496.0	1167.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data are not available for this material; it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
2562	BIS (AMINOPROPYL) PIPERAZINE	BIS (AMINOPROPYL) PIPERAZINE	7209-38-3	A colorless liquid with a faint fishlike odor. Corosive to tissue. Burns, although requiring some effort to ignite. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	4549.0	449.0	1554.0	821.0	496.0	1168.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2558	BERYLLIUM SULFATE TETRAHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DACARBAZINE decomposes explosively at its melting point (250Â°C). Decomposes in the presence of light. Sensitive to oxidation.								0																					(NTP, 1992)	(explosively decomposes)		482 to 491
2559	BETA-(2-FURYL)ACROLEIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Insoluble in water.	3-CHLORO-P-TOLUIDINE may be sensitive to prolonged exposure to air and light. This chemical may react with oxidizing agents. It is incompatible with acids, acid chlorides, acid anhydrides and chloroformates. It is also incompatible with reducing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		212																		(NTP, 1992)		79	
2560	BETA-NAPHTHYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air. Insoluble in water.	(BLOB)							0																				(NTP, 1992)			180 to 183
2561	BETA-PROPIOLACTONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An amine salt. [[Details on specifics of reactivity not yet available.]]							0																								
2562	BIS (AMINOPROPYL) PIPERAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	(BLOB)							0																				(NTP, 1992)		276.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2558	BERYLLIUM SULFATE TETRAHYDRATE																										(NTP, 1992)		182.22						(NTP, 1992)	at 59Â° F		less than 0.1	mg/mL			C6H10N6O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	8.0	2.0	2.0
2559	BETA-(2-FURYL)ACROLEIN	(NTP, 1992)		0.085		77		mm Hg							(NTP, 1992)		1.108				(NTP, 1992)			468 to 471	760		(NTP, 1992)		141.6						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C7H8ClN		6.0	0.0	10.0	2.0	2.0
2560	BETA-NAPHTHYLAMINE																				(NTP, 1992)			509 to 514	760		(NTP, 1992)		137.18						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C8H11NO	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2561	BETA-PROPIOLACTONE																										(NTP, 1992)		217.26						(NTP, 1992)	Soluble (>=10 mg/ml at 64Â° F)						C4H11NO2.C4H4N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0
2562	BIS (AMINOPROPYL) PIPERAZINE														(NTP, 1992)		1.63				(NTP, 1992)	(decomposes)	284		760		(NTP, 1992)		104.06						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C3H4O4		5.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2563	BIS(1,5-CYCLOOCTADIENE)NICKEL	BIS((1,2,5,6,ETA)-1,5-CYCLOOCTADIENE)NICKEL|BIS(1,5-CYCLOOCTADIENE)NICKEL|BIS(1,5-CYCLOOCTADIENE)NICKEL(0)|BIS(CYCLOOCTADIENE)NICKEL|BIS(CYCLOCTADIENE)NICKEL(0)|BIS(CYCLOOCTADIENYL)NICKEL|BIS(ETA4-1,5-CYCLOOCTADIENE)NICKEL|BIS-1,5-CYCLOOCTADIENYLNICKEL|1,5-CYCLOOCTADIENE, NICKEL COMPLEX|DI(1,5-CYCLOOCTADIENE)NICKEL|DICYCLOOCTADIENE NICKEL|NICKEL BIS(CYCLOOCATADIENE)|NICKEL DICYCLOOCTADIENE|NICKEL, BIS(1,5-CYCLOOCTADIENE)-	1295-35-8	PHYSICAL DESCRIPTION: Yellow crystals or yellowish green solid. (NTP, 1992)	1.0	2.5	5.0	4549.0	449.0	1554.0	821.0	496.0	1168.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
2564	BIS(CYCLOPENTADIENYL)CHROMIUM	BIS(CYCLOPENTADIENE)CHROMIUM|BIS(CYCLOPENTADIENE)CHROMIUM|BIS(CYCLOPENTADIENYL)CHROMIUM|BIS(CYCLOPENTADIENYL)CHROMIUM II|BIS(CYCLOPENTADIENYL)CHROMIUM(II)|BIS(ETA5-CYCLOPENTADIENYL)CHROMIUM|CHROMIUM, BIS(ETA5-2,4-CYCLOPENTADIEN-1-YL)-|CHROMIUM, DI-PI-CYCLOPENTADIENYL-|CHROMIUM, DICYCLOPENTADIENYL-|CHROMOCENE|DI(ETA5-CYCLOPENTADIENYL)CHROMIUM|DI-PI-CYCLOPENTADIENYLCHROMIUM|DICYCLOPENTADIENYLCHROMIUM	1271-24-5	PHYSICAL DESCRIPTION: Red needles or reddish-purple solid. (NTP, 1992)	1.0	2.5	5.0	4551.0	449.0	1554.0	821.0	496.0	1169.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2565	BIS(CYCLOPENTADIENYL)VANADIUM DICHLORIDE	BIS(CYCLOPENTADIENYL)VANADIUM DICHLORIDE|DI-PI-CYCLOPENTADIENYLVANADIUM DICHLORIDE|DICHLOROBIS(CYCLOPENTADIENYL)VANADIUM|DICHLOROBIS(EPSILON-CYCLOPENTADIENYL)VANADIUM|DICHLOROBIS(ETA-CYCLOPENTADIENYL)VANADIUM|DICHLOROBIS(ETA5-CYCLOPENTADIENYL)VANADIUM|DICHLORODI-PI-CYCLOPENTADIENYLVANADIUM|DICHLOROVANADOCENE|DICYCLOPENTADIENEVANADIUM DICHLORIDE|DICYCLOPENTADIENYLDICHLOROVANADIUM|DICYCLOPENTADIENYLVANADIUM DICHLORIDE|VANADIUM, DICHLORODI-PI-CYCLOPENTADIENYL-|VANADIUM, DICHLORODICYCLOPENTADIENYL-|VANADOCENE	12083-48-6	PHYSICAL DESCRIPTION: Pale green crystals or green powder. (NTP, 1992)	1.0	2.5	5.0	4551.0	449.0	1554.0	821.0	496.0	1169.0	119.0	404.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2566	BIS-HEXAMETHYLENE TRIAMINE	7-AZA-1,13-TRIDECANEDIAMINE|BIS(6-AMINOHEXYL)AMINE|BIS(HEXAMETHYLENE)TRIAMINE|BIS-HEXAMETHYLENE TRIAMINE|1,13-DIAMINO-7-AZATRIDECANE|DIHEXYLAMINE, 6,6'-DIAMINO-|DIHEXYLENETRIAMINE|N-(6-AMINOHEXYL)-1,6-HEXANEDIAMINE	143-23-7	A colorless crystalline or flaked solid. Corrosive. Irritating to skin and eyes. May be toxic by ingestion. Used to make plastics.	1.0	2.5	5.0	4553.0	449.0	1554.0	821.0	496.0	1170.0	119.0	404.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2567	BISPHENOL A DIGLYCIDYL ETHER	(BLOB)	1675-54-3	Odorless yellowish brown liquid. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	4555.0	451.0	1554.0	821.0	496.0	1171.0	120.0	404.0	229.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2563	BIS(1,5-CYCLOOCTADIENE)NICKEL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Yellowish-white, roundish to triangular friable masses; semitransparent; carboxylic acid resinous exudate from a tropical tree. Insoluble in water, soluble in alcohol, ether oil turpentine.				0																						(NTP, 1992)	approximately	248	
2564	BIS(CYCLOPENTADIENYL)CHROMIUM	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		144	
2565	BIS(CYCLOPENTADIENYL)VANADIUM DICHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DANTHRON is incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		379	
2566	BIS-HEXAMETHYLENE TRIAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	DAUNORUBICIN HYDROCHLORIDE may emit toxic oxides of nitrogen when heated. [[Details on specifics of reactivty not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		370 to 374
2567	BISPHENOL A DIGLYCIDYL ETHER		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	MANGANESE TETROXIDE is non-combustible but decomposes, generating toxic fumes when strongly heated strongly in the air. A good oxidizing agent. Reacts with hydrochloric acid to form gaseous chlorine and soluble manganese salts.				0																						(NIOSH, 2003)		2847	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2563	BIS(1,5-CYCLOOCTADIENE)NICKEL														(NTP, 1992)			1.04 to 1.12 gm/mL																	(NTP, 1992)	at 68Â° F		less than 1	mg/mL					6.0	0.0	9.0	2.0	2.0
2564	BIS(CYCLOPENTADIENYL)CHROMIUM																				(NTP, 1992)		349		12		(NTP, 1992)		137.18						(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL		Corrosive	C8H11NO	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2565	BIS(CYCLOPENTADIENYL)VANADIUM DICHLORIDE								(NTP, 1992)		8.3										(NTP, 1992)	Sublimes					(NTP, 1992)		240.22						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C14H8O4		4.0	0.0	7.0	2.0	2.0
2566	BIS-HEXAMETHYLENE TRIAMINE																											(NTP, 1992)		564						(NTP, 1992)	Soluble					Poison	C27H29NO10.HCl	Cellulose-Based Absorbents	5.0	0.0	7.0	2.0	2.0
2567	BISPHENOL A DIGLYCIDYL ETHER	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		4.88										(NIOSH, 2003)		228.8						(NIOSH, 2003)	Insoluble						Mn3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2568	BIUREA	BICARBAMAMIDE|BICARBAMIMIDIC ACID|BIUREA|DICARBAMOYLHYDRAZINE|HYDRADICARBONAMIDE|HYDRAZINE, 1,2-BIS(AMINOCARBONYL)-|HYDRAZINE-N,N'-BIS(CARBOXAMIDE)|1,2-HYDRAZINEDICARBOXAMIDE|HYDRAZINEDICARBOXYLIC ACID DIAMIDE|1,1'-HYDRAZOBIS(FORMAMIDE)|HYDRAZOCARBONAMIDE|HYDRAZODICARBAMIDE|HYDRAZODICARBONAMIDE|HYDRAZODICARBOXAMIDE|N,N'-BISCARBAMOYLHYDRAZINE|UREIDOUREA	110-21-4	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4557.0	451.0	1556.0	821.0	496.0	1172.0	120.0	405.0	229.0	123.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2569	BORON TRIFLUORIDE DIMETHYL ETHERATE	BORANE, TRIFLUORO-, COMPOUND WITH OXYBIS[METHANE] (1:1)|BORON FLUORIDE (BF3), COMPOUND WITH METHYL ETHER (1:1)|BORON FLUORIDE COMPLEX WITH DIMETHYL ETHER|BORON TRIFLUORIDE COMPOUND WITH METHYL ETHER|BORON TRIFLUORIDE COMPOUND WITH METHYL ETHER (1:1)|BORON TRIFLUORIDE COMPOUND WITH METHYL ETHER(1:1)|BORON TRIFLUORIDE DIMETHYL ETHER ADDITION COMPOUND|BORON TRIFLUORIDE DIMETHYL ETHER COMPLEX|BORON TRIFLUORIDE DIMETHYL ETHERATE|BORON TRIFLUORIDE-DIMETHYL ETHER|BORON TRIFLUORIDE-DIMETHYL ETHER COMPLEX|BORON, TRIFLUORO(OXYBIS(METHANE))-,(T-4)-|BORON,	353-42-4	A fuming liquid. Corrosive to skin, eyes and mucous membranes. May be toxic by inhalation. Used as a catalyst in chemical reactions.	2.5	5.0	2.5	4557.0	451.0	1556.0	821.0	496.0	1172.0	120.0	405.0	229.0	123.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2570	BROMACIL	BROMACIL|5-BROMO-3-SEC-BUTYL-6-METHYLURACIL|5-BROMO-6-METHYL-3-(1-METHYLPROPYL)-2,4-(1H,3H)-PYRIMIDINEDIONE|5-BROMO-6-METHYL-3-(1-METHYLPROPYL)URACIL	314-40-9	Colorless to white odorless crystalline solid. Used as an herbicide. Commercially available as a wettable powder or in liquid formulations. (NIOSH, 1997)	1.0	2.5	5.0	4557.0	451.0	1558.0	821.0	496.0	1172.0	120.0	406.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2571	BROMOCHLORODIFLUOROMETHANE	BCF|BROMOCHLORODIFLUOROMETHANE|CHLOROBROMODIFLUOROMETHANE|CHLORODIFLUOROBROMOMETHANE|DAIFLON 12B1|DIFLUOROCHLOROBROMOMETHANE|FLUGEX 12B1|FLUOROCARBON 1211|FREON 12B1|HALON 1211|R 12B1|REFRIGERANT GAS R-12B1	353-59-3	BROMOCHLORODIFLUOROMETHANE is a colorless, nonflammable gas. It is mildly toxic by inhalation. It can asphyxiate by the displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket. It is used as a refrigerant gas.	5.0	1.0	1.0	4559.0	451.0	1558.0	821.0	496.0	1173.0	120.0	406.0	229.0	123.0	(BLOB)	Material may burn but does not ignite readily. Poisonous if inhaled or swallowed; skin contact poisonous. Contact may cause burns to skin and eyes. (EPA, 1998)	Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Material may react violently with water. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
2572	BROMOTRIFLUOROMETHANE	BROMOFLUOROFORM|BROMOTRIFLUOROMETHANE|CARBON BROMIDE FLUORIDE (CBRF3)|CARBON MONOBROMIDE TRIFLUORIDE|CFC 13B1|DAIFLON 13B1|F 13B1|FC 13B1|FKWR 13B1|FLUGEX 13B1|FLUOROCARBON 1301|FREON 13B1|FREONÂ® 13B1|HALOCARBON 13B1|HALON 1301|HALONÂ® 1301|KHLADON 13B1|MONOBROMOTRIFLUOROMETHANE|PERFLUOROMETHYL BROMIDE|R 13B1|REFRIGERANT 13B1|REFRIGERANT GAS R-13B1|TRIFLUOROBROMOMETHANE|TRIFLUOROMETHYL BROMIDE|TRIFLUOROMONOBROMOMETHANE	75-63-8	A colorless, odorless gas at room conditions Shipped as a liquid confined under its own vapor pressure. Noncombustible. Nontoxic but can asphyxiate by the displacement of air. Contact with the unconfined liquid can cause frostbite by evaporative cooling. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	4561.0	451.0	1558.0	821.0	496.0	1174.0	120.0	406.0	229.0	123.0	INHALATION: Evacuate to fresh air and give artificial resuscitation. Keep under observation for 24 hours as symptoms may be delayed. EYES: Flush eyes with water for 15 minutes or until irritation subsides. SKIN: Wash contaminated surface with soap and water. If irritation develops consult a physician. INGESTION: Give milk and demulcents, induce emesis or perform gastric lavage: give fluids: observe for methemoglobinemia, particularly in infants. If needed, give methylene blue as a 1% solution intravenously, 1 to 2 mg/ kg; and if severe, consider exchange transfusion. (USCG, 1999)	Special Hazards of Combustion Products: Heating to decomposition yields oxides of nitrogen. Behavior in Fire: Organic and oxidizable materials can sensitize DRY ammonium nitrate to readily explodable state; can detonate if heated under confinement with high pressure. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2568	BIUREA	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	3-METHYL-1-BUTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NFPA, 2010)		less than 20																		
2569	BORON TRIFLUORIDE DIMETHYL ETHERATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Autooxidizes on storage in the presence of light and air, with the formation of free acidity and labile peroxides. Readily hydrolyzed in the presence of ultraviolet light and air and when refluxed with sodium hydroxide. Also readily hydrolyzed by pancreatic lipase. (NTP, 1992). Water soluble.	An alcohol and ester. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Peroxidizable Compound					0		(NTP, 1992)		greater than 212																				
2570	BROMACIL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	TRIPROLIDINE HYDROCHLORIDE MONOHYDRATE discolors on exposure to light.					0																		(NTP, 1992)		239 to 248
2571	BROMOCHLORODIFLUOROMETHANE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Mixes exothermically with water with no apparent evolution of hydrochloric acid, trichloroacetic acid. Soluble in water. Experiments conducted at Argonne showed that no gas is generated upon mixing with water. "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	TRICHLOROACETYL CHLORIDE is incompatible with water, with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2442 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2572	BROMOTRIFLUOROMETHANE		Rubber gloves, safety glasses, clothes that minimize skin exposure. (USCG, 1999)	Water soluble. A significant amount of heat may be generated when water is added to the mixture.	UREA, AMMONIUM NITRATE SOLUTION, (W/AQUA AMMONIA) is a basic solution. Reacts exothermically with acids. Can react with both oxidizing agents and reducing agents. May be subject to detonation if allowed to dry out.	Explosive		(NFPA, 2010)	Note: NFPA ratings shown are for ammonium nitrate, CAS number 6484-52-2.	0	0	3	3	Oxidizer																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2568	BIUREA																																									Flammable Liquid	C5H10	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2569	BORON TRIFLUORIDE DIMETHYL ETHERATE														(NTP, 1992)		1.05		73								(NTP, 1992)		410.6						(NTP, 1992)	at 68Â° F		50 to 100	mg/mL			C24H42O5	Cellulose-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2570	BROMACIL																										(NTP, 1992)		332.87						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C19H22N2.ClH.H2O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	9.0	2.0	2.0
2571	BROMOCHLORODIFLUOROMETHANE														(EPA, 1998)		1.654		32		(EPA, 1998)		244		760		(EPA, 1998)		181.83												Corrosive|Poison Inhalation Hazard	C2Cl4O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2572	BROMOTRIFLUOROMETHANE														(USCG, 1999)		1.326		60.008		(USCG, 1999)		225		760															UAS		CH4N2O (urea)|NH4NO3 (ammonium nitrate)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2573	BUTOXYL	ACETIC ACID 3-METHOXYBUTYL ESTER|ACETIC ACID, 3-METHOXYBUTYL ESTER|1-BUTANOL, 3-METHOXYACETATE|BUTOXYL|3-METHOXY-1-BUTYL ACETATE|3-METHOXY-N-BUTYL ACETATE|3-METHOXYBUTYL ACETATE|METHYL-1,3-BUTYLENE GLYCOL ACETATE	4435-53-4	A liquid with an acrid odor. Flash point near 140Â°F. Slightly less dense than water. Vapors much heavier than air. May irritate skin, eyes, and mucous membranes.	2.5	5.0	2.5	4561.0	451.0	1558.0	821.0	496.0	1174.0	120.0	406.0	229.0	123.0	(BLOB)	Undiluted liquid decomposes on standing. (EPA, 1998)	(Non-Specific -- Poisonous Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Poisonous Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2574	BUTYL MERCAPTAN	BUTANETHIOL|1-BUTANETHIOL|BUTYL MERCAPTAN|1-BUTYL MERCAPTAN|BUTYLTHIOL|1-MERCAPTOBUTANE|N-BUTANETHIOL|N-BUTYL MERCAPTAN|N-BUTYL THIOALCOHOL|N-BUTYLTHIOL|THIOBUTYL ALCOHOL	109-79-5	A clear, colorless liquid with a strong skunk-like odor. Flash point in range -18 to 43Â°F. Less dense than water and slightly soluble in water. Vapors heavier than air.	2.5	5.0	2.5	4563.0	451.0	1558.0	821.0	496.0	1175.0	120.0	406.0	229.0	123.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2575	BUTYL VINYL ETHER, INHIBITED	BUTOXYETHENE|1-BUTOXYETHENE|BUTOXYETHYLENE|BUTYL VINYL ETHER|BUTYL VINYL ETHER, INHIBITED|BVE|ETHER, BUTYL VINYL|N-BUTYL VINYL ETHER|VINYL BUTYL ETHER|VINYL N-BUTYL ETHER	111-34-2	A liquid. Less dense than water. Vapors heavier than air. May irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4563.0	451.0	1560.0	821.0	496.0	1175.0	120.0	407.0	229.0	123.0	Act quickly; call physician. INHALATION: if victim has stopped breathing, start artificial respiration immediately; using amyl nitrite pearls, administer amyl nitrite by inhalation for 15-30 seconds of every minute while sodium nitrite solution is being prepared; discontinue amyl nitrite and immediately inject intravenously 10 ml of a 3% solution of sodium nitrite (nonsterile if necessary) over a period of 2-4 min.; without removing needle, infuse intravenously 50 ml of a 25% aqueous solution of sodium thiosulfate; injection should take about 10 min. (concentrations of 5-50% may be used, but keep total dose approx. 12 gm). Oxygen therapy may be helpful in combination with the above. INGESTION: alimentary absorption is very rapid; action during first 10-15 min. determines prognosis. Give egg whites, milk,	Special Hazards of Combustion Products: Fumes from fire may contain toxic mercury and hydrogen cyanide. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2576	BUTYLTRICHLOROSILANE	BUTYL TRICHLOROSILANE|BUTYLTRICHLOROSILANE|N-BUTYLTRICHLOROSILANE|TRICHLOROBUTYLSILANE	7521-80-4	A colorless liquid with a pungent odor. Flash point 126Â°F. Corrosive to metals and skin. Used to make various silicon containing compounds.	2.5	5.0	2.5	4565.0	451.0	1560.0	821.0	496.0	1176.0	120.0	407.0	229.0	123.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2577	C.I. ACID GREEN 3	C.I. ACID GREEN 3|GUINEA GREEN B	4680-78-8	A dull dark green powder. Used as a dye for silk or wool and biological stains.	1.0	2.5	5.0	4565.0	451.0	1560.0	821.0	496.0	1176.0	120.0	407.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2573	BUTOXYL	(Non-Specific -- Poisonous Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	MECHLORETHAMINE is a chlorinated amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		-76	
2574	BUTYL MERCAPTAN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	MERCURIC BROMIDE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997). Reacts with sodium azide to give mercury(II) azide, which is sensitive to shock, friction, and heat. Mixing with hydrazine salts in basic solution produced a heat or shock sensitive yellow precipitate [Annalen, 1899, 305, 191]. Reacts violently with chlorine trifluoride *with ignition often occurring.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
2575	BUTYL VINYL ETHER, INHIBITED	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Soluble in water. Gradually decomposed by water to give off hydrogen cyanide, a flammable poison gas.	MERCURIC CYANIDE is rapidly decomposed by acids to give off hydrogen cyanide, a flammable poison gas. Decomposed in the light. May tend to explosive instability. Capable of violent reaction with oxidizing agents. Fusion with metal chlorates, perchlorates, nitrates or nitrites can cause a violent explosion [Bretherick 1979. p. 101].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																													
2576	BUTYLTRICHLOROSILANE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Rapidly decomposes in presence of acids with generation of hydrogen cyanide, a flammable poison gas.	MERCURIC POTASSIUM CYANIDE is rapidly decomposed by acids to evolve hydrogen cyanide, a flammable poisonous gas. May tend to explosive instability. Incompatible with strong oxidizing agents. Fusion with metal chlorates, perchlorates, nitrates or nitrites can cause violent explosions [Bretherick 1979. p. 101]. Contact with ammonia may be explosive.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
2577	C.I. ACID GREEN 3	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.					0																												(NTP, 1992)		178	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2573	BUTOXYL														(EPA, 1998)		1.118		77		(EPA, 1998)		189		18		(EPA, 1998)		156.07													Poison	C5H11Cl2N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	6.0	2.0	2.0
2574	BUTYL MERCAPTAN																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	HgBr2		4.0	0.0	9.0	2.0	2.0
2575	BUTYL VINYL ETHER, INHIBITED														(USCG, 1999)		4		68								(USCG, 1999)		252.63		(NIOSH, 2003)	(as Hg)	10	mg/m3						MCN	Poison	Hg(CN)2		5.0	0.0	9.0	2.0	2.0
2576	BUTYLTRICHLOROSILANE																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	C4HgN4.2K		3.0	0.0	7.0	2.0	2.0
2577	C.I. ACID GREEN 3																				(NTP, 1992)		396		760		(NTP, 1992)		165.16						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C8H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2578	C.I. DIRECT BLUE 6	(BLOB)	2602-46-2	PHYSICAL DESCRIPTION: Dark blue microcrystals or black powder. (NTP, 1992)	1.0	2.5	5.0	4565.0	451.0	1560.0	821.0	496.0	1176.0	120.0	407.0	229.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2579	C.I. DIRECT BROWN 95	(BLOB)	16071-86-6	PHYSICAL DESCRIPTION: Dark brown microcrystals or charcoal black powder. (NTP, 1992)	1.0	2.5	5.0	4565.0	451.0	1560.0	821.0	496.0	1176.0	120.0	407.0	229.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may not be effective. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam, water spray. (USCG, 1999)
2580	C.I. FOOD RED 5	(BLOB)	3761-53-3	PHYSICAL DESCRIPTION: Dark red crystals or red powder. (NTP, 1992)	1.0	2.5	5.0	4565.0	451.0	1560.0	821.0	496.0	1176.0	120.0	407.0	229.0	123.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2581	C.I. VAT YELLOW 4	(BLOB)	128-66-5	PHYSICAL DESCRIPTION: Viscous orange liquid. Used for coloring of cotton, wool and cellulose acetate.	2.5	5.0	2.5	4567.0	451.0	1560.0	821.0	496.0	1177.0	120.0	407.0	229.0	123.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2582	CADMIUM FLUOROBORATE	CADMIUM FLUOBORATE|CADMIUM FLUOBORATE SOLUTION|CADMIUM FLUOROBORATE|CADMIUM TETRAFLUOROBORATE	14486-19-2	Colorless odorless aqueous solution. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4567.0	451.0	1560.0	823.0	496.0	1177.0	120.0	407.0	230.0	123.0	INHALATION: Remove victim from contaminated area, give artificial respiration and oxygen if needed; watch for signs of pulmonary edema; enforce absolute rest. INGESTION: Do NOT induce vomiting; hospitalize. SKIN OR EYES: Flood with water and treat as alkaline burn. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Tends to re-ignite unless diluted with much water. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2583	CANTHARIDIN	CAN|CANTHARIDES CAMPHOR|CANTHARIDIN|CANTHARIDINE|CANTHARONE|1,2-DIMETHYL-3,6-EPOXYPERHYDROPHTHALIC ANHYDRIDE|2,3-DIMETHYL-7-OXABICYCLO[2.2.1]HEPTANE-2,3- DICARBOXYLIC ANHYDRIDE|4,7-EPOXYISOBENZOFURAN-1,3-DIONE, HEXAHYDRO-3A,7A-DIMETHYL-, (3AALPHA,4BETA,7BETA,7AALPHA)-|4,7-EPOXYISOBENZOFURAN-1,3-DIONE, HEXAHYDRO-3A,7A-DIMETHYL-,(3A ALPHA, 4 BETA, 7 BETA, 7A ALPHA)-|EXO-1,2-CIS-DIMETHYL-3,6-EPOXYHEXAHYDROPHTHALIC ANHYDRIDE|HEXAHYDRO-3A ALPHA, 7A ALPHA-DIMETHYL-4 BETA, 7 BETA-EPOXYISOBENZOFURAN-1,3-DIONE|KANTARIDIN|7-OXABICYCLO[2.2.1]HEPTANE-2,3-DICARBOXYLIC	56-25-7	Brown to black powder or plates or scales. Formerly used as a counterirritant and vesicant. Used for the removal of warts. Used as an experimental anti tumor agent. Active ingredient in spanish fly, a reputed aphrodisiac. (EPA, 1998)	1.0	2.5	5.0	4569.0	451.0	1560.0	823.0	496.0	1178.0	120.0	407.0	230.0	123.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and hydrochloric acid fumes may form. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2578	C.I. DIRECT BLUE 6	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	Decamethonium dibromide is a quaternary ammonium salt used as a neuromuscular blocking agent. Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics. Unlike the ammonium ion, [NH4]+, and the primary, secondary, or tertiary ammonium cations, the quaternary ammonium cations are permanently charged, independent of the pH of their solution.								0																						(NTP, 1992)			514 to 518
2579	C.I. DIRECT BROWN 95	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate solution (USCG, 1999)	Respirator, chemical safety goggles, rubber boots, and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	DECANOIC ACID reacts exothermically to neutralize bases. Can react with active metals to form gaseous hydrogen and a metal salt. May absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Reacts with cyanide salts or solutions of cyanide salts to generate gaseous hydrogen cyanide. Reacts exothermically with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable and/or toxic gases. Can react with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide). Can be oxidized exothermically by strong oxidizing agents and reduced by strong reducing agents; a wide variety of products is possible. May initiate polymerization reactions or catalyze (increase the rate of) reactions among other materials.								0		(NTP, 1992)		235														(NTP, 1992)			88.7	
2580	C.I. FOOD RED 5	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DECYL METHACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Protect from light.	Polymerizable							0																							
2581	C.I. VAT YELLOW 4	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCUROUS IODIDE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
2582	CADMIUM FLUOROBORATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves, boots, and apron; plastic face shield. Gas mask with ammonia (GMD) canister protects for 30 min. against 1% concentration; for longer periods or higher concentrations, use self-contained breathing apparatus. (USCG, 1999)	Highly flammable. Fumes upon exposure to air . Soluble in water with evolution of heat.	1,2-DIMETHYLHYDRAZINE dissolves, swells, and disintegrates many plastics (USCG, 1999).	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2382 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
2583	CANTHARIDIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Dust respirator; goggles; rubber gloves; protective clothing. (USCG, 1999)	May be sensitive to prolonged exposure to air and light. Insoluble in water.	4-CHLORO-O-TOLUIDINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992). A halide- and amine-substituted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		320														(NTP, 1992)			72	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2578	C.I. DIRECT BLUE 6																										(NTP, 1992)		418.38						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C16H38N2.2Br		4.0	0.0	8.0	2.0	2.0
2579	C.I. DIRECT BROWN 95	(NTP, 1992)	; 5 mm Hg at 287.6Â° F; 760 mm Hg at 515.1Â° F	1		257		mm Hg							(USCG, 1999)		0.893				(NTP, 1992)			514 to 518	760		(NTP, 1992)		172.3						(NTP, 1992)	at 64Â° F		less than 1	mg/mL	DCO		C10H20O2		4.0	0.0	6.0	2.0	2.0
2580	C.I. FOOD RED 5																										(NTP, 1992)		226.36						(NTP, 1992)	Insoluble						C14H26O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	7.0	2.0	2.0
2581	C.I. VAT YELLOW 4																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	Hg2I2		4.0	0.0	7.0	2.0	2.0
2582	CADMIUM FLUOROBORATE														(USCG, 1999)		0.8274		68		(USCG, 1999)		177.8		760		(USCG, 1999)		60.1											DML	Poison Inhalation Hazard|Flammable Liquid	C2H8N2		5.0	0.0	9.0	2.0	2.0
2583	CANTHARIDIN														(USCG, 1999)	(est)		greater than 1.1	68		(NTP, 1992)		466		760		(NTP, 1992)		141.6						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CTD	Poison	C7H8ClN		5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2584	CAPRYLYL PEROXIDE	CAPRYLYL PEROXIDE|DI-N-OCTANOYL PEROXIDE|DICAPRYLYL PEROXIDE|DIOCTANOYL PEROXIDE|N-OCTANOYL PEROXIDE, [TECHNICALLY PURE]|OCTANOYL PEROXIDE|PERKADOX SE 8|PEROYL O	762-16-3	Straw-colored liquid; sharp odor.	2.5	5.0	2.5	4571.0	451.0	1560.0	823.0	496.0	1179.0	120.0	407.0	230.0	123.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2585	CARBACHOL CHLORIDE	CARBACHOL|CARBACHOL CHLORIDE|CARBACHOLINE|CARBACHOLINE|CARBACHOLINE CHLORIDE|CARBACOLINA|CARBAMIC ACID, ESTER WITH CHOLINE CHLORIDE|CARBAMINOCHOLINE CHLORIDE|CARBAMINOYLCHOLINE CHLORIDE|CARBAMIOTIN|CARBAMOYLCHOLINE CHLORIDE|CARBAMOYLCHOLINE-HYDROCHLORIDE|(2-CARBAMOYLOXYETHYL)TRIMETHYLAMMONIUM CHLORIDE|CARBAMYLCHOLINE CHLORIDE|CARBOCHOL|CARBOCHOLIN|CARBOCHOLINE|CARBYL|CARCHOLIN|CHOLINE CARBAMATE CHLORIDE|CHOLINE CHLORIDE, CARBAMOYL-|CHOLINE CHLORINE CARBAMATE|CHOLINE, CHLORIDE CARBAMATE/(ESTER)|CHOLI	51-83-2	Prismatic crystals or powder. Odorless, but develops a faint odor of aliphatic amine upon standing in an open container. Cholinergic, parasympathomimetic, used chiefly in large animals, especially for colic in the horse. (EPA, 1998)	1.0	2.5	5.0	4573.0	451.0	1560.0	823.0	496.0	1180.0	120.0	407.0	230.0	123.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Overheating of containers during fire can result in rupture. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam, or water spray. (USCG, 1999)
2586	CARBON, ANIMAL OR VEGETABLE ORIGIN	ACTIVATED CARBON|ACTIVATED CHARCOAL|ANIMAL CARBON|AUL-N|AZL 68|CARBOLEN|CARBON, ANIMAL OR VEGETABLE ORIGIN|CHARCOAL|CHARCOAL SCREENINGS, MADE FROM PINON WOOD|CHARCOAL SCREENINGS, OTHER THAN PINON WOOD SCREENINGS|CHARCOAL, BRIQUETTES|CHARCOAL, SHELL|CHARCOAL, WOOD|CHARCOAL, WOOD, GROUND, CRUSHED, GRANULATED OR PULVERIZED|EDEX-MFC|GRAPHITE (SYNTHETIC)|LH 2C20/48|MINERAL CARBON|SHELL CHARCOAL|SYNTHAD|VEGETABLE CARBON|WH 5C8/32|WOOD CHARCOAL|X 7100-3	16291-96-6	A black powder or granular mixed with a tar or starch and water binder pressed into regular lumps or briquettes. Heats slowly and ignites in air especially if wet.	1.0	2.5	5.0	4575.0	451.0	1560.0	823.0	496.0	1181.0	120.0	407.0	230.0	123.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2587	CARBONYL FLUORIDE	CARBON DIFLUORIDE OXIDE|CARBON FLUORIDE OXIDE|CARBON FLUORIDE OXIDE (COF2)|CARBON OXYFLUORIDE|CARBON OXYFLUORIDE (COF2)|CARBONIC DIFLUORIDE|CARBONYL DIFLUORIDE|CARBONYL DIFLUORIDE (COF2)|CARBONYL FLUORIDE|CARBONYL FLUORIDE (COF2)|CARBONYL FLUORIDE, COMPRESSED|DIFLUOROFORMALDEHYDE|DIFLUOROOXOMETHANE|DIFLUOROPHOSGENE|FLUOPHOSGENE|FLUOROFORMYL FLUORIDE|FLUOROPHOSGENE	353-50-4	A colorless gas with a pungent odor. Very toxic by inhalation. Prolonged exposure of the containers to fire or heat may result in violent rupturing and rocketing.	5.0	1.0	1.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	INHALATION: remove victim from exposure; if breathing is difficult or stopped, give artificial respiration; call physician. EYES or SKIN: flush with plenty of water immediately for at least 15 min. and get medical attention. INGESTION: do NOT induce vomiting; give large amount of water; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene gases may form in fires. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)
2588	CARBOXIN	CARBOXIN|5,6-DIHYDRO-2-METHYL-N-PHENYL-1,4-OXATHIIN-3-CARBOXAMIDE	5234-68-4	Off-white crystals. Systemic fungicide and seed protectant.	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2584	CAPRYLYL PEROXIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCURY BROMIDES are easily reduced to give elemental mercury and thus serve as mild oxidizing agents. React with sodium azide to give products that are sensitive to shock, friction, and heat. A combination of mercury(II) bromide and hydrazine salts in base produced a heat- or shock-sensitive yellow precipitate [Annalen, 1899, 305, 191]. Combine violently, often with ignition, with chlorine trifluoride.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2585	CARBACHOL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	DI(2-ETHYLHEXYL) PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Incompatible with nitrates (NTP, 1992).				0		(NTP, 1992)		405		(NTP, 1992)	at 473Â°F	0.3		%	(USCG, 1999)	at 507Â°F	0.28		%	(NTP, 1992)		735		(NTP, 1992)		-58	
2586	CARBON, ANIMAL OR VEGETABLE ORIGIN	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2587	CARBONYL FLUORIDE	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect skin and eyes. (USCG, 1999)	Highly flammable. Ignites spontaneously in air [NFPA, 1991]. Reacts violently with water, steam, moisture in air to generate heat and flammable (H2) and corrosive (HCl) gases. [Handling Chemicals Safely 1980. p. 924]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.03 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	TRICHLOROSILANE reacts with alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases [Handling Chemicals Safely 1980. p. 924].	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1295 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	2	6	No Water	(USCG, 1999)		greater than -58	(USCG, 1999)		1.2		%	(USCG, 1999)		90.5		%	(USCG, 1999)		220		(USCG, 1999)		-197	
2588	CARBOXIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	4-DIMETHYLAMINOANTIPYRINE is sensitive to exposure to light. This chemical is readily attacked by mild oxidizing agents in the presence of water. It is incompatible with acacia, apomorphine, aspirin, chloral hydrate, iodine and tannic acid. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2584	CAPRYLYL PEROXIDE																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	BrHgBr2Hg		7.0	0.0	8.0	2.0	2.0
2585	CARBACHOL CHLORIDE	(NTP, 1992)		1.32		392		mm Hg	(NTP, 1992)		13.45				(USCG, 1999)		0.98		77		(NTP, 1992)		723		760		(NTP, 1992)		390.54		(NIOSH, 2003)	; A potential human carcinogen.	5000	mg/m3	(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	EHE		C24H38O4		4.0	0.0	6.0	2.0	2.0
2586	CARBON, ANIMAL OR VEGETABLE ORIGIN																																							Flammable Solid	C26H42Cl4N8O2Zn	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2587	CARBONYL FLUORIDE														(USCG, 1999)		1.344		68		(USCG, 1999)		90		760		(USCG, 1999)		135.5										TCS	Dangerous When Wet|Flammable Liquid|Corrosive	Cl3HSi	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	7.0	2.0	2.0
2588	CARBOXIN																																		(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Poison	C13H17N3O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2589	CARVYL ACETATE	CARVEOL ACETATE|CARVEYL ACETATE|CARVYL ACETATE|L-CARVYL ACETATE|2-METHYL-5-(1-METHYLETHENYL)-2-CYCLOHEXEN-1-OL, ACETATE|1-P-MENTHA-6(8,9)-DIEN-2-YL ACETATE|P-MENTHA-6,8-DIEN-2-OL, ACETATE	97-42-7	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2590	CERIUM, SLABS, INGOTS OR RODS	CERIUM, SLABS, INGOTS OR RODS|CERIUM, [CRUDE]	7440-45-1	Cerium is a gray colored, ductile solid. This form of cerium is slabs, ingots or rods. When heated to high temperatures it will burn readily and may be difficult to extinguish. It is used to make signaling devices.	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data are not available for this chemical; however, it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2591	CERIUM, TURNINGS OR GRITTY POWDER	CERIUM, TURNINGS OR GRITTY POWDER	7440-45-1	A gray metallic solid. Specific gravity 6.78. Turnings or gritty powder. Contact may burn skin, eyes or mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2592	CESIUM	CAESIUM|CESIUM|CESIUM METAL|CESIUM-133	7440-46-2	A soft metallic solid. Melts at 85Â°F. Causes burns to skin and eyes.	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2593	CHLORAMPHENICOL SODIUM SUCCINATE	BETAMICETIN|BUTANEDIOIC ACID, MONO[2-[(DICHLOROACETYL)AMINO]-3-HYDROXY-3-(4-NITROPHENYL)PROPYL] ESTER, MONOSODIUM SALT, [R-(R*,R*)]-|CHLORAMPHENICOL MONOSUCCINATE SODIUM SALT|CHLORAMPHENICOL SODIUM HEMISUCCINATE|CHLORAMPHENICOL SODIUM MONOSUCCINATE|CHLORAMPHENICOL SODIUM SUCCINATE|CHLORAMPHENICOL SUCCINATE SODIUM|CHLORAMPHENICOL SUCCINATE SODIUM SALT|CHLORAMPHENICOL SUCCINATE, SODIUM|CHLOROCIDS|CHLOROMYCETIN SODIUM SUCCINATE|CIDOCETINE|CLOROFENICINA|CLOROMOIN|D-CHLORAMPHENICOL SODIUM SUCCINATE|2,2-DICHLORO-N-(BETA-HYDROXY-ALPHA-(HYDROXYMETHYL)-4-NITROPHENETHYL)ACETAMIDE, MONOESTER WITH SUCCINIC ACID, SODIUM SALT	982-57-0	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2589	CARVYL ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this compound from light and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	MERCURY((O-CARBOXYPHENYL)THIO)ETHYL, SODIUM SALT is incompatible with strong oxidizing agents and strong bases. The oxidation of this compound is greatly accelerated by traces of copper ions. Incompatible with acids, iodine, heavy metal salts and many alkaloids. Can be absorbed by rubber caps. (NTP, 1992). Stable in air, but not sunlight. May discolor on exposure to light. Dilute aqueous solutions are fairly stable to heat but sensitive to light. Solutions are less stable to heat when acidic than when alkaline. Solutions are most stable to light at pH 5 to 7. Solutions are unstable to heat but not to light in the presence of copper, iron or zinc ions but not in the presence of calcium or magnesium ions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)		450 to 451
2590	CERIUM, SLABS, INGOTS OR RODS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	May be sensitive to light and elevated temperatures on long-term storage. It puffs up and deflagrates on heating. Incompatible with strong oxidizers and strong acids. Forms mono-, di-, and trisodium salts. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			greater than 572
2591	CERIUM, TURNINGS OR GRITTY POWDER	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as DI-(TERT-BUTYLPEROXY)PHTHALATE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2592	CESIUM	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	4-HYDROXYACETANILIDE is sensitive to light. Incompatible with strong oxidizers. (NTP, 1992).							0																			(NTP, 1992)			336 to 342
2593	CHLORAMPHENICOL SODIUM SUCCINATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-HYDROXYPYRAZOLO(3,4-D)PYRIMIDINE is an amine derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This chemical darkens above 572Â° F, and at an indefinite high temperature, it chars and decomposes. At 221Â° F, maximum stability occurs at pH 3.1- 3.4. This chemical decomposes in acidic and basic solutions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			greater than 662

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2589	CARVYL ACETATE																										(NTP, 1992)		404.82		(NIOSH, 2003)	(as Hg)	2	mg/m3	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C9H9HgO2S.Na		3.0	0.0	6.0	2.0	2.0
2590	CERIUM, SLABS, INGOTS OR RODS																										(NTP, 1992)		263.04						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C6H6AsNO6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0
2591	CERIUM, TURNINGS OR GRITTY POWDER																																								Organic Peroxide	C16H22O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0
2592	CESIUM														(NTP, 1992)		1.293		70								(NTP, 1992)		151.16						(NTP, 1992)	at 72Â° F		1 to 5	mg/mL			C8H9NO2		5.0	0.0	9.0	2.0	2.0
2593	CHLORAMPHENICOL SODIUM SUCCINATE																										(NTP, 1992)		136.11						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C5H4N4O	Mineral-Based & Clay-Based Absorbents	2.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2594	CHLORDIAZEPOXIDE HYDROCHLORIDE	A-POXIDE|ANSIACAL|BENT|BENZODIAPINCALMODEN|CEBRUM|CHLORDIAZACHEL|CHLORDIAZEPOXIDE HYDROCHLORIDE|CHLORDIAZEPOXIDE MONOHYDROCHLORIDE|CHLORIDEAZEPOXIDE HYDROCHLORIDE|7-CHLORO-2-METHYLAMINO-5-PHENYL-3H-1,4-BENZODIAZEPINE-4-OXIDE, HYDROCHLORIDE|7-CHLORO-2-METHYLAMINO-5-PHENYL-3H-1,4-BENZODIAZEPINE-4-OXIDE HYDROCHLORIDE|CHLORO DIAZEPOXIDE HYDROCHLORIDE|CONTOL|CORAX|DIAZACHEL|DROXOL|ELENIUM|EQUIBRAL|3H-1,4-BENZODIAZEPIN-2-AMINE,7-CHLORO-N-METHYL-5-PHENYL-,4-OXIDE, MONOHYDROCHLORIDE|3H-1,4-BENZODIAZEPINE, 7-CHLORO-2-(METHYLAMINO)-	438-41-5	PHYSICAL DESCRIPTION: Crystals or off-white powder. (NTP, 1992)	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
2595	CHLORENDIC ACID	BICYCLO(2.2.1)HEPT-5-ENE-2,3-DICARBOXYLIC ACID, 1,4,5,6,7,7-HEXACHLORO-|1,4,5,6,7,7-BICYCLO(2.2.1)HEPT-5-ENE-2,3-DICARBOXYLIC ACID|1,4,5,6,7,7-BICYCLO[2.2.1]-5-HEPTENE-2,3-DICARBOXYLIC ACID|CHLORENDIC ACID|HET ACID|1,4,5,6,7,7-HEXACHLORO-5-NORBORNENE-2,3-DICARBOXYLIC ACID|1,4,5,6,7,7-HEXACHLOROBICYCLO(2.2.1)HEPT-5-ENE-2,3-DICARBOXYLIC ACID|HEXACHLOROENDOMETHYLENETETRAHYDROPHTHALIC ACID|NCI-C55072|5-NORBORNENE-2,3-DICARBOXYLIC ACID, 1,4,5,6,7,7-HEXACHLORO-	115-28-6	PHYSICAL DESCRIPTION: Fine white free-flowing crystals or white powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	4577.0	451.0	1560.0	823.0	496.0	1182.0	120.0	407.0	230.0	123.0	(BLOB)	Releases nitrogen oxides, sulfur oxides, and phosphorus oxides when heated. Readily hydrolyzed by concentrated alkali. Avoid alkali. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Solid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Solid, n.o.s.) This material may burn but does not ignite readily. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2596	CHLORFENVINFOS	4072|BENZYL ALCOHOL, 2,4-DICHLORO-ALPHA-(CHLOROMETHYLENE)-, DIETHYL PHOSPHATE|BETA-2-CHLORO-1-(2',4'-DICHLOROPHENYL)VINYL DIETHYL PHOSPHATE|BIRLAN|BIRLANE|BIRLANE 10G|C8949|CHLOFENVINPHOS|CHLORFENVINFOS|CHLORFENVINPHOS|2-CHLORO-1-(2,4-DICHLOROPHENYL)ETHENYL DIETHYL ESTER PHOSPHORIC ACID|2-CHLORO-1-(2,4-DICHLOROPHENYL)VINYL DIETHYL PHOSPHATE|CHLOROFENVINPHOS|CHLORPHENVINFOS|CHLORPHENVINPHOS|CLOFENVINFOS|COMPOUND 4072|COMPUND 4072|CVP|CVP (PESTICIDE)|CVP|PESTICIDE)|DERMATON|2,4-DICHLORO-ALPHA-(CHLOROMETHYLENE)BENZ	470-90-6	Amber-colored liquid with a mild chemical odor. Used for control of ticks, flies, lice, and mites on cattle and for blowfly, lice, ked, and itchmite on sheep. Controls fleas and mites on dogs; not used on cats. Applied on organic wastes and breeding places of fly larvae. Also used as a foliage insecticide for potatoes, rice, maize, and sugar cane. Used to control soil insects. (EPA, 1998)	2.5	5.0	2.5	4579.0	451.0	1560.0	823.0	496.0	1183.0	120.0	407.0	230.0	123.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2597	CHLORINATED TRISODIUM PHOSPHATE	CHLORINATED TRISODIUM PHOSPHATE|NCI-C55754|PHOSPHORIC ACID, TRISODIUM SALT (CHLORINATED)|SODIUM HYPOCHLORITE PHOSPHATE|SODIUM PHOSPHATE HYPOCHLORITE	11084-85-8	PHYSICAL DESCRIPTION: White crystalline solid or powder. (NTP, 1992)	1.0	2.5	5.0	4581.0	451.0	1560.0	823.0	496.0	1184.0	120.0	407.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2598	CHLORINE TRIFLUORIDE	CHLORINE FLUORIDE|CHLORINE FLUORIDE (CL2F6)|CHLORINE TRIFLUORIDE|CHLORINE TRIFLUORIDE (CLF3)|CHLOROTRIFLUORIDE|CTF|TRIFLUOROCHLORINE	7790-91-2	A colorless gas or green liquid with a pungent odor. Boils at 53Â°F. It reacts with water to form chlorine and hydrofluoric acid with release of heat. Contact with organic materials may result in spontaneous ignition. It is corrosive to metals and tissue. Prolonged exposure to low concentrations or short term exposure to high concentrations may result in adverse health effects. Under prolonged exposure to fire or intense heat the container may violently rupture and rocket.	5.0	1.0	1.0	4581.0	451.0	1560.0	823.0	496.0	1184.0	120.0	407.0	230.0	123.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2594	CHLORDIAZEPOXIDE HYDROCHLORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Pure DIACETYL PEROXIDE, a solid, presents a severe explosion hazard. Unpredictably shock sensitive. Five grains detonated violently while being removed from an ice chest [Chem. Eng. News 26:3197(1948)]. May explode violently in contact with ether or any volatile solvent. A 5-gram portion in ether detonated while being carried [Chem. Eng. News 27:175(1949)]. The 25% solution in dimethyl phthalate is less dangerous, but still a strong oxidizing agent that presents a moderate fire risk [Hawley].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	4	6		(NFPA, 2010)		113																				
2595	CHLORENDIC ACID	(Non-Specific -- Organophosphorus Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Releases nitrogen oxides, sulfur oxides, and phosphorus oxides when heated. Readily hydrolyzed by concentrated alkali. Avoid alkali. [EPA, 1998]. Organophosphates, such as DIALIFOR, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		153 to 156Â° F solid 144 to 147Â° F recrystallized from toluene and hexane		
2596	CHLORFENVINFOS	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slow reaction upon dilution produces toxic gases hydrogen sulfide and methylisothiocyanate. This reaction is accelerated by the addition of acid.	METAM SODIUM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides. It will decompose upon dilution to carbon disulfide, monomethylamine, methylisothiocyanate, and hydrogen sulfide. The decomposition products are flammable and toxic. The acute symptoms of exposure to metam sodium are excessive salivation, sweating, fatigue, weakness, nausea, headache, dizziness, eye and respiratory tract irritation, and skin irritation in the form of rashes. The spillage of a rail car tanker of metam sodium into the Sacramento River caused a major fish kill (over a million trout) along several miles of that river.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2597	CHLORINATED TRISODIUM PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from moisture, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to moisture. (NTP, 1992).	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		415 to 421		
2598	CHLORINE TRIFLUORIDE	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	VALINOMYCIN is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		374		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2594	CHLORDIAZEPOXIDE HYDROCHLORIDE																																								Organic Peroxide	C4H6O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2595	CHLORENDIC ACID	(EPA, 1998)		0.001		95		mm Hg																			(EPA, 1998)		393.84													Poison	C14H17ClNO4PS2		4.0	0.0	7.0	2.0	2.0
2596	CHLORFENVINFOS																																								Corrosive	C2H5NS2.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	6.0	2.0	2.0
2597	CHLORINATED TRISODIUM PHOSPHATE																										(NTP, 1992)		853.99													Poison	C47H51NO14	Cellulose-Based Absorbents|Dirt/Earth	6.0	0.0	7.0	2.0	2.0
2598	CHLORINE TRIFLUORIDE																										(EPA, 1998)		1111.5													Poison	C54H90N6O18		7.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2599	CHLOROACETONE, STABILIZED	ACETONYL CHLORIDE|ALPHA-CHLOROACETONE|CHLORO-2-PROPANONE|1-CHLORO-2-PROPANONE|CHLOROACETONE|CHLOROACETONE, STABILIZED|1-CHLOROACETONE|CHLOROMETHYL METHYL KETONE|CHLOROPROPANONE|METHYL CHLOROMETHYL KETONE|MONOCHLOROACETONE|MONOCHLOROACETONE, [STABILIZED]|2-PROPANONE, CHLORO-	78-95-5	A yellow-colored liquid with an irritating pungent odor. Light sensitive, but stabilized with the addition of small amounts of water and/or calcium carbonate. Slightly soluble in water and denser than water. Vapors much heavier than air. Irritates skin and eyes. Very toxic by ingestion or inhalation. Used to make other chemicals. A lachrymator.	2.5	5.0	2.5	4583.0	451.0	1560.0	823.0	496.0	1185.0	120.0	407.0	230.0	123.0	(BLOB)	Special Hazards of Combustion Products: Vapor forms explosive mixtures with air. Thermal decomposition produces carbon monoxide and carbon dioxide. Behavior in Fire: Vapors form explosive mixtures with air. Sealed containers may rupture explosively at elevated temperatures (polymerization). (USCG, 1999)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2600	CHLORODIBROMOMETHANE	CDBM|CHLORODIBROMOMETHANE|DIBROMOCHLOROMETHANE|DIBROMOMONOCHLOROMETHANE|MONOCHLORODIBROMOMETHANE|NCI-C55254	124-48-1	PHYSICAL DESCRIPTION: Clear colorless to yellow-orange liquid. Density 2.451 g / cm3. No flash point.	2.5	5.0	2.5	4583.0	451.0	1560.0	823.0	496.0	1185.0	120.0	407.0	230.0	123.0	(BLOB)	(Non-Specific -- Isocyanates and Solutions, n.o.s. (Flammable, Poisonous)) May be ignited by heat, sparks, or flames. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff from fire control or dilution water may cause pollution. (EPA, 1998)	(Non-Specific -- Isocyanates and Solutions, n.o.s. (Flammable, Poisonous)) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Isocyanates and solutions, n.o.s. (Flammable, Poisonous)) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2601	CHLOROMETHYL CHLOROFORMATE	CHLOROMETHOXYCARBONYL CHLORIDE|CHLOROMETHYL CARBONOCHLORIDATE|CHLOROMETHYL CHLOROFORMATE|CHLOROMETHYLCHLOROFORMATE|FORMIC ACID, CHLORO-, CHLOROMETHYL ESTER	22128-62-7	A colorless liquid with a penetrating, irritating odor. Denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4583.0	451.0	1560.0	823.0	496.0	1185.0	120.0	407.0	230.0	123.0	(BLOB)	Special Hazards of Combustion Products: None (USCG, 1999)	(BLOB)
2602	CHLOROMETHYL ETHYL ETHER	CHLOROMETHOXYETHANE|CHLOROMETHYL ETHYL ETHER|ETHER, CHLOROMETHYL ETHYL|ETHOXYCHLOROMETHANE|ETHOXYMETHYL CHLORIDE|ETHYL CHLOROMETHYL ETHER	3188-13-4	A colorless liquid. Slightly denser than water and insoluble in water. May be moderately toxic by ingestion, inhalation or skin absorption. Severely irritates skin, eyes and mucous membranes.	2.5	5.0	2.5	4583.0	451.0	1562.0	823.0	496.0	1185.0	120.0	408.0	230.0	123.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2603	CHLOROPENTANES, {COMBUSTIBLE LIQUID}	1-CHLOROPENTANE {AMYL CHLORIDE}|CHLOROPENTANES, [COMBUSTIBLE LIQUID]	543-59-9	Clear colorless to pale yellow liquids. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4585.0	451.0	1562.0	823.0	496.0	1186.0	120.0	408.0	230.0	123.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2604	CHLOROPRENE, INHIBITED	BETA-CHLOROPRENE|1,3-BUTADIENE, 2-CHLORO-|2-CHLORO-1,3-BUTADIENE|2-CHLOROBUTA-1,3-DIENE|CHLOROBUTADIENE|2-CHLOROBUTADIENE|CHLOROPRENE|CHLOROPRENE, INHIBITED|CHLOROPRENE, UNINHIBITED|CHLOROPRENE, [INHIBITED]|NEOPRENE	126-99-8	A clear colorless liquid. Flash point -4Â°F. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a container, the container may rupture violently. Less dense than water. Vapors heavier than air. Used to make neoprene rubber.	2.5	5.0	2.5	4585.0	451.0	1562.0	823.0	496.0	1186.0	120.0	408.0	230.0	123.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2599	CHLOROACETONE, STABILIZED	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water.	METHACRYLIC ACID reacts with strong oxidizing agents. Presents a storage hazard: violent exothermic polymerizations leading to explosion can occur spontaneously, particularly at low inhibitor or stabilizer concentrations [Anon., CISHC Chem. Safety Summ., 1979, 50, p. 34; Bond, J., Loss Prev. Bull., 1991, 101, p. 1].	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4		(NTP, 1992)		170								(USCG, 1999)		2.4		%	(USCG, 1999)		752		(NTP, 1992)		61	
2600	CHLORODIBROMOMETHANE	(Non-Specific -- Isocyanates and Solutions, n.o.s. (Flammable, Poisonous)) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Shut off ignition sources; no flares, smoking or flames in hazard area. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as METHACRYLOYLOXYETHYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.	Polymerizable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2601	CHLOROMETHYL CHLOROFORMATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Self-contained breathing apparatus for high concentrations; protective clothing if exposed to liquid. (USCG, 1999)	Highly flammable.	METHANE is a reducing agent, it is involved in many explosions when combined with especially powerful oxidizers such as bromine pentafluoride, chlorine trifluoride, chlorine, iodine, heptafluoride, dioxygenyl tetrafluoroborate, dioxygen difluoride, trioxygen difluoride and liquid oxygen. Other violent reactions include, chlorine dioxide and nitrogen trifluoride. Liquid oxygen gives an explosive mixture when combined with liquid methane [NFPA 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NTP, 1992)		-306		(NTP, 1992)		5		%	(NTP, 1992)		15		%	(USCG, 1999)		1004		(NTP, 1992)		-296.5	
2602	CHLOROMETHYL ETHYL ETHER	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water.	METHANE is a reducing agent, it is involved in many explosions when combined with especially powerful oxidizers such as bromine pentafluoride, chlorine trifluoride, chlorine, iodine, heptafluoride, dioxygenyl tetrafluoroborate, dioxygen difluoride, trioxygen difluoride and liquid oxygen. Other violent reactions include, chlorine dioxide and nitrogen trifluoride. Liquid oxygen gives an explosive mixture when combined with liquid methane [NFPA 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4																								
2603	CHLOROPENTANES, [COMBUSTIBLE LIQUID]	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	May produce corrosive and toxic fumes of hydrogen chloride gas in contact with moist air or water. Experimental work at Argonne National Laboratory has determined that there is essentially no HCl gas formation; the substance is quite unreactive in water. This does not prevent HCl formation by a catalytic mechanism, but under normal conditions methanesulfonyl chloride is quite unreactive (Argonne Report ANL/DIS-00-1, October 2000).	METHANESULFONYL CHLORIDE reacts vigorously with water, steam, alkali, methylformamide. Emits toxic fumes of chloride and oxides of sulfur when heated to decomposition. A dangerous storage hazard. Reacts explosively with dimethyl sulfoxide [Buckley, A., J. Chem. Educ., 1965, 42, p. 674]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3246 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2604	CHLOROPRENE, INHIBITED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	METHDILAZINE is sensitive to light. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		189 to 190

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2599	CHLOROACETONE, STABILIZED	(NTP, 1992)	; 1 mm Hg at 77Â° F	0.65		68		mm Hg	(NTP, 1992)		2.97				(USCG, 1999)		1.015		68		(NTP, 1992)		325		760		(NTP, 1992)		86.09						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL	MAD	Corrosive	C4H6O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2600	CHLORODIBROMOMETHANE																				(EPA, 1998)		155.17																	Poison	C7H9NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2601	CHLOROMETHYL CHLOROFORMATE	(NTP, 1992)	; 760 mm Hg at -258.7Â° F	258574		100		mm Hg	(NTP, 1992)		0.55				(USCG, 1999)		0.422		-256		(NTP, 1992)		-258.7		760		(NTP, 1992)		16.04						(NTP, 1992)	at 63Â° F	3.5		mL/100 mL	MTH	Flammable Gas	CH4		7.0	0.0	10.0	2.0	2.0
2602	CHLOROMETHYL ETHYL ETHER																																							Flammable Gas	CH4		6.0	0.0	8.0	2.0	2.0
2603	CHLOROPENTANES, [COMBUSTIBLE LIQUID]																																							Poison Inhalation Hazard|Corrosive	CH3ClO2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2604	CHLOROPRENE, INHIBITED																				(NTP, 1992)		296.46																	Poison	C18H20N2S	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2605	CHLOROPROPAMIDE	ADIABEN|ASUCROL|BENZENESULFONAMIDE, 4-CHLORO-N-((PROPYLAMINO)CARBONYL)-|CATANIL|4-CHLORO-4-((PROPYLAMINO)CARBONYL)BENZENESULFONAMIDE|4-CHLORO-N-((PROPYLAMINO)CARBONYL)BENZENESULFONAMIDE|CHLORODIABINA|CHLORONASE|CHLOROPROPAMIDE|CHLORPROPAMID|CHLORPROPAMIDE|DIABARIL|DIABECHLOR|DIABENAL|DIABENESE|DIABENEZA|DIABET-PAGES|DIABETORAL|DIABINESE|GLISEMA|MELDIA|MELITASE|MILLINESE|N-(4-CHLOROPHENYLSULFONYL)-N'-PROPYLUREA|N-(P-CHLOROBENZENESULFONYL)-N'-PROPYLUREA|N-PROPYL-N'-(P-CHLOROBENZENESULFONYL)UREA|N-PROPYL-N'-P-CHLOROPHENYLSULFONYLCARBAMIDE|NCI-C01752|ORADIAN|P 607|1-(P-CHLOROBENZENESULFONYL)-3-PROPYLUREA|1-PROPYL-3-(P-CHLOROBENZENESULFONYL)UREA|1-PROPYL-3-P-CHLOROPHENYLSULFONYLCARBAMIDE	94-20-2	PHYSICAL DESCRIPTION: White crystalline powder with a slight odor. (NTP, 1992)	1.0	2.5	5.0	4587.0	451.0	1564.0	823.0	496.0	1187.0	120.0	409.0	230.0	123.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2606	CHLOROTRIFLUOROMETHANE	ARCTON 3|CFC 13|CFC-13|CHLOROTRIFLUOROMETHANE|F 13|F-13|FC 13|FKW 13|FREON 13|FREON R 13|FRIGEN 13|GENETRON 13|KHLADON 13|MONOCHLOROTRIFLUOROMETHANE|R 13|R 13 (REFRIGERANT)|REFRIGERANT 13|REFRIGERANT GAS R-13|REFRIGERANT R 13|TRIFLUOROCHLOROMETHANE|TRIFLUOROMETHYL CHLORIDE|TRIFLUOROMONOCHLOROCARBON	75-72-9	Chlorotrifluoromethane is a colorless odorless gas. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	4587.0	451.0	1564.0	823.0	496.0	1187.0	120.0	409.0	230.0	123.0	(BLOB)	Container may explode in heat of fire. When heated to decomposition, it emits acrid smoke and fumes of vanadium oxides. Material is not flammable but it may increase the intensity of the fire when in contact with combustible materials. Avoid chlorine trifluoride; lithium; peroxyformic acid; and calcium, sulfur, water complexes. Hazardous polymerization may not occur. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
2607	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE|REFRIGERANT GAS R-13 AND REFRIGERANT GAS R-23 AZEOTROPIC MIXTURE WITH 60% REFRIGERANT GAS R-13|REFRIGERANT GAS R-23 AND REFRIGERANT GAS R-13 AZEOTROPIC MIXTURE WITH 60% REFRIGERANT GAS R-13|REFRIGERANT GAS R-503 (AZEOTROPIC MIXTURE OF REFRIGERANT GAS R-13 AND REFRIGERANT GAS R-23 WITH APPROXIMATELY 60% REFRIGERANT GAS R-13)|TRIFLUOROMETHANE AND CHLOROTRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE|TRIFLUOROMETHANE-CHLOROTRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE	75-72-9	Chlorotrifluoromethane and trifluoroethane mixture is a colorless, odorless gas. It is shipped as a liquid under its own vapor pressure. Contact with liquid may cause frostbite to unprotected skin. It can asphyxiate by displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	4589.0	451.0	1564.0	823.0	496.0	1188.0	120.0	409.0	230.0	123.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2608	CHLORPYRIFOS METHYL	CHLORPYRIFOS METHYL|O,O-DIMETHYL-O-(3,5,6-TRICHLORO-2-PYRIDYL)PHOSPHOROTHIOATE	5598-13-0	Colorless crystals. Corrosive to copper, brass, iron, and tin plate. Used as an insecticide.	1.0	2.5	5.0	4591.0	451.0	1564.0	823.0	496.0	1189.0	120.0	409.0	230.0	123.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2609	CHOLESTYRAMINE	CHOLESTYRAMINE|CHOLESTYRAMINE CHLORIDE|CHOLESTYRAMINE RESIN|COLESTYRAMIN|COLESTYRAMINE|CUEMID|DOWEX 1-X2-CL|MK-135|QUANTALAN|QUESTRAN	11041-12-6	PHYSICAL DESCRIPTION: White to buff-colored fine powder. Odorless or a slight amine odor. Insoluble in water. A synthetic strongly basic anion exchange resin in which quaternary ammonium groups are attached to a styrene/divinylbenzene copolymer chain.	1.0	2.5	5.0	4591.0	451.0	1564.0	823.0	496.0	1189.0	120.0	409.0	230.0	123.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2605	CHLOROPROPAMIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Organosulfides, such as DIAMYL SULFIDE, are incompatible with acids, diazo and azo compounds, haliocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		185																				
2606	CHLOROTRIFLUOROMETHANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	VANADIUM PENTOXIDE is acidic in many reactions. Hence, soluble in bases. [Kirk-Othmer]. Can react with ClF3, Li, peroxyformic acid and (Ca+S+H2O). Also reacts with strong acids. (NTP, 1992)	Known Catalytic Activity	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0				(EPA, 1998)	Not flammable.				(EPA, 1998)	Not flammable.						(EPA, 1998)		1274	
2607	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Forms acid mists in moist air. Reacts with water to form corrosive fumes of HCl. Handling Chemicals Safely 1980. p. 952).	VANADIUM TETRACHLORIDE decomposes by the action of light with the formation of Cl2 gas. Reacts as an acid to neutralize bases. These neutralizations generate heat. Usually does not react as either oxidizing agents or reducing agents but such behavior is not impossible. May catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																						
2608	CHLORPYRIFOS METHYL	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 4-METHYLDIPHENYLMETHANE-3,4-DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
2609	CHOLESTYRAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as 4-N-HEXYL-4'-CYANOBIPHENYL, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.						0		(NTP, 1992)		greater than 220																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2605	CHLOROPROPAMIDE																																							Combustible Liquid	C10H22S		6.0	0.0	8.0	2.0	2.0
2606	CHLOROTRIFLUOROMETHANE	(EPA, 1998)	Approximately 0 at 68F												(EPA, 1998)		3.357		64.4		(EPA, 1998)	decomposition	3182		760		(EPA, 1998)		181.9		(NIOSH, 2003)	(as V)	35	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	VNO	Poison	V2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0
2607	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 60% CHLOROTRIFLUOROMETHANE																																							Corrosive	Cl4V		5.0	0.0	7.0	2.0	2.0
2608	CHLORPYRIFOS METHYL																																							Poison	C16H12N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2609	CHOLESTYRAMINE																																								C19H21N		4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2610	CHROMIUM CARBONYL	CHROMIUM CARBONYL|CHROMIUM CARBONYL (CR(CO)6)|CHROMIUM CARBONYL (OC-6-11)|CHROMIUM HEXACARBONYL|HEXACARBONYL CHROMIUM|HEXACARBONYLCHROMIUM	13007-92-6	PHYSICAL DESCRIPTION: White crystalline or granular solid. Sublimes at room temperature. Burns with a luminous flame. (NTP, 1992)	1.0	2.5	5.0	4593.0	451.0	1564.0	823.0	496.0	1190.0	120.0	409.0	230.0	123.0	Excerpt from GUIDE 159 [Substances (Irritating)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects should disappear after individual has been exposed to fresh air for approximately 10 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2611	CHRYSENE	BENZO (A) PHENANTHRENE|BENZO(A)PHENANTHRENE|1,2-BENZOPHENANTHRENE|BENZO[A]PHENANTHRENE|1,2-BENZPHENANTHRENE|CHRYSENE|1,2,5,6-DIBENZONAPHTHALENE	218-01-9	A crystalline solid. Denser than water and insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit spread to the environment. Toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	4593.0	451.0	1564.0	823.0	496.0	1190.0	120.0	409.0	230.0	123.0			
2612	CITRAL DIETHYL ACETAL	CITRAL DIETHYL ACETAL|1,1-DIETHOXY-3,7-DIMETHYL-2,6-OCTADIENE|3,7-DIMETHYL-2,6-OCTADIENAL DIETHYL ACETAL|2,6-OCTADIENAL, 3,7-DIMETHYL-, DIETHYL ACETAL	7492-66-2	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4595.0	451.0	1566.0	823.0	496.0	1191.0	120.0	410.0	230.0	123.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2613	COBALT CARBONYL	COBALT CARBONYL|COBALT CARBONYL (CO2(CO)8)|COBALT OCTACARBONYL|COBALT OCTACARBONYL (CO2(CO)8)|COBALT TETRACARBONYL|COBALT TETRACARBONYL DIMER|DI-MU-CARBONYLHEXACARBONYLDICOBALT|DICOBALT CARBONYL|DICOBALT CARBONYL (CO2(CO)8)|DICOBALT OCTACARBONYL|OCTACARBONYLDICOBALT	10210-68-1	Orange or dark brown crystalline solid. Used as a catalyst, used in antiknock gasoline and in making high-purity cobalt compounds. (EPA, 1998)	1.0	2.5	5.0	4595.0	451.0	1566.0	823.0	496.0	1191.0	120.0	410.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2614	COBALTOCENE	BIS(CYCLOPENTADIENYL)COBALT|BIS(CYCLOPENTADIENYL)COBALT(II)|BIS(ETA-CYCLOPENTADIENYL)COBALT|BIS(ETA5-CYCLOPENTADIENYL)COBALT|COBALT, BIS(ETA5-2,4-CYCLOPENTADIEN-1-YL)-|COBALT, DI-PI-CYCLOPENTADIENYL-|COBALT, DICYCLOPENTADIENYL-|COBALTOCENE|DI-PI-CYCLOPENTADIENYL COBALT|DICYCLOPENTADIENYLCOBALT	1277-43-6	PHYSICAL DESCRIPTION: Black-purple crystals or black solid. Sublimes at 104Â°F and 0.1 mm Hg. (NTP, 1992)	1.0	2.5	5.0	4597.0	451.0	1566.0	823.0	496.0	1192.0	120.0	410.0	230.0	123.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide (USCG, 1999)
2615	COBALTOUS SULFAMATE	COBALT AMINO SULFONATE|COBALT SULFAMATE|COBALTOUS SULFAMATE|COBALTOUS SULPHAMATE|SULFAMIC ACID, COBALT SALT	14017-41-5	Cobaltous sulfamate is a reddish colored solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit the spread to the environment. It is used as a pigment and electroplating metals.	1.0	2.5	5.0	4597.0	451.0	1566.0	823.0	496.0	1192.0	120.0	410.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2616	COPPER FORMATE	COPPER FORMATE|CUPRIC DIFORMATE|TUBERCUPROSE	544-19-4	Blue crystalline powder. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4597.0	451.0	1566.0	823.0	496.0	1192.0	120.0	410.0	230.0	123.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2610	CHROMIUM CARBONYL	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	As an amine, it probably behaves less as a base than other aliphatic amines as due to itÃ•s cyclic structure. However it will react as a weak base.		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2611	CHRYSENE			Dust/air mixtures may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIBENZO(A,E)FLUORANTHENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.							0																								
2612	CITRAL DIETHYL ACETAL	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	METHYL ACETATE presents a fire or explosion hazard when exposed to strong oxidizing agents. Emits irritating fumes and acrid smoke when heated to decomposition, [Lewis, 3rd ed., 1993, p. 826]. Its reactivity is consistent with other compounds of the ester group.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		14		(NTP, 1992)		3.1		%	(NTP, 1992)		16		%	(USCG, 1999)		935		(NTP, 1992)		-144	
2613	COBALT CARBONYL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	A ketone and isocyanate. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials.						0																								
2614	COBALTOCENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, keep it away from oxidizing materials, and store it at refrigerate temperatures. (NTP, 1992)	Goggles or face shield; rubber gloves (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.	DIBENZYL ETHER can act as a base to form salts with strong acids and addition complexes with Lewis acids. May react violently with strong oxidizing agents. Burns readily but relatively inert in other reactions, which typically involve the breaking of the carbon-oxygen bond.	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(NTP, 1992)		275																(NTP, 1992)		38.3	
2615	COBALTOUS SULFAMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Solutions in water are stable for less than 2 hours.	5,6-DIHYDRO-5-AZACYTIDINE is an amine and an alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								
2616	COPPER FORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2610	CHROMIUM CARBONYL																																								Poison	(C6H4)2(O)(N)CH	Mineral-Based & Clay-Based Absorbents	4.0	0.0	8.0	2.0	2.0
2611	CHRYSENE																																									C24H18		7.0	0.0	10.0	2.0	2.0
2612	CITRAL DIETHYL ACETAL	(NTP, 1992)	; 235 mm Hg at 77Â° F	170		68		mm Hg	(NTP, 1992)		2.8				(USCG, 1999)		0.927		68		(NTP, 1992)		134.4		760		(NTP, 1992)		74.08		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	3100	ppm	(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	MTT		Flammable Liquid	C3H6O2		5.0	0.0	7.0	2.0	2.0
2613	COBALT CARBONYL																											(NTP, 1992)		297.27													C12H15N3O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2614	COBALTOCENE	(NTP, 1992)	; 4 mm Hg at 122Â° F; 31 mm Hg at 203Â° F	1		77		mm Hg	(NTP, 1992)		6.84				(USCG, 1999)		1.0428		68		(NTP, 1992)	(decomposes)	568		760		(NTP, 1992)		198.27						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	DBN		C14H14O		4.0	0.0	8.0	2.0	2.0
2615	COBALTOUS SULFAMATE																											(NTP, 1992)		246.23						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C8H14N4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2616	COPPER FORMATE																											(NTP, 1992)		308						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C6H12Br2O4	Cellulose-Based Absorbents	6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2617	COUMATETRALYL	3-(ALPHA-TETRAL)-4-OXYCOUMARIN|3-(ALPHA-TETRALINYL)-4-HYDROXYCOUMARIN|3-(ALPHA-TETRALYL)-4-HYDROXYCOUMARIN|3-(ALPHA-TETRALYL)-4-HYDROXYCOUMARIN|BAYER 25 634|COUMARIN, 4-HYDROXY-3-(1,2,3,4-TETRAHYDRO-1-NAPHTHYL)-|COUMARIN, 4-HYDROXY-3-(1,2,3,4-TETRAHYDRO-1-NAPHTHYL)-|COUMATETRALYL|3-(D-TETRALYL)-4-HYDROXYCOUMARIN|ENDOX|ENDROCID|ENDROCIDE|2H 1-BENZOPYRAN-2-ONE, 4-HYDROXY-3-(1,2,3,4-TETRAHYDRO-1-NAPHTHALENYL)-|4-HYDROXY-3-(1,2,3,4-TETRAHYDRO-1-NAPHTHALENYL)-2H-1-BENZOPYRAN-2-ONE|4-HYDROXY-3-(1,2,3,4-TETRAHYDRO-1-	5836-29-3	Yellowish-white crystalline powder; colorless when pure; odorless. This material is used as a rodenticide, functioning as an anticoagulant that does not induce bait-shyness. (EPA, 1998)	1.0	2.5	5.0	4599.0	451.0	1566.0	823.0	496.0	1193.0	120.0	410.0	230.0	123.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2618	CREOSOTE, [COAL TAR]	AWPA #1|BRICK OIL|COAL CREOSOTE|COAL TAR CREOSOTE|CREOSOTE|CREOSOTE (WOOD)|CREOSOTE OIL|CREOSOTE P1|CREOSOTE, COAL TAR|CREOSOTE, FROM COAL TAR|CREOSOTE, [COAL TAR]|CREOSOTUM|CRESYLIC CREOSOTE|DEAD OIL|HEAVY OIL|LIQUID PITCH OIL|NAPHTHALENE OIL|PRESERV-O-SOTE|SAKRESOTE 100|TAR OIL|WASH OIL	8001-58-9	This material contains creosote, an EPA designated hazardous substance. It often contains substantial amounts of naphthalene and anthracene. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams.	2.5	5.0	2.5	4601.0	451.0	1566.0	823.0	496.0	1194.0	120.0	410.0	230.0	123.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2619	CRESYL GLYCIDYL ETHER	ARALDITE DY 023|CRESOL GLYCIDYL ETHER|CRESOL, EPOXYPROPYL ETHER|CRESYL GLYCIDYL ETHER|DY 023|EPIOL C|EPODIL 472|GLYCIDYL METHYLPHENYL ETHER|GLYCIDYL TOLYL ETHER|HELEX 624-METHYLPHENOL, GLYCIDYL ETHER|P-CRESYL GLYCIDYL ETHER|P-HYDROXYTOLUENE, GLYCIDYL ETHER|PROPANE, 1,2-EPOXY-3-(TOLYLOXY)-|TOLYL EPOXYPROPYL ETHER|TOLYL GLYCIDYL ETHER	26447-14-3	Colorless liquid. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4601.0	451.0	1566.0	823.0	496.0	1194.0	120.0	410.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2620	CROTONALDEHYDE, INHIBITED	BETA-METHYL ACROLEIN|BETA-METHYLACROLEIN|2-BUTENAL|2-BUTENALDEHYDE|CROTENALDEHYDE|CROTONAL|CROTONALDEHYDE|CROTONALDEHYDE, INHIBITED|CROTONALDEHYDE, STABILIZED|CROTONICALDEHYDE|CROTYLALDEHYDE|1,2-ETHANEDIOL, DIPROPANOATE|ETHYLENE DIPROPIONATE|1-FORMYLPROPENE|METHYL ACROLEIN|NCI-C56279|PROPYLENE ALDEHYDE|TOPANEL|TRANS-2-BUTENAL	4170-30-3	A clear colorless to straw colored liquid with a penetrating pungent odor. Flash point 55Â°F. Density 7.1 lb / gal. Very toxic by inhalation. May polymerize with the release of heat under exposure to heat or contamination. If polymerization takes place inside a container, the container may rupture violently. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	4601.0	451.0	1568.0	823.0	496.0	1194.0	120.0	411.0	230.0	123.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2621	CUPRIC TARTRATE	BUTANEDIOIC ACID, 2,3-DIHYDROXY-[R-(R*,R*)]-, COPPER(2+) SALT (1:1)|COPPER TARTRATE|COPPER(II) TARTRATE|CUPRIC TARTRATE|TARTARIC ACID, COPPER SALT|TARTARIC ACID, COPPER(2+) SALT (1:1), (+)-	815-82-7	A green to blue odorless powder. Insoluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is noncombustible. Used for electroplating metals.	1.0	2.5	5.0	4601.0	451.0	1568.0	823.0	496.0	1194.0	120.0	411.0	230.0	123.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2617	COUMATETRALYL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	DIBUTYLAMINOETHANOL is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		210																				
2618	CREOSOTE, [COAL TAR]	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	METHYL BUTYL KETONE is incompatible with oxidizing agents. It may also react with strong bases and reducing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		73		(NTP, 1992)		1.2		%	(NTP, 1992)		8		%	(USCG, 1999)		795		(NTP, 1992)		-71	
2619	CRESYL GLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound should be protected from moisture and stored at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	METHYL CELLULOSE is hygroscopic. Swells in water to a viscous, colloidal solid. Slightly water soluble.	METHYL CELLULOSE is incompatible with strong oxidizing agents. It is also incompatible with aminacrine HCl, chlorocresol, mercuric chloride, phenol resorcinol, tannic acid and silver nitrate. (NTP, 1992)					0																					(NTP, 1992)	Decomposes upon heating from 482Â° F to 572Â° F		
2620	CROTONALDEHYDE, INHIBITED	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Powdered aluminum and carbon tetrachloride (also methyl chloride and chloroform or mixtures of these chemicals) exploded when heated (to 153Â° C) and by impact [Chem. Eng. News 32:258. 1954; UL Bull. Research 34. 1945; ASESB Pot. Incid. 39. 1968]. Methyl chloride in the presence of small amounts of aluminum chloride will attack aluminum powder, forming spontaneously flammable (in air) trimethylaluminum.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for methyl chloride, CAS number 74-87-3.	2	4	0	4																							
2621	CUPRIC TARTRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is probably light and air sensitive.	[[Details on specifics of reactivity not yet available.]]					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2617	COUMATETRALYL	(NIOSH, 2003)		0.1				mm Hg	(NTP, 1992)		6				(NTP, 1992)		0.85				(NTP, 1992)			435 to 450	760		(NTP, 1992)		173.34						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C10H23NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2618	CREOSOTE, [COAL TAR]	(NTP, 1992)	; 3.8 mm Hg at 77Â° F	2		68		mm Hg	(NTP, 1992)		3.45				(USCG, 1999)		0.812		68		(NTP, 1992)		261		760		(NTP, 1992)		100.16		(NIOSH, 2003)		1600	ppm	(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	MBK	Flammable Liquid	C6H12O		5.0	0.0	6.0	2.0	2.0
2619	CRESYL GLYCIDYL ETHER																				(NTP, 1992)									40,000 to 180,000				(NTP, 1992)	at 63Â° F		5 to 10	mg/mL			(C7H14O6)n	Cellulose-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2620	CROTONALDEHYDE, INHIBITED																																								Flammable Gas	CH3CH[CH2Cl2		8.0	0.0	10.0	2.0	2.0
2621	CUPRIC TARTRATE																				(NTP, 1992)		245.24																			C9H12FN3O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2622	CYCLOHEXANONE OXIME	ANTIOXIDANT D|CYCLOHEXANONE OXIME|(HYDROXYIMINO)CYCLOHEXANE	100-64-1	PHYSICAL DESCRIPTION: Prisms, liquid or light tan crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4601.0	451.0	1568.0	823.0	496.0	1194.0	120.0	411.0	230.0	123.0	(BLOB)	Material will react with water to produce hydrochloric acid. It may ignite other combustible materials (e.g., wood, oil, etc.). Flammable, poisonous gases may accumulate in tanks and hopper cars. Runoff to sewer may create fire or explosion hazard. Reacts strongly with water to release hydrochloric acid and heat. Avoid water, moist air. Stable in concentrated aqueous solutions. Avoid contact with moisture; the chemical absorbs moisture from air and evolves dense white fumes. (EPA, 1998)	Not flammable. For small fires, use dry chemical or carbon dioxide. For large fires, flood fire area with water from a distance. Do not get solid streams of water on spilled material. Move container from fire area if this can be done without risk. Cool containers exposed to flames with water until well after fire is out. (EPA, 1998)
2623	CYCLOHEXYL ACETATE	ACETIC ACID, CYCLOHEXYL ESTER|CYCLOHEXANOL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)|CYCLOHEXANOL ACETATE (FLAMMABLE LIQUID, N.O.S.)|CYCLOHEXANOL, ACETATE|CYCLOHEXANYL ACETATE|CYCLOHEXYL ACETATE	622-45-7	A colorless liquid. Flash point 136Â°F. Slightly less dense than water and insoluble in water. Vapors are much heavier than air and may be narcotic in high concentrations. May emit acrid smoke and irritating fumes when heated to high temperatures. Used as a solvent and in making rubber.	2.5	5.0	2.5	4601.0	451.0	1568.0	823.0	496.0	1194.0	120.0	411.0	230.0	123.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2624	CYCLOOCTATETRAENE	[8]ANNULENE|CYCLOOCTATETRAENE	629-20-9	A colorless liquid. May irritate skin and eyes. Less dense than water and insoluble in water. Vapors heavier than air. Used to make rubber.	2.5	5.0	2.5	4603.0	451.0	1570.0	823.0	496.0	1195.0	120.0	412.0	230.0	123.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2625	CYCLOPENTADIENE	CYCLOPENTADIENE|1,3-CYCLOPENTADIENE|PENTOLE|PYROPENTYLENE|R-PENTINE	542-92-7	Cyclopentadiene is a colorless liquid with an irritating, terpene-like odor. Bp: 42.5Â°C; Flash point: 77Â°F. Density: 0.805 g cm-3.	2.5	5.0	2.5	4605.0	451.0	1570.0	823.0	496.0	1196.0	120.0	412.0	230.0	123.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
2626	CYHEXATIN	ACAREX|ACARSTIN|ACARSTIN L|CYHEXATIN|DOWCO 213|HYDROXYTRICYCLOHEXYLSTANNANE|M 3180|NSC 179742|PLICTRAN|PLICTRAN (DISCONTINUED)|PLIKTRAN|PLYCTRAN|REDRAN 25PB|TCHH|TCTH|TIN, TRICYCLOHEXYLHYDROXY-|TRICYCLOHEXYLHYDROXYSTANNANE|TRICYCLOHEXYLHYDROXYTIN|TRICYCLOHEXYLSTANNANOL|TRICYCLOHEXYLSTANNIUM HYDROXIDE|TRICYCLOHEXYLSTANNYL HYDROXIDE|TRICYCLOHEXYLTIN HYDROXIDE	13121-70-5	Technical cyhexatin is a nearly odorless white crystalline powder that has no true melting point but degrades to bis(tricyclohexyl)tin oxide at 121 to 131Â°C which decomposes at 228Â°C; a melting point of 195-198Â°C is also reported. Very insoluble in water (less than 1 mg/L at 25Â°C), but wettable by water. Soluble in some organic solvents (acetone 1.3 g/L; xylenes 3.6 g/L; carbon tetrachloride 28 g/L; dichloromethane 34 g/L). Used as an acaricide (an agent to kill plant-feeding mites) in almonds, walnuts, hops and some fruits.	1.0	2.5	5.0	4605.0	451.0	1572.0	823.0	496.0	1196.0	120.0	413.0	230.0	123.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2622	CYCLOHEXANONE OXIME	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Reacts exothermically with moisture in the air to evolve dense white fumes containing hydrochloric acid [Merck 13th ed. 1996]. Titanium tetrachloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.51 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	TITANIUM TETRACHLORIDE acts as an acid in aqueous solution. During the reduction of TITANIUM TETRACHLORIDE to titanium metal with potassium, an explosion occurred. The system had been heated to 90Â°C [Walter and Mandell 1967]. Addition directly to tetrahydrofuran caused a violent exothermic reaction [Inorg. Syn., 1982, 21, 135]. Ethylene can polymerize at low pressure if catalyzed by titanium halides. (Sundaram, K. M, M. M. Shreehan, E. F. Olszewski. "Ethylene." Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1838 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																(EPA, 1998)		-11.4	
2623	CYCLOHEXYL ACETATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Soluble in water.	METHYL ISOBUTYL CARBINOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. This compound is incompatible with strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		106		(USCG, 1999)		1		%	(USCG, 1999)		5.5		%			(USCG, 1999)		less than -130
2624	CYCLOOCTATETRAENE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	METHYL ISOVALERATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
2625	CYCLOPENTADIENE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. The solution reacts with water or moisture in the air to form flammable methane gas. The heat from this reaction may be sufficient to ignite the produced methane. Unstable peroxides may form with exposure of the ether to air. This is a slow process.	Organometallics, such as METHYL MAGNESIUM BROMIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Peroxidizable Compound	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
2626	CYHEXATIN	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DICHLORO-1,1,2-TRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2622	CYCLOHEXANONE OXIME	(EPA, 1998)		10		70.34		mm Hg							(EPA, 1998)		1.726				(EPA, 1998)		277.5		760		(EPA, 1998)		189.73													Poison Inhalation Hazard|Corrosive	TiCl4		5.0	0.0	8.0	2.0	2.0
2623	CYCLOHEXYL ACETATE	(NIOSH, 2003)		3				mm Hg							(USCG, 1999)		0.807		68		(USCG, 1999)		269.2		760		(USCG, 1999)		102.18		(NIOSH, 2003)		400	ppm	(NIOSH, 2003)		2		%	MIC	Flammable Liquid	C6H14O	Cellulose-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2624	CYCLOOCTATETRAENE																																								Flammable Liquid	C6H12O2		4.0	0.0	7.0	2.0	2.0
2625	CYCLOPENTADIENE																																								Dangerous When Wet	Flammable Liquid	CH3BrMg (ether)		5.0	0.0	6.0	2.0	2.0
2626	CYHEXATIN																																								Non-Flammable Gas	C2HCl2F3		5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2627	CYTARABINE HYDROCHLORIDE	AC 1075|4-AMINO-1-BETA-D-ARABINOFURANOSYL-2(1H)-PYRIMIDINONE MONOHYDROCHLORIDE|ARA-C|ARABINOFURANOSYLCYTOSINE HYDROCHLORIDE|ARABINOSYLCYTOSINE HYDROCHLORIDE|ARABITIN HYDROCHLORIDE|ARACYTIDINE HYDROCHLORIDE|ARACYTIN HYDROCHLORIDE|1-BETA-D-ARABINOFURANOSYLCYTOSINE HYDROCHLORIDE|1-BETA-D-ARABINOFURANOSYLCYTOSINE MONOHYDROCHLORIDE|CA|CYLOCIDE|CYTARABINE HYDROCHLORIDE|CYTOSAR HYDROCHLORIDE|CYTOSINE ARABINOSIDE HYDROCHLORIDE|CYTOSINE, 1-BETA-D-ARABINOFURANOSYL-	69-74-9	PHYSICAL DESCRIPTION: Crystals (from aqueous ethanol) or fluffy white powder. (NTP, 1992)	1.0	2.5	5.0	4605.0	451.0	1572.0	823.0	496.0	1196.0	120.0	413.0	230.0	123.0	(BLOB)	This compound is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2628	CYTOCHALASIN D	3-BENZYL-3,3-ALPHA,4,5,6,6-ALPHA,9,10,12,15-DECAHYDRO-6,12,15-TRIHYDROXY-4,10,12-TRIMETHYL-5-METHYLENE-1H-CYCLOUNDEC(D)ISOINDOLE-1,11(2H)DIONE 15-ACETATE|[11]CYTOCHALASA-6(12),13,19-TRIENE-1,17-DIONE, 21-(ACETYLOXY)-7,18-DIHYDROXY-16,18-DIMETHYL-10-PHENYL-, (7S,13E,16S,18R,19E,21R)-|CYTOCHALASIN D|1H-CYCLOUNDEC[D]ISOINDOLE-1,11(2H)-DIONE, 15-(ACETYLOXY)-3,3A,4,5,6,6A,9,10,12,15-DECAHYDRO-6,12-DIHYDROXY-4,10,12-TRIMETHYL-5-METHYLENE-3-(PHENYLMETHYL)-, [3S-(3R*,3AS*,4R*,6R*,6AS*,7E,10R*,12S*,13E,15S*,15AS*)]-|ZYGOSPORIN A	22144-77-0	PHYSICAL DESCRIPTION: Needles or fluffy white powder. (NTP, 1992)	1.0	2.5	5.0	4605.0	453.0	1574.0	823.0	498.0	1196.0	121.0	414.0	230.0	124.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2629	DAUNOMYCIN	CERUBIDIN|DAUNOMYCIN|DAUNORUBICIN|LEUKAEMOMYCIN C|RUBIDOMYCIN	20830-81-3	Anthracycline antibiotic. An anticancer agent.	2.5	5.0	2.5	4605.0	453.0	1574.0	823.0	498.0	1196.0	121.0	414.0	230.0	124.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2630	D-CARVONE	(+)-CARVONE|CARVONE, (+)-|2-CYCLOHEXEN-1-ONE, 2-METHYL-5-(1-METHYLETHENYL)-, (S)-|D(+)-CARVONE|D-(+)-CARVONE|D-1-METHYL-4-ISOPROPENYL-6-CYCLOHEXEN-2-ONE|D-CARVOL|D-CARVONE|D-P-MENTHA-6,8,(9)-DIEN-2-ONE|P-MENTHA-6,8-DIEN-2-ONE, (S)-(+)-|(S)-(+)-CARVONE|(S)-(+)-P-MENTHA-6,8-DIEN-2-ONE|(S)-2-METHYL-5-(1-METHYLETHENYL)-2-CYCLOHEXEN-1-ONE|(S)-CARVONE|TALENT	2244-16-8	PHYSICAL DESCRIPTION: Pale yellow or colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4607.0	453.0	1574.0	823.0	498.0	1197.0	121.0	414.0	230.0	124.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2631	DDT	(BLOB)	50-29-3	Odorless colorless solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	4607.0	453.0	1574.0	823.0	498.0	1197.0	121.0	414.0	230.0	124.0	(BLOB)		
2632	DDT AND METABOLITES	DDT AND METABOLITES	50-29-3	A colorless crystalline solid or white to off-white powder. Odorless to slightly aromatic. Insoluble in water. Used as an insecticide.	1.0	2.5	5.0	4609.0	453.0	1576.0	823.0	498.0	1198.0	121.0	415.0	230.0	124.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2627	CYTARABINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and away from all organic compounds. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear an impervious full-body suit equipped with an air line respirator or a self-contained breathing apparatus. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that nitrile gloves may provide protection to contact with this compound. Nitrile over latex gloves is recommended. However, if this chemical makes contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable.	DICHLOROACETALDEHYDE polymerizes on standing or in the presence of acid. This compound reacts with acids, oxidizers. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		140																(NTP, 1992)		-58	
2628	CYTOCHALASIN D	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	5-NITRO-O-ANISIDINE is incompatible with strong oxidizing agents, acids, acid chlorides, acid anhydrides and chloroformates (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		244	
2629	DAUNOMYCIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An organosulfide, amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																				(NTP, 1992)		428	
2630	D-CARVONE	(BLOB)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Flammable. Insoluble in water.	METHYL ORTHOSILICATE is incompatible with the following: Oxidizers; hexafluorides of rhenium, molybdenum & tungsten (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2606 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NIOSH, 2003)		205																(NIOSH, 2003)		28	
2631	DDT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	[[Details on specifics of reactivity not yet available.]]						0																							
2632	DDT AND METABOLITES	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A urea, thiadiazole derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2627	CYTARABINE HYDROCHLORIDE	(NTP, 1992)		50		68		mm Hg	(NTP, 1992)		3.9				(NTP, 1992)		1.436		77		(NTP, 1992)		190		760		(NTP, 1992)		112.94													Flammable Liquid	C2H2Cl2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	6.0	2.0	2.0
2628	CYTOCHALASIN D														(NTP, 1992)		1.2068		313								(NTP, 1992)		168.15						(NTP, 1992)	at 67.1Â° F		less than 0.1	mg/mL		Poison	C7H8N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	8.0	2.0	2.0
2629	DAUNOMYCIN														(NTP, 1992)		1.38		77								(NTP, 1992)		408.51						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C17H14N4OS4	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2630	D-CARVONE	(NIOSH, 2003)		12		77		mm Hg							(NIOSH, 2003)		1.02				(NIOSH, 2003)		250		760		(NIOSH, 2003)		152.3						(NIOSH, 2003)	Soluble					Poison Inhalation Hazard|Flammable Liquid	C4H12O4Si		6.0	0.0	9.0	2.0	2.0
2631	DDT																										(NTP, 1992)		298.35						(NTP, 1992)	at 66Â° F		5 to 10	mg/mL			C11H14N4O4S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2632	DDT AND METABOLITES																																							Class 9	C9H16N4OS		5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2633	DECABORANE	BORON HYDRIDE (B10H14)|BORON HYDRIDE(B10H14)|DECABORANE|DECABORANE (14)|DECABORANE (B10H14)|DECABORANE(14)|DECABORON TETRADECAHYDRIDE|NIDO-DECABORANE(14)|TETRADECAHYDRODECABORANE	17702-41-9	White crystals or colorless crystalline needles with an intense, bitter, chocolate-like odor. Used in rocket propellants, as a catalyst in olefin polymerization, as a rubber vulcanizer, to coat metals with corrosion resistant boron, in manufacture of plastics, as an oxygen scavenger; in mothproofing, in dye-stripping, as a reducing and fluxing agent, as a stabilizer and rayon delustrant. (EPA, 1998)	1.0	2.5	5.0	4609.0	453.0	1576.0	823.0	498.0	1198.0	121.0	415.0	230.0	124.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2634	DI(N-OCTYL)TIN MALEATE	ADK STAB OT 9|DI(N-OCTYL)TIN MALEATE|DI-N-OCTYLTIN MALEATE|2,2-DIOCTYL-1,3,2-DIOXASTANNEPIN-4,7-DIONE|DIOCTYLSTANNYLENE MALEATE|DIOCTYLTIN MALEATE|ESTABEX U 18|LIV 1176|MELLITE 825|OM 3|ONR 79F|STANN OM|STANN OMF|THERMOLITE 813|TN 801|TVS 8105	16091-18-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4609.0	453.0	1576.0	823.0	498.0	1198.0	121.0	415.0	230.0	124.0	(BLOB)	The flash poinnt of this chemical has not been determined, but it probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2635	DIALLYL ETHER	ALLYL ETHER|3-(ALLYLOXY)-1-PROPENE|BIS(ALLYL) ETHER|DIALLYL ETHER|DIALLYLETHER|4-OXAHEPTA-1,6-DIENE|3,3'-OXYBIS-1-PROPENE	557-40-4	A liquid with an odor of radishes. Less dense than water. May be toxic by ingestion, skin absorption, and inhalation, and may irritate skin and eyes. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4611.0	453.0	1578.0	823.0	498.0	1199.0	121.0	416.0	230.0	124.0	INHALATION: Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 minutes; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. INGESTION: If victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain irritating and toxic gases. Behavior in Fire: May be ignited by heat, sparks or flames. Containers may explode in heat of fire. Vapor explosion hazard indoors, outdoors, or in sewers. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2636	DIAMMONIUM SALT OF ZINC EDTA	DIAMMONIUM SALT OF ZINC EDTA|EDTA ZINC SALT|EDTA-ZINC|EDTA-ZINC COMPLEX|ZINC ETHYLENEDIAMINETETRAACETATE	12519-36-7	No reaction with water. May float or sink in water. (USCG, 1999)	1.0	2.5	5.0	4613.0	453.0	1578.0	823.0	498.0	1200.0	121.0	416.0	230.0	124.0	Call a doctor. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. EYES: Flush with running water for 15 minutes. SKIN: Wash thoroughly with soap and water. INGESTION: Gastric lavage or emesis and catharsis. (USCG, 1999)	Special Hazards of Combustion Products: Emits fumes of phosgene. Behavior in Fire: Reacts vigorously. (USCG, 1999)	Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical. (USCG, 1999)
2637	DIBENZOFURAN	2,2'-BIPHENYLENE OXIDE|2,2'-BIPHENYLYLENE OXIDE|[1,1'-BIPHENYL]-2,2'-DIYL OXIDE|DIBENZOFURAN|DIBENZO[B,D]FURAN|DIPHENYLENE OXIDE	132-64-9	PHYSICAL DESCRIPTION: Colorless white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4615.0	453.0	1578.0	823.0	498.0	1201.0	121.0	416.0	230.0	124.0	(BLOB)	Special Hazards of Combustion Products: Dissociation products generated in a fire may be irritating or toxic. (USCG, 1999)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2638	DIBENZYL ETHER	BA|BA (PLASTICIZER)|BENZENE, 1,1'-[OXYBIS(METHYLENE)]BIS-|BENZYL ETHER|BENZYL OXIDE|DIBENZYL ETHER|1,1'-[OXYBIS(METHYLENE)] BIS BENZENE|PLASTIKATOR BA	103-50-4	Colorless liquid with a mild odor.	2.5	5.0	2.5	4615.0	453.0	1578.0	823.0	498.0	1201.0	121.0	416.0	230.0	124.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2633	DECABORANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	6-METHYLQUINOLINE is sensitive to prolonged exposure to light. May react vigorously with strong oxidizing agents and strong acids (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)			greater than 235																(NTP, 1992)		-8	
		SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and air, and store it under refrigerated temperatures. (NTP, 1992)																																	
2634	DI(N-OCTYL)TIN MALEATE		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to exposure to air and light. (NTP, 1992). Insoluble in water.	7,9-DIMETHYLBENZ(C)ACRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																					(NTP, 1992)		324	
2635	DIALLYL ETHER	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear goggles, self-contained breathing apparatus, rubber gloves, boots and overclothing. (USCG, 1999)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously [MCA Case History 616. 1960].	Ethers, such as METHYL TERT-BUTYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		-14																(USCG, 1999)		-164.2	
2636	DIAMMONIUM SALT OF ZINC EDTA	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves, self-contained breathing apparatus, coveralls or laboratory coat. (USCG, 1999)	Highly flammable.	Halogenated aliphatic compounds, such as 1,3-DICHLOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(est.)	70		(USCG, 1999)	(est.)	3.4		%	(USCG, 1999)	(est.)	14.5		%						(USCG, 1999)		-147.1	
2637	DIBENZOFURAN	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Somewhat water soluble. Subject to slow hydrolysis which is accelerated by light.	DICHLOROMETHANE reacts vigorously with active metals such as lithium, sodium and potassium, and with strong bases such as potassium tert-butoxide. It is incompatible with strong oxidizers, strong caustics and chemically active metals such as aluminum or magnesium powders. The liquid will attack some forms of plastic, rubber and coatings. This compound reacts with sodium-potassium alloy, (potassium hydrogen + N-methyl-N-nitrosurea), nitrogen tetraoxide and liquid oxygen. It also reacts with titanium. On contact with water it corrodes iron, some stainless steels, copper and nickel. It is incompatible with alkali metals. It is incompatible with amines, zinc and alloys of aluminum, magnesium and zinc. This compound is liable to explode when mixed with dinitrogen pentaoxide or nitric acid. Mixtures of this compound in air with methanol vapor are flammable. (NTP, 1992)		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1					(NTP, 1992)		12		%	(NTP, 1992)		19		%	(USCG, 1999)		1184		(NTP, 1992)		-142.1	
2638	DIBENZYL ETHER	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	METHYL VINYL SULFONE is incompatible with oxidizing agents (NTP, 1992). Can react exothermically with reducing agents to release hydrogen gas or hydrogen sulfide. In the presence of various catalysts (such as acids) or initiatiators, can undergo exothermic polymerization reactions.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 230																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2633	DECABORANE	(NTP, 1992)	; 5.6 mm Hg at 111Â° F; 10.5 mm Hg at 149Â° F	3		75		mm Hg							(NTP, 1992)		1.0654		68		(NTP, 1992)		497.5		760		(NTP, 1992)		143.19						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C10H9N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2634	DI(N-OCTYL)TIN MALEATE														(NTP, 1992)		1.0654		68		(NTP, 1992)		497.5		760		(NTP, 1992)		257.32						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C19H15N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	7.0	2.0	2.0
2635	DIALLYL ETHER														(USCG, 1999)		0.7405		68		(USCG, 1999)		131.4		760		(USCG, 1999)		88.15											MBE	Flammable Liquid	C5H12O		5.0	0.0	6.0	2.0	2.0
2636	DIAMMONIUM SALT OF ZINC EDTA														(USCG, 1999)		1.1878		68		(USCG, 1999)		248.7		760		(USCG, 1999)		112.99											DPC	Combustible Liquid	C3Cl2H6		3.0	0.0	7.0	2.0	2.0
2637	DIBENZOFURAN	(NTP, 1992)		440		77		mm Hg	(NTP, 1992)		2.93				(USCG, 1999)		1.322		68		(NTP, 1992)		103.6		760		(NTP, 1992)		84.93		(NIOSH, 2003)	; Not applicable for Methylene chloride, a potential human carcinogen.	2300	ppm	(NTP, 1992)	at 70Â° F		10 to 50	mg/mL	DCM	Poison	CH2Cl2		5.0	0.0	10.0	2.0	2.0
2638	DIBENZYL ETHER														(NTP, 1992)		1.2117		68		(NTP, 1992)			252 to 255	24		(NTP, 1992)		106.14						(NTP, 1992)	at 63Â° F		10 to 50	mg/mL		Poison	C3H6O2S	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2639	DIBENZYL SULFIDE	BENZENE, 1-1'-[THIOBIS(METHYLENE)]BIS-|BENZYL MONOSULFIDE|BENZYL SULFIDE|BENZYL THIOETHER|DIBENZYL MONOSULFIDE|DIBENZYL SULFIDE|DIBENZYL THIOETHER	538-74-9	PHYSICAL DESCRIPTION: Colorless plates or pale beige crystalline solid with a crippling stench . (NTP, 1992)	1.0	2.5	5.0	4617.0	453.0	1580.0	823.0	498.0	1202.0	121.0	417.0	230.0	124.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2640	DIBUTYL PHOSPHATE	DI-N-BUTYL HYDROGEN PHOSPHATE|DI-N-BUTYL PHOSPHATE|DIBUTYL ACID O-PHOSPHATE|DIBUTYL ACID PHOSPHATE|DIBUTYL HYDROGEN PHOSPHATE|DIBUTYL PHOSPHATE|DIBUTYL PHOSPHATE; (TBP)|DIBUTYL PHOSPHORIC ACID|DP 4|DP 4 (COUPLING AGENT)|HDBP|NSC 203039|NSC 22313|PHOSPHORIC ACID DIBUTYL ESTER	107-66-4	Pale-amber odorless liquid. Mp: -13Â°C, bp: 135-138Â°C. Density: 1.06 g cm-3. Moderately soluble in water (18 g / L at 20Â°C).	2.5	5.0	2.5	4617.0	453.0	1580.0	823.0	498.0	1202.0	121.0	417.0	230.0	124.0	(BLOB)	FLAMMABLE. POISONOUS GASES MAY BE PRODUCED IN FIRE. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Toxic nitrogen oxides may be formed. Vapors are heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2641	DIBUTYLAMINOETHANOL	BETA-N-DIBUTYLAMINOETHYL ALCOHOL|BU2AE|2-(DI-N-BUTYLAMINO)ETHANOL|2-DI-N-BUTYLAMINOETHANOL|2-DI-N-BUTYLAMINOETHYL ALCOHOL|2-(DIBUTYLAMINO)ETHANOL|2-DIBUTYLAMINOETHANOL|2-DIBUTYLAMINOETHANOL|DIBUTYLETHANOLAMINE|N,N-DI-N-BUTYLAMINOETHANOL|N,N-DIBUTYL-2-HYDROXYETHYLAMINE|N,N-DIBUTYL-N-(2-HYDROXYETHYL)AMINE|N,N-DIBUTYLAMINOETHANOL|N,N-DIBUTYLETHANOLAMINE|N-(2-HYDROXYETHYL)DIBUTYLAMINE|2-N-DIBUTYLAMINOETHANOL	102-81-8	Dibutylaminoethanol is a colorless liquid with a mild fishlike odor. Flash point 200Â°F. Toxic by ingestion and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4617.0	453.0	1580.0	827.0	498.0	1202.0	121.0	417.0	232.0	124.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2642	DICETYL PEROXYDICARBONATE	DICETYL PEROXYDICARBONATE|DICETYL PEROXYDICARBONATE, [TECHNICALLY PURE]|DIHEXADECYL PEROXYDICARBONATE|LILADOX|LILADOX 33W|LILADOX 90P|LUPERSOL 216|PERKADOX 24|PERKADOX 24W40	26322-14-5	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with inert solid.	1.0	2.5	5.0	4617.0	453.0	1580.0	827.0	498.0	1202.0	121.0	417.0	232.0	124.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2643	DICHLOROSILANE	DICHLOROSILANE|DICHLOROSILANE(SIH2CL2)|SILANE, DICHLORO-|SILICON CHLORIDE HYDRIDE (SICL2H2)|SILICON CHLORIDE HYDRIDE (SIH2CL2)	4109-96-0	Dichlorosilane is a flammable and poisonous gas, with a strong repulsive odor. It is easily ignited in air, reacts with oxidizing agents, is very toxic by inhalation, and is a strong irritant to skin, eyes and mucous membranes. Under prolonged exposure to fire or intense heat the container may rupture violently or rocket.	5.0	1.0	1.0	4617.0	453.0	1580.0	827.0	498.0	1202.0	121.0	417.0	232.0	124.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2644	DICYCLOHEXYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DICYCLOHEXYL ESTER|DCHP|DICYCLOHEXYL PHTHALATE|EDENOL DCHP|ERGOPLAST FDC|HF 191|HOWEFLEX CP|KP 201|MORFLEX 150|PHTHALIC ACID, DICYCLOHEXYL ESTER|UNIMOLL 66	84-61-7	PHYSICAL DESCRIPTION: White granular solid with an aromatic odor. Water insoluble. (NTP, 1992)	1.0	2.5	5.0	4617.0	453.0	1580.0	827.0	498.0	1202.0	121.0	417.0	232.0	124.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2639	DIBENZYL SULFIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water	DICHLOROPENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Reacts with strong oxidizing agents and with air under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2640	DIBUTYL PHOSPHATE	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Skin: If chemical is in solution, wear appropriate personal protective clothing to prevent skin contact and to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: If the chemical is in solution, wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: If the chemical is in solution, the worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Very soluble in water; the solutions are strongly basic and therefore corrosive. Liquid fumes in air.	METHYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.	Highly Flammable; Air-Reactive	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(NTP, 1992)		32.5		(USCG, 1999)		4.3		%	(USCG, 1999)		21		%	(USCG, 1999)		806		(USCG, 1999)		-134.5	
2641	DIBUTYLAMINOETHANOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material away from oxidizing agents and in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. oganic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	METHYLAZOXYMETHANOL ACETATE is an azo compound. Azo, compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This compound is incompatible with strong oxidizing agents. It is a potent alkylating agent. (NTP, 1992)	Explosive					0		(NTP, 1992)		210																			
2642	DICETYL PEROXYDICARBONATE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as ACENAPHTHYLENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.						0																						(NTP, 1992)		200.3 to 202.1
2643	DICHLOROSILANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	Organometallics, such as TRIETHYL LEAD CHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2644	DICYCLOHEXYL PHTHALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Deliquescent. Very soluble in water.	ACETAMIDE may react with azo and diazo compounds to generate toxic gases. May form flammable gases with strong reducing agents. Reacts as a weak bases (weaker than water). Mixing with dehydrating agents such as P2O5 or SOCl2 generates acetonitrile Burns to give toxic mixed oxides of nitrogen (NOx).						0																						(NTP, 1992)		180.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2639	DIBENZYL SULFIDE																																								Class 9	C3HCl2F5		5.0	0.0	8.0	2.0	2.0
2640	DIBUTYL PHOSPHATE	(USCG, 1999)		1972.92		60		mm Hg	(USCG, 1999)		1.1				(USCG, 1999)		0.693		20.3		(NTP, 1992)		118		760		(NTP, 1992)		31.06		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	MTA	Flammable Gas	CH3NH2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0
2641	DIBUTYLAMINOETHANOL														(NTP, 1992)		1.172				(NTP, 1992)		376		760		(NTP, 1992)		132.12						(NTP, 1992)	at 74.3Â° F		greater than or equal to 100	mg/mL			C4H8N2O3		7.0	0.0	10.0	2.0	2.0
2642	DICETYL PEROXYDICARBONATE														(NTP, 1992)		0.8988		61		(NTP, 1992)			509 to 527	760		(NTP, 1992)		152.21						(NTP, 1992)	Insoluble						C12H8		8.0	0.0	10.0	2.0	2.0
2643	DICHLOROSILANE																											(NTP, 1992)		329.85						(NTP, 1992)	at 73Â° F		5 to 10	mg/mL		Poison	C6H15ClPb		4.0	0.0	9.0	2.0	2.0
2644	DICYCLOHEXYL PHTHALATE	(NTP, 1992)		1		149		mm Hg							(NTP, 1992)		1.159		68		(NTP, 1992)		430		760		(NTP, 1992)		59.07						(NTP, 1992)	Very soluble (greater than or equal to 100 mg/mL at 72Â° F)						C2H5NO		7.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2645	DICYCLOHEXYLAMMONIUM NITRITE	DECHAN|DIANA|DIANA (CORROSION INHIBITOR)|DICHAN|DICYCLOHEXYLAMINE NITROUS ACID SALT|DICYCLOHEXYLAMINE, NITRITE|DICYCLOHEXYLAMINONITRITE|DICYCLOHEXYLAMMONIUM NITRITE|DODECAHYDROPHENYLAMINE NITRITE|LEUKORROSIN C|N-CYCLOHEXYLCYCLOHEXANAMINE NITRITE|NDA|NDA (CORROSION INHIBITOR)|NITROUS ACID COMPOUND WITH N-CYCLOHEXYLCYCLOHEXANAMINE (1:1)|TVI|VP 1260|VPI 260	3129-91-7	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	4619.0	453.0	1580.0	829.0	498.0	1203.0	121.0	417.0	233.0	124.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. EYES: Immediately flush eyes with running water for at least 15 min.; hold eyelids open if neccessary. Continue to flush eyes with water during transport to treatment facilities. SKIN: Immediately deluge exposed area with water for at least 15 min.; Remove and isolate contaminated clothing and shoes at the site. Wash contaminated area with soap and water. INGESTION: If victim is conscious, give no more than 2 glasses of water. Induce vomiting either by giving 30 cc (2 tablespoons) Syrup of Ipecac or by touching the back of the throat. If victim is unconscious or having convulsions, do nothing but keep victim quiet and maintain normal	Special Hazards of Combustion Products: Smoke contains hydrogen chloride and it may contain phosgene; both components are highly toxic gases. Behavior in Fire: Can react with aluminum, magnesium and their alloys. Can generate highly irritating and explosive vapors. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemicals, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
2646	DIDECYLMETHYL AMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	DIDECYLMETHYL AMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	7396-58-9	A clear slightly light yellow liquid with a fishlike odor. Insoluble in water and less dense than water. Hence floats on water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4621.0	453.0	1582.0	829.0	498.0	1204.0	121.0	418.0	233.0	124.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2647	DIETHYL PHOSPHITE AND TRIETHYL PHOSPHITE, [LIQUID]	DIETHYL PHOSPHITE AND TRIETHYL PHOSPHITE, [LIQUID]	762-04-9	A mixture of two esters of phosphorous acid. A colorless liquid. Exposure may irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	4623.0	453.0	1584.0	829.0	498.0	1205.0	121.0	419.0	233.0	124.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2648	DIETHYL SULFIDE	DIETHYL SULFIDE|DIETHYL SULPHIDE|DIETHYLTHIOETHER|ETHYL MONOSULFIDE|ETHYL SULFIDE|ETHYL THIOETHER|ETHYLTHIOETHANE|3-THIAPENTANE|1,1'-THIOBISETHANE|THIOETHYL ETHER	352-93-2	A colorless oily liquid with a garlic-like odor. Less dense than water. Vapors heavier than air. May irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4625.0	453.0	1584.0	829.0	500.0	1206.0	121.0	419.0	233.0	125.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
2649	DIETHYLBENZENE	DIETHYLBENZENE	25340-17-4	A clear colorless liquid with an aromatic odor. Flash point 140Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4625.0	453.0	1584.0	829.0	500.0	1206.0	121.0	419.0	233.0	125.0	(BLOB)	Fire may produce irritating or poisonous gases. Runoff from fire control may give off poisonous gases and also cause pollution. When heated to decomposition, it emits toxic fumes of phosphorus oxides. Avoid strong oxidizers. Avoid temperatures above 77-86F. sources of heat, fire, free flames or spark-generating equipment. (EPA, 1998)	Isolate hazard area, stay upwind; ventilate closed spaces before entering, wear protective clothing and positive breathing apparatus. Remove and isolate contaminated clothing. Small fires: use dry chemical, carbon dioxide, water spray or foam. Large fires: use water spray, fog or foam. Fight fire from maximum distance. Dike fire control water for later disposal. (EPA, 1998)
2650	DIETHYLDICHLOROSILANE	DICHLORODIETHYLSILANE|DIETHYL DICHLOROSILANE|DIETHYLDICHLOROSILANE|DIETHYLDICHLOROSILICON|SILANE, DICHLORODIETHYL-	1719-53-5	A colorless liquid with a pungent odor. Flash point 77Â°F. Corrosive to metals and tissue. Vapors are heavier than air.	2.5	5.0	2.5	4625.0	453.0	1584.0	829.0	500.0	1206.0	121.0	419.0	233.0	125.0	(BLOB)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Fire may produce irritating or poisonous gases. This material may burn but does not ignite readily. Container may explode in heat of fire. When heated to decomposition it emits toxic fumes of nitrogen oxides. Avoid decomposition in highly alkaline media. Subject to photo-decomposition in the solid state. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2645	DICYCLOHEXYLAMMONIUM NITRITE	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate or sand and soda ash mixture. (USCG, 1999)	Wear self contained (positive pressure if available) breathing apparatus and full protective clothing. This material will penetrate ordinary rubber protective equipment such as boots and gloves; therefore chemical resistant equipment must be worn. (USCG, 1999)	Highly flammable.	Halogenated aliphatic compounds, such as DICHLOROPROPANE - DICHLOROPROPENE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Behavior in Fire: Can react with aluminum, magnesium and their alloys. Can generate highly irritating and explosive vapors (USCG, 1999).	Highly Flammable		(NFPA, 2010)	Note: NFPA ratings shown are for 2,3-dichloropropene, CAS number 78-88-6.	3	3	0	3		(USCG, 1999)		67		(USCG, 1999)		5.3		%	(USCG, 1999)		14.5		%								
2646	DIDECYLMETHYL AMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	METHYLPENTADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions at low temperatures in ammonia synthesis units have been traced to the addition products of dienes and nitrogen dioxide [Bretherick, 5th Ed., 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NFPA, 2010)		-30																				
2647	DIETHYL PHOSPHITE AND TRIETHYL PHOSPHITE, [LIQUID]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids and bases. Insoluble in water.	METIRAM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2648	DIETHYL SULFIDE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	A triazine derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																				(NIOSH, 2003)		257	
2649	DIETHYLBENZENE	Do not touch spilled material. In case of spills, stay upwind; keep out of low areas. Ventilate closed areas before entering them. Use water spray to reduce vapors. (EPA, 1998)	(BLOB)	Hydrolyzes rapidly as it dissolves in water.	Organophosphates, such as MEVINPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		175																(EPA, 1998)	trans isomer / cis isomer		44.4 to 70
2650	DIETHYLDICHLOROSILANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	MEXACARBATE is a carbamate ester-amine. Amines behave as chemical bases. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		185	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2645	DICYCLOHEXYLAMMONIUM NITRITE														(USCG, 1999)	(temperature unknown)	1.2				(USCG, 1999)			217 to 340	760															DMX		C3Cl2H6.C3Cl2H4		4.0	0.0	6.0	2.0	2.0
2646	DIDECYLMETHYL AMINE (AMINES, <OR> POLYAMINES, LIQUID, CORROSIVE, N.O.S.)																																								Flammable Liquid	C6H10	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0
2647	DIETHYL PHOSPHITE AND TRIETHYL PHOSPHITE, [LIQUID]																																								Class 9	C16H33N11S16Zn3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0
2648	DIETHYL SULFIDE	(NIOSH, 2003)		4.00E-07				mm Hg							(NIOSH, 2003)		1.31										(NIOSH, 2003)		214.3						(NIOSH, 2003)		0.1		%			C8H14N4OS	Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2649	DIETHYLBENZENE	(EPA, 1998)		0.0029		70		mm Hg							(EPA, 1998)		1.25		68		(EPA, 1998)			223 to 226	1	(EPA, 1998)		224.17		(NIOSH, 2003)		4	ppm	(NIOSH, 2003)	Miscible				PHD	Poison	C7H13O6P	Dirt/Earth	3.0	0.0	6.0	2.0	2.0
2650	DIETHYLDICHLOROSILANE	(EPA, 1998)	Less than 0.1 at 293.2F																								(EPA, 1998)		222.29											ZEC	Poison	C12H18N2O2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2651	DIETHYLENE GLYCOL DIACRYLATE	ACRYLIC ACID, 2-ETHOXYETHANOL DIESTER|ACRYLIC ACID, OXYDIETHYLENE ESTER|DIETHYLENE GLYCOL DIACRYLATE|DIETHYLENE GLYCOL, DIACRYLATE|KAYARAD DEGDA|NK ESTER A 2G|2,2'-OXYDIETHYL DIACRYLATE|OXYDIETHYLENE ACRYLATE|OXYDIETHYLENE DIACRYLATE|2-PROPENOIC ACID, OXYDI-2,1-ETHANEDIYL ESTER|SR 230|TGA 2	4074-88-8	PHYSICAL DESCRIPTION: Clear colorless liquid with a mild musty odor. (NTP, 1992)	2.5	5.0	2.5	4627.0	453.0	1584.0	829.0	500.0	1207.0	121.0	419.0	233.0	125.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
2652	DIETHYLENE GLYCOL N-HEXYL ETHER	DIETHYLENE GLYCOL N-HEXYL ETHER|HEXYL CARBITOL	112-59-4	Water-white liquid. (USCG, 1999)	2.5	5.0	2.5	4629.0	453.0	1584.0	829.0	500.0	1208.0	121.0	419.0	233.0	125.0	(BLOB)	Special Hazards of Combustion Products: Dangerous toxic fumes of NO x (USCG, 1999)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2653	DIETHYLSTILBESTROL	(BLOB)	56-53-1	PHYSICAL DESCRIPTION: Odorless tasteless white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4629.0	453.0	1584.0	829.0	500.0	1208.0	121.0	419.0	233.0	125.0	(BLOB)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2654	DIGITONIN	DIGITIN|DIGITOGENIN, 3-[O-BETA-D-GLUCOPYRANOSYL (1-->3)-O-BETA-D-GALACTOPYRANOSYL-(1-->2)-O-[BETA-D-XYLOPYRANOSYL-(1-->3)]-O-BETA-D-GLUCOPYRANOSYL (1-->4)-BETA-D-GALACTOPYRANOSIDE]|DIGITONEN|DIGITONIN|3-[O-BETA-D-GLUCOPYRANOSYL (1-3)-O-BETA-D-GALACTOPYRANOSYL-(1-2)-O-[BETA-D-XYLOPYRANOSYL-(1-3)-O-BETA-D-GLUCOPYRANOSYL (1-4)-BETA-D-GALACTOPYRANOSIDE|SPIROSTAN, BETA-D-GALACTOPYRANOSIDE DERIV.|SPIRO[8H-NAPHTH[2',1':4,5]INDENO[2,1-B]FURAN-8,2'-[2H]PYRAN], BETA-D-GALACTOPYRANOSIDE DERIV.	11024-24-1	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4629.0	453.0	1584.0	829.0	500.0	1208.0	121.0	419.0	233.0	125.0			
2655	DIGITOXIN	ACEDOXIN|CARD-20(22)-ENOLIDE, 3-((O-2,6-DIDEOXY BETA-D-RIBO-HEXOPYRANOSYL-(HEXOPYRANOSYL-(1-4)-2,6-DIDEOXY-BETA-D-RIBO-HEXOPYRANOSYL)OXY) -14-HYDROXY-,(3BETA, 5BETA)-|CARDIGIN|CARDITOXIN|CRISTAPURAT|CRYSTALLINE DIGITALIN|CRYSTODIGIN|DIGILONG|DIGIMED|DIGIMERCK|DIGISIDIN|DIGITALIN|DIGITALINE CRISTALLISEE|DIGITALINE NATIVELLE|DIGITOKSIM|DIGITOPHYLLIN|DIGITOXIGENIN TRIDIGITOXOSIDE|DIGITOXIN|DIGITOXOSIDE|DIGITRIN|DITAVEN|GLUCODIGIN|LANATOXIN|MYODIGIN|PURODIGIN|PURPURID|UNIDIGIN	71-63-6	Odorless white or pale buff microcrystalline powder. Used as a cardiotonic drug. (EPA, 1998)	1.0	2.5	5.0	4629.0	453.0	1584.0	829.0	500.0	1208.0	121.0	419.0	233.0	125.0	(BLOB)	Toxic chloride fumes and phosgene formed if heated to decomposition or on contact with acid or acid fumes. Corrosive to iron and mild steel, acids or acid fumes. Hydrolyzes in water. (EPA, 1998)	Use self-contained breathing apparatus with a full face piece operated on pressure-demand or other positive pressure mode. Prevent skin contact with protective clothing. Isolate area and deny entry. Fight fire from maximum distance. Dike fire control water for future disposal. Use water in flooding quantities as fog, alcohol foam, dry chemical, or carbon dioxide. Do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2651	DIETHYLENE GLYCOL DIACRYLATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	MICAS have generally low chemical reactivity.								0																						
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)																																
2652	DIETHYLENE GLYCOL N-HEXYL ETHER		Wear butyl rubber gloves, protective clothing and shoes, and self-contained breathing appartus. (USCG, 1999)	Water insoluble.	M-NITROPHENOL is a light-yellow, crystalline material, toxic and irritant. When heated to decomposition it emits toxic fumes of oxides of nitrogen [Lewis, 3rd ed., 1993, p. 941]. Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		205 to 208
2653	DIETHYLSTILBESTROL	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides(ClxSiHy) are spontaneously flammable in air, NFPA 1991.	Chlorosilanes, such as DICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2189 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6	No Water																							
2654	DIGITONIN			No rapid reaction with air. No rapid reaction with water.	DICHLOROTRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.								0																						
2655	DIGITOXIN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	More dense than water and slightly soluble in water.	DICHLORVOS is incompatible with strong acids and bases. It is slowly hydrolyzed in acidic media and rapidly hydrolyzed by alkalis. It is corrosive to iron and mild steel. (NTP, 1992). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1		1		(EPA, 1998)	Greater than 175F			(EPA, 1998)	Moderately flammable, will not ignite easily.				(EPA, 1998)	Moderately flammable, will not ignite easily.							(NTP, 1992)		183	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2651	DIETHYLENE GLYCOL DIACRYLATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			2.6 to 3.2									(NIOSH, 2003)	(approx)	797		(NIOSH, 2003)		1500	mg/m3	(NIOSH, 2003)	Insoluble								5.0	0.0	6.0	2.0	2.0
2652	DIETHYLENE GLYCOL N-HEXYL ETHER	(NTP, 1992)		70		381		mm Hg							(USCG, 1999)	1.2797 at 100Â°C (Liquid)	1.485		68		(NTP, 1992)		381		70		(NTP, 1992)		139.11						(NTP, 1992)	at 64Â° F		less than 1	mg/mL	NIP	Poison	C6H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2653	DIETHYLSTILBESTROL																																								Poison Gas|Flammable Gas|Corrosive	Cl2H2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2654	DIGITONIN																																									C2HCl2F3		5.0	0.0	9.0	2.0	2.0
2655	DIGITOXIN	(EPA, 1998)		0.01		86		mm Hg							(EPA, 1998)		1.415		77		(EPA, 1998)		284		20		(EPA, 1998)		220.98		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	DCV	Poison	C4H7Cl2O4P	Dirt/Earth	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2656	DIHEPTYL PHTHALATE	DIHEPTYL PHTHALATE|PHTHALIC ACID, DIHEPTYL ESTER	3648-21-3	Odorless white liquid. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	4631.0	453.0	1584.0	829.0	500.0	1209.0	121.0	419.0	233.0	125.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2657	DIHEXYLAMINE	BIS(1-HEXYL)AMINE|DI-N-HEXYLAMINE|DIHEXYLAMINE,N,N-DIHEXYLAMINE|N-HEXYL-1-HEXANAMINE|N-HEXYLHEXANAMINE	143-16-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4631.0	453.0	1584.0	829.0	500.0	1209.0	121.0	419.0	233.0	125.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors generated when heated. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2658	DIHYDROSAFROLE	DIHYDROSAFROLE	94-58-6	Oily liquid.	2.5	5.0	2.5	4633.0	453.0	1584.0	829.0	500.0	1210.0	121.0	419.0	233.0	125.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air; indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2659	DIISOBUTYLCARBINOL	DIISOBUTYLCARBINOL|2,6-DIMETHYL-4-HEPTANOL|2,6-DIMETHYL-4-HEPTYL ALCOHOL	108-82-7	A colorless liquid. Flash point 162Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4633.0	453.0	1584.0	829.0	500.0	1210.0	121.0	419.0	233.0	125.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2660	DIISOBUTYLENE, ISOMERIC COMPOUNDS	DI-ISOBUTYLENE|DIISOBUTENE|DIISOBUTYLENE|DIISOBUTYLENE, ISOMERIC COMPOUNDS|2,4,4-TRIMETHYL-1-PENTENE|2,2,4-TRIMETHYLPENTENE|2,4,4-TRIMETHYLPENTENE	25167-70-8	A clear colorless liquid with a petroleum-like odor. Flash point 10Â°F. Less dense than water and insoluble in water. Vapors heavier than air. Used in the manufacture of other chemicals.	2.5	5.0	2.5	4633.0	453.0	1584.0	829.0	500.0	1210.0	121.0	419.0	233.0	125.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Irritating vapors are generated when heated. Vapor is heavier than air and may travel some distance to source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2656	DIHEPTYL PHTHALATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Phenols, such as MONODODECYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1		(NFPA, 2010)		325																				
2657	DIHEXYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full face shield; goggles; eye wash facility. (USCG, 1999)	Water soluble.	MONOISOPROPANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		171		(USCG, 1999)		2.2		%	(USCG, 1999)		12		%	(USCG, 1999)		706		(NTP, 1992)		34.5	
2658	DIHYDROSAFROLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	About the same density as water and moderately soluble in water.	An hologenated organophosphate. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2659	DIISOBUTYLCARBINOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures away from acids and alkalies. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water. Is hydrolyzed slowly by acids and alkalis, and more rapidly on heating (NTP, 1992).	MONURON is a chlorinated urea derivative. May react with azo and diazo compounds to generate toxic gases. May react with strong reducing agents to generate flammable gases. Reacts as a weak base. Combustion generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2660	DIISOBUTYLENE, ISOMERIC COMPOUNDS	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble. Sensitive to moisture.	MORPHOLINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Sensitive to moisture. Reacts readily with oxidizing agents (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NTP, 1992)		100		(USCG, 1999)		1.8		%	(USCG, 1999)		10.8		%	(USCG, 1999)		590		(NTP, 1992)		23.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2656	DIHEPTYL PHTHALATE																																								Corrosive	C18H30O		5.0	0.0	8.0	2.0	2.0
2657	DIHEXYLAMINE	(USCG, 1999)		2.59				mm Hg	(NTP, 1992)		2.6				(USCG, 1999)		0.961		68		(NTP, 1992)			313 to 316	758		(NTP, 1992)		75.13						(NTP, 1992)	at 67.6Â° F		greater than or equal to 100	mg/mL	MPA	Corrosive	C3H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2658	DIHYDROSAFROLE																																								Corrosive	C6H5Cl2O2P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	10.0	2.0	2.0
2659	DIISOBUTYLCARBINOL	(NTP, 1992)	; 0.00178 mm Hg at 212Â° F	5.00E-07		77		mm Hg							(NTP, 1992)		1.27		68		(NTP, 1992)	(decomposes)		365 to 392	760		(NTP, 1992)		198.65						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL		Class 9	C9H11ClN2O		5.0	0.0	7.0	2.0	2.0
2660	DIISOBUTYLENE, ISOMERIC COMPOUNDS	(NTP, 1992)		6.6		68		mm Hg	(NTP, 1992)		3				(USCG, 1999)		1		68		(NTP, 1992)			264	760		(NTP, 1992)		87.12		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1400	ppm	(NTP, 1992)	Soluble			MPL	Corrosive|Flammable Liquid	C4H9NO	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2661	DI-ISOOCTYL PHTHALATE	BIS-(6-METHYLHEPTYL) PHTHALATE|CORFLEX 880|DI-(6-METHYLHEPTYL) PHTHALATE|DI-ISOOCTYL PHTHALATE|DIISOOCTYL PHTHALATE|FLEXOL PLASTICIZER DIOP|HEXAPLAS M/O	27554-26-3	Oily colorless liquid with a slight ester odor. Denser than water. Insoluble in water. (USCG, 1999)	2.5	5.0	2.5	4633.0	453.0	1584.0	829.0	500.0	1210.0	121.0	419.0	233.0	125.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2662	DIKETENE, INHIBITED	3-BUTENOIC ACID, 3-HYDROXY-, BETA-LACTONE|DIKETENE|DIKETENE, INHIBITED|ETHENONE, DIMER|KETENE DIMER|4-METHYLENE-2-OXETANONE	674-82-8	A colorless liquid with a disagreeable odor. Slightly less dense than water. Irritates skin and eyes. Used to make paints and pharmaceuticals.	2.5	5.0	2.5	4633.0	455.0	1586.0	833.0	502.0	1210.0	122.0	420.0	235.0	126.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
2663	DIMETHYL CHLOROTHIOPHOSPHATE	CHLORODIMETHOXYPHOSPHINE SULFIDE|DIMETHOXYTHIOPHOSPHONYL CHLORIDE|DIMETHYL CHLOROPHOSPHOROTHIOATE|DIMETHYL CHLOROTHIONOPHOSPHATE|DIMETHYL CHLOROTHIOPHOSPHATE|DIMETHYL PHOSPHOROCHLORIDOTHIOATE|DIMETHYL THIONOPHOSPHORCHLORIDATE|DIMETHYL THIOPHOSPHOROCHLORIDATE|METHYL PCT|METHYL PHOSPHOROCHLORIDOTHIOATE (OMEO)2CLPS)O,O-DIMETHYL CHLOROPHOSPHOROTHIOATE|O,O-DIMETHYL CHLOROTHIONOPHOSPHATE|O,O-DIMETHYL CHLOROTHIOPHOSPHATE|O,O-DIMETHYL PHOSPHOROCHLORIDOTHIOATE|O,O-DIMETHYL PHOSPHOROCHLOROTHIOATE|O,O-DIMETHYL	2524-03-0	Colorless to light amber liquid. Used as a chemical intermediate for insecticides, pesticides, and fungicides; oil and gasoline additives; plasticizers; corrosion inhibitors; flame retardants; and flotation agents. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	4633.0	455.0	1588.0	833.0	502.0	1210.0	122.0	421.0	235.0	126.0	(BLOB)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles, if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2664	DIMETHYL PHOSPHATE	DIMETHYL HYDROGEN PHOSPHATE|DIMETHYL PHOSPHATE|DIMETHYL PHOSPHORIC ACID|DMP|METHYL PHOSPHATE ((CH3O)2(HO)PO)O,O-DIMETHYL HYDROGEN PHOSPHATE|O,O-DIMETHYL PHOSPHATE|PHOSPHORIC ACID, DIMETHYL ESTER	813-78-5	PHYSICAL DESCRIPTION: Syrupy pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4633.0	455.0	1588.0	833.0	502.0	1210.0	122.0	421.0	235.0	126.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2665	DIMETHYLAMINOPROPIONITRILE	.BETA.-(DIMETHYLAMINO)PROPIONITRILE|.BETA.-N-DIMETHYLAMINOPROPIONITRILE|3-(DIMETHYLAMINO)-PROPIONITRILE|3-(DIMETHYLAMINO)PROPANENITRILE|3-(DIMETHYLAMINO)PROPIONITRILE|DIMETHYLAMINOPROPIONITRILE|DMAPN|N,N-DIMETHYL-2-CYANOETHYLAMINE|3-(N,N-DIMETHYLAMINO)PROPIONITRILE|N,N-DIMETHYLAMINO-3-PROPIONITRILE|NSC 232|PROPIONITRILE, 3-(DIMETHYLAMINO)-	1738-25-6	Colorless liquid. Mp: -44.3Â°C; bp: 171-172Â°C. Density 0.87 g cm-3 at 20Â°C). Water-soluble. Used in the manufacture of polyurethane foam. Excessive exposure leads to urologic and neurologic disorders.	2.5	5.0	2.5	4633.0	455.0	1588.0	833.0	502.0	1210.0	122.0	421.0	235.0	126.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2666	DIMETHYL-N-PROPYLAMINE	DIMETHYL-N-PROPYLAMINE|DIMETHYLPROPYLAMINE|N,N-DIMETHYL-N-PROPYLAMINE|N,N-DIMETHYLPROPYLAMINE|PROPYLAMINE, N,N-DIMETHYL-|PROPYLDIMETHYLAMINE	926-63-6	A colorless liquid. Less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	4635.0	455.0	1588.0	833.0	502.0	1211.0	122.0	421.0	235.0	126.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2661	DI-ISOOCTYL PHTHALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	M-TOLUIDINE HYDROCHLORIDE behaves as a weak organic acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.					0																					(NTP, 1992)		442	
2662	DIKETENE, INHIBITED	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizers. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	M-XYLENE may react with oxidizing materials. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		85		(USCG, 1999)		1.1		%	(USCG, 1999)		7		%	(USCG, 1999)		982		(NTP, 1992)		-54.2	
2663	DIMETHYL CHLOROTHIOPHOSPHATE	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: If chemical is in liquid form, wear appropriate personal protective clothing to prevent skin contact. Eyes: If chemical is in liquid form, wear appropriate eye protection to prevent eye contact. Wash skin: If the chemical is in liquid form, the worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable, with air forms peroxides	VINYL BROMIDE is a light sensitive, peroxidizable monomer may initiate exothermic polymerization of the bulk material [Handling Chemicals Safely 1980.. p. 958]. It will react violently with oxidants.	Highly Flammable; Polymerizable; Strong Reducing Agent; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(NTP, 1992)		less than 18	(NTP, 1992)		9	%	(NTP, 1992)		15		%	(NTP, 1992)		882		(NTP, 1992)		-219.1	
2664	DIMETHYL PHOSPHATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N,N'-DI-2-NAPHTHYL-P-PHENYLENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																					(NTP, 1992)		437 to 444	
2665	DIMETHYLAMINOPROPIONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and protect it from moisture. Keep it away from oxidizing materials. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to moisture. Insoluble in water.	N,N-DIETHYL-M-TOLUAMIDE is incompatible with strong acids, strong bases and strong oxidizing agents. It hydrolyzes slowly in the presence of water. It has a solvent effect on most plastics, paints, and varnishes. It is also incompatible with rayon, acetate or dynel clothing. (NTP, 1992)					0		(NTP, 1992)		311																	(NTP, 1992)	(pour point)	-49	
2666	DIMETHYL-N-PROPYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Tends to darken upon exposure to air. Insoluble in water.	N,N-DIMETHYL-O-TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. generates hydrogen, a flammable gas, in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2661	DI-ISOOCTYL PHTHALATE																				(NTP, 1992)		482		760		(NTP, 1992)		143.62						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C7H9N.ClH		6.0	0.0	6.0	2.0	2.0
2662	DIKETENE, INHIBITED	(NTP, 1992)		10		82.9		mm Hg	(NTP, 1992)		3.66				(USCG, 1999)		0.864		68		(NTP, 1992)		282.4		760		(NTP, 1992)		106.18		(NIOSH, 2003)		900	ppm	(NTP, 1992)	Insoluble				XLM	Flammable Liquid	C8H10		3.0	0.0	8.0	2.0	2.0
2663	DIMETHYL CHLOROTHIOPHOSPHATE	(NTP, 1992)		895		68		mm Hg	(NTP, 1992)		3.7				(NTP, 1992)		1.49		68		(NTP, 1992)		60.4		760		(NTP, 1992)		106.96		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	Insoluble					Flammable Gas	C2H3Br	Mineral-Based & Clay-Based Absorbents;Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2664	DIMETHYL PHOSPHATE														(NTP, 1992)		1.25				(NTP, 1992)	Decomposes at 450-453Â° F					(NTP, 1992)		360.48						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C26H20N2	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2665	DIMETHYLAMINOPROPIONITRILE	(NTP, 1992)	; 19 mm Hg at 320Â° F	1		232		mm Hg	(NTP, 1992)		6.7				(NTP, 1992)		0.996		68		(NTP, 1992)		545		760		(NTP, 1992)		191.27						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H17NO		4.0	0.0	6.0	2.0	2.0
2666	DIMETHYL-N-PROPYLAMINE																																								Poison	C9H13N		7.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2667	DIMETHYLOLDIHYDROXYETHYLENEUREA	(BLOB)	1854-26-8	PHYSICAL DESCRIPTION: Clear pale yellow 40% aqueous solution. (NTP, 1992)	2.5	5.0	2.5	4635.0	455.0	1588.0	833.0	502.0	1211.0	122.0	421.0	235.0	126.0	(BLOB)	Flash point data for this compound is not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2668	DIMETHYL-P-PHENYLENEDIAMINE	1-AMINO-4-(DIMETHYLAMINO)BENZENE|4-AMINO-N,N-DIMETHYLANILINE|1,4-BENZENEDIAMINE, N,N-DIMETHYL-;C.I. 76075|CI 76075|DIMETHYL-P-PHENYLENEDIAMINE|DIMETHYL-PARA-PHENYLENEDIAMINE|DIMETHYL-PARAPHENYLENEDIAMINE|4-(DIMETHYLAMINO)ANILINE|4-(DIMETHYLAMINO)BENZENAMINE|(4-(DIMETHYLAMINO)PHENYL)AMINE|DIMETHYLAMINOANILINE|4-DIMETHYLAMINOANILINE|DMPD|N,N-DIMETHYL-1,4-BENZENEDIAMINE|N,N-DIMETHYL-1,4-DIAMINOBENZENE|N,N-DIMETHYL-1,4-PHENYLENEDIAMINE|N,N-DIMETHYL-P-BENZENEDIAMINE|N,N-	99-98-9	Colorless to reddish-violet solid. Used in the production of methylene blue and photographic developer. Used as a chemical intermediate for dyes and diazonium chloride salts and as an analytical reagent to detect chloroamine in water. (EPA, 1998)	1.0	2.5	5.0	4637.0	455.0	1588.0	833.0	502.0	1212.0	122.0	421.0	235.0	126.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2669	DIMYRISTYL PEROXYDICARBONATE	DIMYRISTYL PEROXYDICARBONATE|DIMYRISTYL PEROXYDICARBONATE, [TECHNICALLY PURE]|DITETRADECYL PEROXYDICARBONATE|PERKADOX 26|PERKADOX 26FL|PERKADOX 26W40|PEROYL MSP	53220-22-7	This solid peroxide is sensitive to heat. Must be stored with stringent temperature control measures. Explosion hazard mitigated by mixing the peroxide in a water slurry.	1.0	2.5	5.0	4637.0	455.0	1588.0	833.0	502.0	1212.0	122.0	421.0	235.0	126.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and sulfur oxides. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2670	DI-N-BUTYL KETONE	DI-N-BUTYL KETONE|5-NONANONE|S-NORANONE	502-56-7	Colorless to light yellow liquid. Floats on water. Freezing point is 21Â°F. (USCG, 1999)	2.5	5.0	2.5	4639.0	455.0	1588.0	833.0	502.0	1213.0	122.0	421.0	235.0	126.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2671	DI-N-HEXYL ADIPATE	DI-N-HEXYL ADIPATE	110-33-8	Colorless liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4639.0	455.0	1588.0	833.0	502.0	1213.0	122.0	421.0	235.0	126.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2672	DI-N-HEXYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DIHEXYL ESTER|BIS(N HEXYL) PHTHALATE|DI(2-ETHYLBUTYL) PHTHA)1-E|DI-N-HEXYL PHTHALATE|DIHEXYL ESTER PHTHALIC ACID|DIHEXYL PHTHALATE|PHTHALIC ACID, DIHEXYL ESTER|PHTHALIC ACID, DIHEXYL ETHER	84-75-3	PHYSICAL DESCRIPTION: Yellow-brown oily viscous liquid with a slight aromatic odor. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	4639.0	455.0	1588.0	833.0	502.0	1213.0	122.0	421.0	235.0	126.0	INHALATION: remove to fresh air; administer artificial respiration and oxygen, if indicated. EYES: flush with copious quantities of water for 15 min.; call a physician. SKIN: wash thoroughly with soap and water. INGESTION: induce vomiting and follow with gastric lavage; get medical attention. (USCG, 1999)	Behavior in Fire: If water solution boils, poisonous hydrogen sulfide and highly flammable carbon disulfide vapors form. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2667	DIMETHYLOLDIHYDROXYETHYLENEUREA	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,3-DIMETHYL-5-NITROBENZENE is incompatible with strong oxidizing agents and strong bases.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		162 to 165
2668	DIMETHYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	It was reported that a mixture of ACETONE and chloroform, in a residue bottle, exploded. Since addition of acetone to chloroform in the presence of base will result in a highly exothermic reaction, it is thought that a base was in the bottle [MCA Case History 1661. 1970]. Also, Nitrosyl chloride, sealed in a tube with a residue of acetone in the presence of platinum catalyst, gave an explosive reaction [Chem. Eng. News 35(43):60. 1967]. The reaction of nitrosyl perchlorate and acetone ignites and explodes. Explosions occur with mixtures of nitrosyl perchlorate and primary amine [Ann. Chem. 42:2031. 1909]. Reacts violently with nitric acid. Also causes exothermic reaction when in contact with aldehydes.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		0		(NTP, 1992)		2.6		%	(NTP, 1992)		12.8		%	(USCG, 1999)		869		(NTP, 1992)		-137	
2669	DIMYRISTYL PEROXYDICARBONATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	ACETONE THIOSEMICARBAZIDE may form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. Explosive combination may occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Emits toxic fumes of oxides of sulfur and nitrogen when heated to decomposition [Sax, 9th ed., 1996, p. 3165].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2670	DI-N-BUTYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This compound may be sensitive to prolonged exposure to air or light. Insoluble in water.	N,N'-DI-SEC-BUTYL-P-PHENYLENEDIAMINE reacts with oxidizing materials. [NTP,1992]. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		285																(NTP, 1992)		64	
2671	DI-N-HEXYL ADIPATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures away from oxidizers, acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very slightly water soluble.	N,N'-METHYLENEBISACRYLAMIDE is incompatible with strong oxidizers, strong acids and strong bases. (NTP, 1992)						0																		(NTP, 1992)	(with decompos ition)	365	
2672	DI-N-HEXYL PHTHALATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; self-contained breathing apparatus if compound is hot; goggles; rubber gloves. (USCG, 1999)	Water soluble. Decomposes in boiling hot to give poisonous hydrogen sulfide and flammable carbon disulfide.	NABAM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2667	DIMETHYLOLDIHYDROXYETHYLENEUREA																				(NTP, 1992)		484		760		(NTP, 1992)		151.17						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2668	DIMETHYL-P-PHENYLENEDIAMINE	(NTP, 1992)	; 270 mm Hg at 86Â° F	180		68		mm Hg	(NTP, 1992)		2				(USCG, 1999)		0.791		68		(NTP, 1992)		133		760		(NTP, 1992)		58.08						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	ACT	Flammable Liquid	C3H6O		6.0	0.0	7.0	2.0	2.0
2669	DIMYRISTYL PEROXYDICARBONATE																										(EPA, 1998)		131.22												Poison	C4H9N3S	Mineral-Based & Clay-Based Absorbents	8.0	0.0	10.0	2.0	2.0
2670	DI-N-BUTYL KETONE	(NTP, 1992)		85.3		100		mm Hg							(NTP, 1992)		0.94 to 0.95	75									(NTP, 1992)		220.4						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C14H24N2		5.0	0.0	6.0	2.0	2.0
2671	DI-N-HEXYL ADIPATE								(NTP, 1992)		5.31				(NTP, 1992)		1.235		86								(NTP, 1992)		154.17						(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL			C7H10N2O2	Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2672	DI-N-HEXYL PHTHALATE														(USCG, 1999)		1.14		68								(USCG, 1999)		256.3											NAB	Class 9	C4H6N2S4.2Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2673	DINITROTOLUENE	DINITROPHENYLMETHANE|DINITROTOLUENE|DINITROTOLUENE (2,4 AND 2,6 MIX)|DINITROTOLUENE (MIXED ISOMERS)|DINITROTOLUENE, [SOLID]|DINITROTOLUENES|DINITROTOLUENES, SOLID|DINITROTOLUOL|DNT|METHYLDINITROBENZENE|TDNT|TOLUENE, AR, AR-DINITRO	25321-14-6	A yellow crystalline solid or an oily liquid consisting of the three isomers. Insoluble in water and denser than water. Produces toxic oxides of nitrogen during combustion. Toxic by skin absorption, ingestion or inhalation.	1.0	2.5	5.0	4639.0	455.0	1590.0	833.0	502.0	1213.0	122.0	422.0	235.0	126.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2674	DINONYL PHTHALATE	BIOFLEX 91|DI-N-NONYL PHTHALATE|DINONYL 1,2-BENZENEDICARBOXYLATE|DINONYL PHTHALATE|DNP|PHTHALIC ACID, DINONYL ESTER	84-76-4	Odorless colorless liquid. (USCG, 1999)	2.5	5.0	2.5	4641.0	455.0	1590.0	833.0	502.0	1214.0	122.0	422.0	235.0	126.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	May be combustible. (NOAA, 2007)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2675	DINOSEB	(BLOB)	88-85-7	Orange-brown viscous liquid or orange-brown solid. Orange crystals when pure. Has a pungent odor. Used as a plant growth regulator; insecticide and herbicide. (EPA, 1998)	2.5	5.0	2.5	4641.0	455.0	1590.0	833.0	502.0	1214.0	122.0	422.0	235.0	126.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2676	DI-N-PENTYL PHTHALATE	AMOIL|AMYL PHTHALATE|1,2-BENZENEDICARBOXYLIC ACID DIPENTYL ESTER|DI-N-AMYL PHTHALATE|DI-N-PENTYL O-PHTHALATE|DI-N-PENTYL PHTHALATE|DI-N-PENTYLPHTHALATE|DIAMYL PHTHALATE|DIPENTYL ESTER PHTHALIC ACID|DIPENTYL PHTHALATE|DPP|PHTHALIC ACID DIPENTYL ESTER|PHTHALIC ACID, DIAMYL ESTER	131-18-0	PHYSICAL DESCRIPTION: Clear colorless to light yellow liquid. Practically odorless. Floats on water. (NTP, 1992)	2.5	5.0	2.5	4641.0	455.0	1590.0	833.0	504.0	1214.0	122.0	422.0	235.0	127.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2677	DI-N-PROPYL ETHER	DI-N-PROPYL ETHER|DIPROPYL ETHER|DIPROPYL OXIDE|N-PROPYL ETHER|4-OXAHEPTANE|1,1'-OXYBIS[PROPANE]|PROPYL ETHER	111-43-3	A colorless liquid with a strong odor. Less dense than water and slightly soluble in water. Vapors are heavier than air. In high concentrations the vapors may be narcotic.	2.5	5.0	2.5	4643.0	455.0	1590.0	833.0	504.0	1215.0	122.0	422.0	235.0	127.0	INHALATION: Remove to fresh air; if not breathing, give artificial respiration; if breathing difficult, give oxygen. SKIN: Remove contaminated clothing and shoes; flush affected areas with plenty of water. EYES: Hold eyelids open and flush with water for at least 15 minutes. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of NO x (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2673	DINITROTOLUENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	TOLAZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical is incompatible with acids. (NTP, 1992).						0																						(NTP, 1992)	(with decomposition)		322 to 336
2674	DINONYL PHTHALATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Practically insoluble in water [Farm Chemicals Handbook]. Hydrolyzed slowly in presence of water.	NALED is incompatible with the following: Strong oxidizers, acids, sunlight, water [Note: Corrosive to metals. Hydrolyzed in presence of water.] (NIOSH, 1997). Unstable in presence of Iron (USCG, 1999). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		80.6	
2675	DINOSEB	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TOLBUTAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical is incompatible with acids. (NTP, 1992).						0																						(NTP, 1992)			262 to 264
2676	DI-N-PENTYL PHTHALATE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			444 to 446
2677	DI-N-PROPYL ETHER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear approved respirator, chemical resistant gloves, safety goggles rubber boots, and protective clothing. (USCG, 1999)	Water soluble.	N-AMINOETHYLPIPERAZINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		200																(USCG, 1999)		-2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_tempMMHG	bp_range_tempMMHG	molwgt_source
2673	DINITROTOLUENE																										(NTP, 1992)
2674	DINONYL PHTHALATE	(NIOSH, 2003)		0.0002				mm Hg							(USCG, 1999)		1.97		68		(USCG, 1999)	approx.	392		760		(USCG, 1999)
2675	DINOSEB														(NTP, 1992)		1.245		77								
2676	DI-N-PENTYL PHTHALATE																										(NTP, 1992)
2677	DI-N-PROPYL ETHER														(USCG, 1999)		0.9852		68		(USCG, 1999)		428		760		(USCG, 1999)

id	name	molwgt_value	molwgt_unote	molwgt_source	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score	incompatible_absorbents	dot_labels	formulas	chris_codes	solbity_unit	solbity_range	solbity_solute	solbity_notr	solbity_source	idlh_unit	idlh_value	idlh_note	idlh_source	molwgt_range
2673	DINITROTOLUENE	311.44		(NTP, 1992)	7.0	0.0	7.0	2.0	2.0			C14H21N3O3S		mg/mL	less than 1		at 77Â° F	(NTP, 1992)					
2674	DINONYL PHTHALATE	381		(USCG, 1999)	4.0	0.0	6.0	2.0	2.0		Poison	C4H7Br2 C2O4P	NLD				Insoluble	(NIOSH, 2003)	mg/m3	200		(NIOSH, 2003)	
2675	DINOSEB	270.34		(NTP, 1992)	6.0	0.0	7.0	2.0	2.0			C12H18N2O5S		mg/mL	less than 1		at 61Â° F	(NTP, 1992)					
2676	DI-N-PENTYL PHTHALATE	232.23		(NTP, 1992)	6.0	0.0	7.0	2.0	2.0	Mineral-Based & Clay-Based Absorbents	Poison	C12H12N2O3		mg/mL	less than 1		at 70Â° F	(NTP, 1992)					
2677	DI-N-PROPYL ETHER	129.24		(USCG, 1999)	4.0	0.0	6.0	2.0	2.0	Mineral-Based & Clay-Based Absorbents	Corrosive	C6H15N3	AEP										

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2678	DI-N-PROPYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DIPROPYL ESTER|DI-N-PROPYL PHTHALATE|DIPROPYL BENZENE-1,2-DICARBOXYLATE|DIPROPYL ESTER PHTHALIC ACID|DIPROPYL PHTHALATE|PHTHALIC ACID DIPROPYL ESTER|PHTHALIC ACID, DIPROPYL ESTER	131-16-8	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4643.0	455.0	1592.0	833.0	504.0	1215.0	122.0	423.0	235.0	127.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2679	DIPHOSGENE	DIPHOSGENE|DP	503-38-8	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	4643.0	455.0	1594.0	833.0	504.0	1215.0	122.0	424.0	235.0	127.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2680	DIPROPYL KETONE	BUTYRONE|DI-N-PROPYL KETONE|DIPROPYL KETONE|DPK|GBL|HEPTAN-4-ONE|4-HEPTANONE|4-OXOHEPTANE|PROPYL KETONE	123-19-3	A colorless liquid with a pleasant odor. Insoluble in water and less dense than water. Flash point 120Â°F. Toxic by inhalation. A skin irritant. Used to make flavorings and as a solvent.	2.5	5.0	2.5	4643.0	455.0	1594.0	833.0	504.0	1215.0	122.0	424.0	235.0	127.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2681	DIRECT BROWN 2	(BLOB)	2429-82-5	PHYSICAL DESCRIPTION: Reddish-brown solid or dark brown powder. (NTP, 1992)	1.0	2.5	5.0	4645.0	455.0	1596.0	833.0	504.0	1216.0	122.0	425.0	235.0	127.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2682	DIRECT GREEN 1	(BLOB)	3626-28-6	PHYSICAL DESCRIPTION: Dull green solid or black powder. (NTP, 1992)	1.0	2.5	5.0	4647.0	455.0	1596.0	833.0	504.0	1217.0	122.0	425.0	235.0	127.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2678	DI-N-PROPYL PHTHALATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	AMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound is incompatible with the following: Nitrates; strong oxidizers, alkalis & acids (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)	(n-) 91Â°F (cc); (all isomers) 106F (cc); (iso-) 69Â°F (cc)			(USCG, 1999)	(n-)	1.1		%	(USCG, 1999)	(n-)	7.5		%	(USCG, 1999)		680		(USCG, 1999)		less than - 148
2679	DIPHOSGENE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Liquid oxygen gives an explosive mixture when combined with liquid methane [NFPA 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980]. Involved in many explosions when combined with especially powerful oxidizers such as bromine pentafluoride, chlorine trifluoride, chlorine, iodine, heptafluoride, dioxygenyl tetrafluoroborate, dioxygen difluorede, trioxygen difluoride and liquid oxygen. Other violent reactions include, chlorine dioxide and nitrogen trifluoride.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4																								
2680	DIPROPYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	N-BROMOACETAMIDE is sensitive to light, moisture, and heat. (NTP, 1992). It decomposes rapidly at elevated temperatures, in the presence of moisture and light.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		226		
2681	DIRECT BROWN 2	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	DIETHOXYMETHANE, an acetal, is incompatible with strong oxidizing agents and acids. Breaks down to formaldehyde and ethanol in acidic solutions.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2682	DIRECT GREEN 1	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Pyrophoric in air [Hawley]. Reacts violently with water, Rose(1961).	Organometallics, such as DIETHYL ALUMINUM CHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7	No Water																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	idth_note	idth_value	idth_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chemtrec_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2678	DI-N-PROPYL PHTHALATE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.876		68		(USCG, 1999)		295		760		(USCG, 1999)		130.19				1000	ppm	(NIOSH, 2003)		0.2		%	AEC	Flammable Liquid	C7H14O2		6.0	0.0	9.0	2.0	2.0
2679	DIPHOSGENE																																									Flammable Gas		8.0	0.0	9.0	2.0	2.0
2680	DIPROPYL KETONE																										(NTP, 1992)		137.97						(NTP, 1992)		at 72.5° F					Corrosive	C2H4BrNO		5.0	0.0	7.0	2.0	2.0
2681	DIRECT BROWN 2																												120.57												Flammable Liquid	C5H12O2		4.0	0.0	10.0	2.0	2.0
2682	DIRECT GREEN 1																																								Spontaneously Combustible Because Dries When Wet	C4H10Al Cl		4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2683	DIRECT RED 2	(BLOB)	992-59-6	PHYSICAL DESCRIPTION: Brown to dark red powder. (NTP, 1992)	1.0	2.5	5.0	4649.0	455.0	1596.0	833.0	504.0	1218.0	122.0	425.0	235.0	127.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Sublimes before melting (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2684	DISOPHENOL	ANCYLOL|2,6-DIIDO-4-NITROPHENOL|2,6-DIIODO-4-NITROPHENOL|DIISOPHENOL|DISOFEN|DISOPHENOL|DNP|IODOFEN|IODOPHEN|4-NITRO-2,6-DIIODOPHENOL|SYNGAMIX	305-85-1	PHYSICAL DESCRIPTION: Light yellow feathery crystals (from glacial acetic acid) or yellow crystalline solid (NTP, 1992) Used against hookworm.	1.0	2.5	5.0	4651.0	455.0	1596.0	833.0	504.0	1219.0	122.0	425.0	235.0	127.0	(BLOB)	Emits very toxic fumes of chloride and phosphorus oxides when heated to decomposition. (EPA, 1998)	Use the following procedures for combustible liquids. Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. This material is combustible. Methods for combustible liquids are as follows. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2685	DITHIOBIURET	ALLOPHANIMIDIC ACID, DITHIO-|BIURET, 2,4-DITHIO-|BIURET, DITHIO-|DITHIOBIURET|2,4-DITHIOBIURET|DTB|IMIDODICARBONIMIDOTHIOIC DIAMIDE|IMIDODICARBONO DITHIOIC DIAMIDE|THIOIMIDODICARBONIC DIAMIDE|UREA, 2-THIO-1-(THIOCARBAMOYL)-	541-53-7	Crystalline solid. Used as a plasticizer, as a rubber accelerator, and as an intermediate in manufacturing of pesticides. (EPA, 1998)	1.0	2.5	5.0	4653.0	455.0	1596.0	833.0	504.0	1220.0	122.0	425.0	235.0	127.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2686	DIUNDECYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DI-UNDECYL ESTER|1,2-BENZENEDICARBOXYLIC ACID, DIUNDECYL ESTER|BISOFLEX DUP|DI-N-UNDECYL PHTHALATE|DIUNDECYL PHTHALATE|DUP|PHTHALIC ACID, DIUNDECYL ESTER|SANTICIZER 711|UNDECYL ALCOHOL, PHTHALATE|UNDECYL ALCOHOL, PHTHALATE (2:1)	3648-20-2	Oily colorless odorless liquid. Less dense than water. (USCG, 1999)	2.5	5.0	2.5	4653.0	455.0	1596.0	833.0	504.0	1220.0	122.0	425.0	235.0	127.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2687	DL-ETHIONINE	AETHIONIN|2-AMINO-4-(ETHYLTHIO)BUTYRIC ACID|BUTYRIC ACID, 2-AMINO-4-(ETHYLTHIO)-, DL-|CN 8676|DL-2-AMINO-4-(ETHYLTHIO)BUTYRIC ACID|DL-ETHIONINE|DL-HOMOCYSTEINE, S-ETHYL-|ETH|ETHIONIN|ETHIONINE|(+-)-ETHIONINE|(.+-.)-ETHIONINE|3-ETHYLHOMOCYSTEINE|NSC 751|NSC-751|S-ETHYL-DL-HOMOCYSTEINE|U-1434	67-21-0	PHYSICAL DESCRIPTION: White crystalline flakes. (NTP, 1992)	1.0	2.5	5.0	4655.0	455.0	1596.0	833.0	504.0	1221.0	122.0	425.0	235.0	127.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 132P [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132P [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2683	DIRECT RED 2	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; chemical goggles; rubber gloves (USCG, 1999)	Slightly soluble in hot water.	ACRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Burns to give toxic oxides of nitrogen.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		225 to 230
2684	DISOPHENOL	Caution : Avoid sources of extreme heat including fire. Diethyl chlorophosphate will liberate toxic phosphorus oxide fumes and hydrogen chloride gas when heated to decomposition. Do not touch spilled material. Do not breathe vapors. This material is a combustible liquid. For a spill or leak of a combustible liquid, shut off ignition sources; no flares, smoking or flames in hazard area. Stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as DIETHYL CHLOROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3278 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
2685	DITHIOBIURET	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Organophosphates, such as DIETHYL DIBUTYLPHOSPHORAMIDATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 212																								
2686	DIUNDECYL PHTHALATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
2687	DL-ETHIONINE	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Soluble in water. The presence of water, due to different solubilities of the acid and inhibitor (partitioning one from the other), may initiate polymerization.	ACRYLIC ACID may polymerize violently by spontaneous chemical reaction, especially when frozen acid is partially thawed (freezing point 13Â° C). Explosive polymerization can also occur when combined with strong alkalis, pure nitrogen, amines, ammonia, oleum chlorosulfonic acid, or peroxides. Mixing with 2-aminoethanol, 28% ammonium hydroxide, ethylenediamine or ethyleneimine in a closed container causes an increase in temperature and pressure. It may corrode iron and steel and polymerization may occur on contact with acids and iron salts. Melting should take place at room temperature (25Â° C) and material should be well mixed. Do not use elevated temperature during the melting process [Kirk-Othmer, 3rd ed., Vol. 1, 1978, p. 330]. The uninhibited acid will polymerize exothermically at ambient temperature and may accelerate to an explosive state if confined. It can react violently with oxidizing reagents and strong bases [Bretherick, 5th ed., 1995, p. 419].	Polymerizable	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	(NIOSH, 2003)		121		(NIOSH, 2003)		2.4		%	(NIOSH, 2003)		8.02		%						(NIOSH, 2003)		55

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2683	DIRECT RED 2	(NTP, 1992)		1		255.9		mm Hg							(USCG, 1999)	(approx.)	1.2		68		(NTP, 1992)		655		760		(NTP, 1992)		179.22												ACD	Poison	C13H9N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2684	DISOPHENOL								(EPA, 1998)		5.94				(EPA, 1998)		1.1915		77		(EPA, 1998)		140		2		(EPA, 1998)		172.56													Poison	C4H10Cl O3P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	7.0	2.0	2.0
2685	DITHIOBIURET														(NTP, 1992)		1.015		68.2		(NTP, 1992)		239		3		(NTP, 1992)		265.38						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C12H28N O3P	Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2686	DIUNDECYL PHTHALATE																																							Organic Peroxide	C17H34O 6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0
2687	DL-ETHIONINE	(NIOSH, 2003)		3				mm Hg							(NIOSH, 2003)		1.05				(NIOSH, 2003)		286		760		(NIOSH, 2003)		72.1						(NIOSH, 2003)	Miscible					Corrosive| Flammable Liquid	C3H4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2688	DODECYL PHENOL	DODECYL PHENOL	27193-86-8	Straw-colored liquid with a phenolic odor. (USCG, 1999)	2.5	5.0	2.5	4655.0	455.0	1596.0	833.0	504.0	1221.0	122.0	425.0	235.0	127.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2689	DODECYL SULFATE, [MAGNESIUM SALT]	DODECYL SULFATE, MAGNESIUM SALT|DODECYL SULFATE, [MAGNESIUM SALT]|LAURYL MAGNESIUM SULFATE|LAURYL SULFATE, MAGNESIUM SALT|MAGNESIUM DODECYL SULFATE|MAGNESIUM LAURYL SULFATE	3097-08-3	Light yellow liquid with a mild odor. May float or sink and mix with water. (USCG, 1999)	2.5	5.0	2.5	4655.0	455.0	1596.0	833.0	504.0	1221.0	122.0	425.0	235.0	127.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2690	DODECYLBENZENE	ALKYLATE P 1|DETERGENT ALKYLATE|DETERGENT ALKYLATE #|DETERGENT ALKYLATE NO. 2|DODECANE, 1-PHENYL-|DODECYLBENZENE|LAURYLBENZENE|N-DODECYLBENZENE|NALKYLENE 500|1-PHENYL-N-DODECANE|1-PHENYLDODECANE|UCANE ALKYLATE 12	123-01-3	Colorless liquid with a weak oily odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4655.0	455.0	1598.0	833.0	504.0	1221.0	122.0	426.0	235.0	127.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2691	DODECYLBENZENESULFONIC ACID, [ISOPROPYLAMINE SALT]	DODECYLBENZENESULFONIC ACID, ISOPROPYLAMINE SALT|DODECYLBENZENESULFONIC ACID, [ISOPROPYLAMINE SALT]|ISOPROPYLAMINE DODECYLBENZENESULFONATE	26264-05-1	Off-white solid with a sweet petroleum odor. May float or sink and mix with water. (USCG, 1999)	1.0	2.5	5.0	4657.0	455.0	1598.0	833.0	504.0	1222.0	122.0	426.0	235.0	127.0	(BLOB)	(BLOB)	In advanced or massive fires, fire fighting should be done from a safe distance or a protected location. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Stay away from ends of tanks. Do not get water inside container. Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
2692	DODECYLPHENOL (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	DODECYLPHENOL (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	27193-86-8	Dodecylphenol is considered a marine pollutant by the US Department Of Transportation. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater.	2.5	5.0	2.5	4657.0	455.0	1598.0	833.0	504.0	1222.0	122.0	426.0	235.0	127.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as ammonia, nitrogen oxides, and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Can react vigorously with heat or flame. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2693	DOWTHERM	DIPHENYL OXIDE-DIPHENYL MIXTURE|DIPHENYL-DIPHENYL ETHER MIXTURE|DOWTHERM|DOWTHERM A|DOWTHERMÂ® A|PHENYL ETHER-BIPHENYL MIXTURE (VAPOR)	8004-13-5	Light to dark brown fragrant liquid. May float or sink in water. Freezing point is 54Â°F. (USCG, 1999)	2.5	5.0	2.5	4657.0	455.0	1598.0	833.0	504.0	1222.0	122.0	426.0	235.0	127.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2688	DODECYL PHENOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-EICOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		212														(NTP, 1992)		98.1	
2689	DODECYL SULFATE, [MAGNESIUM SALT]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	NEODECANOIC ACID, 2,3-EPOXYPROPYL ESTER reacts vigorously with strong oxidizing agents and strong Lewis and mineral acids. Reacts with considerable heat release with many curing agents. (NTP, 1992)								0		(NTP, 1992)		265																
2690	DODECYLBENZENE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																				
2691	DODECYLBENZENESULFONIC ACID, [ISOPROPYLAMINE SALT]	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	ACRYLONITRILE produces poisonous hydrogen cyanide gas on contact with strong acids or when heated to decomposition. Reacts violently with strong oxidizing agents (dibenzoyl peroxide, di-tert-butylperoxide, bromine) [Sax, 9th ed., p. 61]. Rapidly ignites in air and forms explosive mixtures with air. Polymerizes violently in the presence of strong bases or acids. Underwent a runaway reaction culminating in an explosion on contact with a small amount of bromine or solid silver nitrate [Bretherick, 5th ed., 1995, p. 404].	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		32		(EPA, 1998)		3		%	(EPA, 1998)		17		%	(USCG, 1999)		898		(EPA, 1998)		-116	
2692	DODECYLPHENOL (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Moderately soluble in water .	N-ETHYL MORPHOLINE can react vigorously with oxidizing materials. It dissolves LiAlH4. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		82		(USCG, 1999)		1		%	(USCG, 1999)		9.8		%					(NTP, 1992)		-81	
2693	DOWTHERM	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).			(NFPA, 2010)			1	0	1																			(NTP, 1992)		147	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2688	DODECYL PHENOL								(NTP, 1992)		9.75				(NTP, 1992)		0.7886		68		(NTP, 1992)		648.9		760		(NTP, 1992)		282.56						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C20H42		5.0	0.0	6.0	2.0	2.0
2689	DODECYL SULFATE, [MAGNESIUM SALT]	(NTP, 1992)		1		68		mm Hg	(NTP, 1992)		8				(NTP, 1992)		0.97				(NTP, 1992)		500		760		(NTP, 1992)		228.33						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C13H24O3	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	7.0	0.0	8.0	2.0	2.0
2690	DODECYLBENZENE																																								Non-Flammable Gas	Ne		8.0	0.0	9.0	2.0	2.0
2691	DODECYLBENZENESULFONIC ACID, [ISOPROPYLAMINE SALT]	(EPA, 1998)		100		73.4		mm Hg	(EPA, 1998)		1.9				(EPA, 1998)		0.8004		77		(EPA, 1998)		171		760		(EPA, 1998)		53.6		(NIOSH, 2003)	; A potential human carcinogen.	85	ppm	(NTP, 1992)	at 70.9Â° F		10 to 50	mg/mL	ACN	Flammable Liquid|Poison	H2CCHCN	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	5.0	0.0	7.0	2.0	2.0
2692	DODECYLPHENOL (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S.)	(NTP, 1992)		6.2		68		mm Hg	(NTP, 1992)		4				(USCG, 1999)		0.916		68		(NTP, 1992)			280 to 282	760		(NTP, 1992)		115.2		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	EMN	Flammable Liquid	C6H13NO	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2693	DOWTHERM																																									C9H13NO2S	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2694	D-TRANS-ALLETHRIN	D-TRANS-ALLETHRIN|D-TRANS-CHRYSANTHEMIC ACID OF D-ALLETHRONE	28434-00-6	Clear to amber viscous liquid. A synthetic insecticide structurally similar to pyrethrin.	2.5	5.0	2.5	4659.0	455.0	1598.0	833.0	504.0	1223.0	122.0	426.0	235.0	127.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2695	EMETINE, DIHYDROCHLORIDE	AMEBICIDE|EMETINE DIHYDROCHLORIDE|(-)-EMETINE DIHYDROCHLORIDE|EMETINE HYDROCHLORIDE|(-)-EMETINE HYDROCHLORIDE|EMETINE, DIHYDROCHLORIDE|EMETINE, HYDROCHLORIDE|2H-BENZO[A]QUINOLIZINE, 3-ETHYL-1,3,4,6,7,11B-HEXAHYDRO-9,10-DIMETHOXY-2-[(1,2,3,4-TETRAHYDRO-6,7-DIMETHOXY-1-ISOQUINOLYL)METHYL]-, DIHYDROCHLORIDE|2H-BENZO[A]QUINOLIZINE, EMETAN DERIV.|L-EMETINE DIHYDROCHLORIDE|L-EMETINE HYDROCHLORIDE|NSC-33669|6',7',10,11-TETRAMETHOXYEMETAN DIHYDROCHLORIDE	316-42-7	Clusters of needles after drying at 221Â°F. Turns yellow on exposure to light or heat. An injectable form of emetine, an anti amebic. Emetine is the active ingredient of ipecac. (EPA, 1998)	1.0	2.5	5.0	4661.0	455.0	1598.0	835.0	504.0	1224.0	122.0	426.0	236.0	127.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2696	ENFLURANE	347|ALYRANE|ANESTHETIC COMPOUND NO. 347|2-CHLORO-1,1,2-TRIFLUORO-1-DIFLUOROMETHOXYETHANE|2-CHLORO-1,1,2-TRIFLUOROETHYL DIFLUOROMETHYL ETHER|2-CHLORO-1-(DIFLUOROMETHOXY)-1,1,2-TRIFLUOROETHANE|COMPOUND 347|EFRANE|ENFLURANE|(+-)-ENFLURANE|ETHER, 2-CHLORO-1,1,2-TRIFLUOROETHYL DIFLUOROMETHYL|ETHRANE|ETHRANEÂ®|METHYLFLURETHER|NSC 115944|OHIO 347|R-E 235CA2	13838-16-9	Enflurane (Ethrane, 2-chloro-1,1,2-trifluoroethyldifluoromethyl ether) is a nonflammable halogenated hydrocarbon that exists as a clear, colorless, odorless to sweet, volatile liquid at ordinary temperature and pressure. Bp: 56.8Â°C. Density 1.50 g cm-3 at room temperature. Used as an anesthetic.	2.5	5.0	2.5	4663.0	455.0	1598.0	835.0	504.0	1225.0	122.0	426.0	236.0	127.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2697	EPHEDRINE SULFATE	1-ALPHA-(1-(METHYLAMINO)ETHYL)BENZYL ALCOHOL SULFATE|BENZENEMETHANOL, ALPHA-(1-(METHYLAMINO)ETHYL)-, (R-(R*,S*))-, SULFATE (2:1)|BENZENEMETHANOL, ALPHA-[1-(METHYLAMINO)ETHYL]-, [R-(R*,S*)]-, SULFATE (2:1) (SALT)|EPHEDRINE SULFATE|(-)-EPHEDRINE SULFATE (2:1) (SALT)|(-)-EPHEDRINE SULFATE|EPHEDRINE, SULFATE (2:1) (SALT), (-)-|SOFEDROL|L-EPHEDRINE SULFATE|NCI-C55652|1-PHENYL-2-METHYLAMINE-PROPANOL-1-SULFATE|1-PHENYL-2-METHYLAMINO-PROPANOL-1-SULFATE|(R-(R*,S*))-ALPHA-(1-(METHYLAMINO)ETHYL)BENZENEMETHANOL SULFATE (2:1) (SALT)	134-72-5	PHYSICAL DESCRIPTION: White microcrystalline powder. Odorless. Central nervous system stimulant.	1.0	2.5	5.0	4665.0	455.0	1600.0	835.0	504.0	1226.0	122.0	427.0	236.0	127.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2698	EPIBROMOHYDRIN	(.+-.)-3-BROMO-1,2-EPOXYPROPANE|3-BROMO-1,2-EPOXYPROPANE|1-BROMO-2,3-EPOXYPROPANE|BROMOHYDRIN|BROMOMETHYL OXIRANE|(BROMOMETHYL) ETHYLENE OXIDE|(BROMOMETHYL)OXIRANE|(.+-.)-(BROMOMETHYL)OXIRANE|2-(BROMOMETHYL)OXIRANE|2-BROMOMETHYLOXIRAN|3-BROMOPROPYLENE OXIDE|EPIBROMHYDRIN|EPIBROMOHYDRIN|(.+-.)-EPIBROMOHYDRIN|EPIBROMOHYDRINE|1,2-EPOXY-3-BROMOPROPANE|2,3-EPOXYPROPYL BROMIDE|PROPANE, 1-BROMO-2,3-EPOXY-	3132-64-7	A colorless volatile liquid. Flash point 22Â°F. Slightly soluble in water and denser than water. Toxic by inhalation and ingestion. A strong skin irritant. Used to make rubber.	2.5	5.0	2.5	4665.0	455.0	1600.0	835.0	504.0	1226.0	122.0	427.0	236.0	127.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2694	D-TRANS-ALLETHRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Unstable to prolonged exposure to air and/or light. Insoluble in water.	N-ETHYLANILINE may react violently with nitric acid. May react with strong oxidizing agents. (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		185														(NTP, 1992)		-82.3	
2695	EMETINE, DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizers. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture. Aqueous solutions are strongly alkaline. Insoluble in water.	1,3-DIPHENYLGUANIDINE behaves as an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This chemical is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		388														(NTP, 1992)		302	
2696	ENFLURANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N-ETHYL-M-TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
2697	EPHEDRINE SULFATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	DIETHYLAMINOETHOXYETHANOL is an amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
2698	EPIBROMOHYDRIN	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	N'-ETHYL-N,N-DIPHENYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2694	D-TRANS-ALLETHRIN	(NTP, 1992)		1		101.3		mm Hg	(NTP, 1992)		4.18				(NTP, 1992)		0.958		77		(NTP, 1992)		400.5		760		(NTP, 1992)		121.18						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C8H11N		4.0	0.0	6.0	2.0	2.0
2695	EMETINE, DIHYDROCHLORIDE	(NTP, 1992)	Negligible												(NTP, 1992)		1.13		68		(NTP, 1992)	Decomposes >338Â° F					(NTP, 1992)		211.27						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C13H13N3	Mineral-Based & Clay-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2696	ENFLURANE																																								Poison	C9H13N		5.0	0.0	6.0	2.0	2.0
2697	EPHEDRINE SULFATE																																								Flammable Liquid	C8H19NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0
2698	EPIBROMOHYDRIN																																									C15H16N2O		7.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2699	EPIFLUOROHYDRIN	EPIFLUORHYDRIN|1,2-EPOXY-3-FLUOROPROPANE|1-FLUORO-2,3-EPOXYPROPANE|(FLUOROMETHYL)OXIRANE|3-FLUOROPROPENE 1,2-OXIDE|PROPANE, 1,2-EPOXY-3-FLUORO-	503-09-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4667.0	455.0	1600.0	835.0	504.0	1227.0	122.0	427.0	236.0	127.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2700	ETHANESULFONYL CHLORIDE, 2-CHLORO-	BETA-CHLOROETHANESULFONYL CHLORIDE|2-CHLOROETHANE SULFOCHLORIDE|2-CHLOROETHANESULFONIC Acid CHLORIDE|2-CHLOROETHANESULFONYL CHLORIDE|2-CHLOROETHYLSULFONYL CHLORIDE|ETHANESULFONYL CHLORIDE, 2-CHLORO-	1622-32-8	A liquid. Density 1.56 g / cm3. Flash point exceeds 230Â°F.	2.5	5.0	2.5	4669.0	455.0	1602.0	835.0	504.0	1228.0	122.0	428.0	236.0	127.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2701	ETHOPROPHOS	ENT 27,318|ENT 27318|ETHOPROP|ETHOPROPHOS|ETHYL PROPYL PHOSPHORODITHIOATE ((ETO)(PRS)2PO)|OLT|MOCAP|MOCAP 10G|MOCAP 6EC|O-ETHYL S,S-DIPROPYL DITHIOPHOSPHATE|O-ETHYL S,S-DIPROPYL PHOSPHORODITHIOATE|O-ETHYL S,S-DIPROPYL,PHOSPHORODITHIOATE|PHOSPHORODITHIOIC ACID O-ETHYL S,S-DIPROPYL ESTER|PHOSPHORODITHIOIC ACID, O-ETHYL S,S-DIPROPYL ESTER|PROFOS|PROPHOS|PROPHOS (ESTER)|ROVOKIL|S,S DIPROPYL O-ETHYL PHOSPHORODITHIOATE|V-C CHEMICAL V-C 9-104|VC 9-104|VC9-104	13194-48-4	Ethorop is one of a family of organophosphorus pesticides. It is combustible though it may require some effort to ignite. It is very toxic by skin absorption and inhalation. It may or may not be water soluble.	1.0	2.5	5.0	4671.0	455.0	1602.0	835.0	504.0	1229.0	122.0	428.0	236.0	127.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2702	ETHOXY TRIGLYCOL	DOWANOL TE|ETHOXY TRIGLYCOL|ETHOXYTRIETHYLENE GLYCOL|TRIETHYLENE GLYCOL ETHYL ETHER|TRIETHYLENE GLYCOL MONOETHYL ETHER|TRIGLYCOL MONOETHYL ETHER	112-50-5	Odorless colorless liquid. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4673.0	455.0	1602.0	835.0	504.0	1230.0	122.0	428.0	236.0	127.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2703	ETHOXYACETIC ACID	ETHOXYACETIC ACID|2-ETHOXYACETIC ACID|GLYCOLLIC ACID ETHYL ESTER	627-03-2	PHYSICAL DESCRIPTION: Liquid. (NTP, 1992)	2.5	5.0	2.5	4673.0	455.0	1602.0	835.0	504.0	1230.0	122.0	428.0	236.0	127.0	In case of contact, immediately flush skin and eyes with plenty of water. Wash eyes at least 15 min. and get medical care. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2699	EPIFLUOROHYDRIN	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N-ETHYL-N-BENZYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)			greater than 200													(NTP, 1992)			93 to 97
2700	ETHANESULFONYL CHLORIDE, 2-CHLORO-	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	N-HEPTALDEHYDE may undergo exothermic self-condensation or polymerization reactions in the presence of acids. May generate flammable and/or toxic gases with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Is readily oxidized to give heptanoic acid. Can react with air to give first peroxo acids, and ultimately heptanoic acid. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The presence of stabilizers (antioxidants) retards autoxidation. Incompatible with strong oxidizers, bases and reducing agents. (NTP, 1992)		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		95													(NTP, 1992)			-45
2701	ETHOPROPHOS	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 1,3-PHENYLENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			
2702	ETHOXY TRIGLYCOL	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	n-HEXANETHIOL is incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite (Ca(OCl)2) to generate SOx. Reacts with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield HX. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		68													(NIOSH, 2003)			-113
2703	ETHOXYACETIC ACID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Chemical gloves, chemical goggles. (USCG, 1999)	Flammable. Insoluble in water.	HEXANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		145		(USCG, 1999)	(calc.)	1.2		%	(USCG, 1999)	(calc.)	7.7		%	(USCG, 1999)		580		(USCG, 1999)		-48.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2699	EPIFLUOROHYDRIN								(NTP, 1992)		7.28				(NTP, 1992)		1.034		66		(NTP, 1992)			545 to 547	760		(NTP, 1992)		211.31						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C15H17N		5.0	0.0	6.0	2.0	2.0
2700	ETHANESULFONYL CHLORIDE, 2-CHLORO-	(NTP, 1992)	; 5 mm Hg at 90.9Â° F	3		77		mm Hg	(NTP, 1992)		3.9				(NTP, 1992)		0.8495		68		(NTP, 1992)		307		760		(NTP, 1992)		114.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C7H14O	Cellulose-Based Absorbents	6.0	0.0	9.0	2.0	2.0
2701	ETHOPROPHOS																																							Poison	C8H4N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	9.0	2.0	2.0
2702	ETHOXY TRIGLYCOL														(NIOSH, 2003)		0.84				(NIOSH, 2003)		304		760		(NIOSH, 2003)		118.2						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	CH3[CH2]5SH		5.0	0.0	7.0	2.0	2.0
2703	ETHOXYACETIC ACID	(USCG, 1999)		38.78				mm Hg							(USCG, 1999)		0.85		68		(USCG, 1999)		314.8		760		(USCG, 1999)		102.18											HXN	Flammable Liquid	C6H14O	Cellulose-Based Absorbents	5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2704	ETHOXYLATED PENTADECANOL	ETHOXYLATED PENTADECANOL|ETHOXYLATED PENTADECYLALCOHOL|POLY(OXYETHYL) PENTADECYL ETHER|TERGITOL NONIONIC 45-S-10	68131-40-8	Colorless to yellow liquid with a pleasant odor. Mixes slowly with water. Freezing point is 59Â°F. (USCG, 1999)	2.5	5.0	2.5	4673.0	455.0	1602.0	835.0	504.0	1230.0	122.0	428.0	236.0	127.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2705	ETHYL 2-CHLOROPROPIONATE	ETHYL 2-CHLOROPROPANOATE|ETHYL 2-CHLOROPROPIONATE|ETHYL ALPHA-CHLOROPROPIONATE|ETHYL CHLOROPROPIONATE|PROPIONIC ACID, 2-CHLORO-, ETHYL ESTER|(2RS)-2-CHLOROPROPIONIC ACID ETHYL ESTER	535-13-7	A clear colorless liquid with a pungent odor. Denser than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	4675.0	455.0	1602.0	835.0	504.0	1231.0	122.0	428.0	236.0	127.0	INHALATION: move to fresh air; get medical attention if exposure has been severe. INGESTION: give large amount of water. EYES: flush with water for at least 15 min.; get medical attention if irritation persists. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may be formed in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2706	ETHYL 3-HYDROXYBUTYRATE	BUTANOIC ACID, 3-HYDROXY-, ETHYL ESTER|BUTYRIC ACID, 3-HYDROXY-, ETHYL ESTER|ETHYL (+-)-3-HYDROXYBUTANOATE|ETHYL 3-HYDROXYBUTANOATE|ETHYL 3-HYDROXYBUTYRATE|(.+-.)-ETHYL 3-HYDROXYBUTYRATE|ETHYL BETA-HYDROXYBUTYRATE|ETHYL DL-3-HYDROXYBUTYRATE|(.+-.)-3-HYDROXYBUTANOIC ACID ETHYL ESTER|3-HYDROXYBUTANOIC ACID ETHYL ESTER|3-HYDROXYBUTYRIC ACID ETHYL ESTER	5405-41-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4677.0	455.0	1602.0	835.0	504.0	1232.0	122.0	428.0	236.0	127.0	INHALATION: move to fresh air; get medical attention if exposure has been severe. INGESTION: give large amounts of water. EYES: flush with water for at least 15 min. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen bromide vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2707	ETHYL ACETYLENE, INHIBITED	1-BUTYNE|ETHYL ACETYLENE|ETHYL ACETYLENE, INHIBITED|ETHYL ACETYLENE, [INHIBITED]|ETHYLACETYLENE|ETHYLETHYNE	107-00-6	A colorless gas. Denser than air. Prolonged exposure to intense heat may cause the containers to rupture violently and rocket.	5.0	1.0	1.0	4677.0	455.0	1602.0	835.0	504.0	1232.0	122.0	428.0	236.0	127.0	EYES: flush with water for at least 15 min.; call a doctor. SKIN: wipe off, wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
2708	ETHYL AMYL KETONE	AMYL ETHYL KETONE|EAK|ETHYL AMYL KETONE|ETHYL N-AMYL KETONE|ETHYL N-PENTYL KETONE|ETHYL PENTYL KETONE|5-METHYL-3-HEPTANONE|3-METHYL-5-HEPTANONE|N-AMYL ETHYL KETONE|N-OCTANONE-3|3-OCTANONE|3-OXOOCTANE	106-68-3	A clear colorless liquid with a pungent odor. Insoluble in water and partially soluble in alcohol. Flash point of 138Â°F. Vapors are denser than air and may have a narcotic effect in high concentrations. Used in making perfumes and as a solvent for nitrocellulose and vinyl resins.	2.5	5.0	2.5	4679.0	455.0	1602.0	835.0	504.0	1233.0	122.0	428.0	236.0	127.0	Consult a physician. INHALATION: Remove from source. EYES: Wash with copious amounts of water and get medical attention. SKIN: Wash with soap and water. INGESTION: Give 2 to 3 glasses of water and induce vomiting. Consult physician. (USCG, 1999)	Special Hazards of Combustion Products: None known Behavior in Fire: Converts to black nickelic oxide (Ni 2 O 3). (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2709	ETHYL BUTYL KETONE	BUTYL ETHYL KETONE|ETHYL BUTYL KETONE.|3-HEPTANONE	106-35-4	Colorless odorless liquid with a mild fruity odor. Flash point 140Â°F.	2.5	5.0	2.5	4679.0	455.0	1602.0	835.0	504.0	1233.0	122.0	428.0	236.0	127.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2704	ETHOXYLATED PENTADECANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	N-HYDROXYBENZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).								0																						(NTP, 1992)			259 to 266
		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)																																			
2705	ETHYL 2-CHLOROPROPIONATE		Bu. Mines approved respirator; rubber gloves; face shield or safety goggles; protective clothing. (USCG, 1999)	Water soluble. Forms an acidic aqueous solution.	NICKEL AMMONIUM SULFATE is a "double salt" that is a weak oxidizing agent. Gives an acidic solution when dissolved in water.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																										
2706	ETHYL 3-HYDROXYBUTYRATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Bu. Mines approved respirator; rubber gloves; face shield or safety goggles; protective clothing. (USCG, 1999)	Deliquescent. Soluble in water.	NICKEL BROMIDE is a yellow, crystalline material, mildly toxic, carcinogenic. On contact with strong acids or acid fumes it produces highly toxic and corrosive hydrogen bromide gas. When heated to decomposition it emits toxic bromide fumes. [M. K.]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																										
2707	ETHYL ACETYLENE, INHIBITED	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from contact with strong oxidizing agents. Can react exothermically with bases and with diazo compounds.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2		(USCG, 1999)		181																								
2708	ETHYL AMYL KETONE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	NIOSH-approved respiratory protection, side shield safety glasses or goggles, and rubber gloves. (USCG, 1999)	Slightly soluble in water.	NICKEL HYDROXIDE is a light-green crystalline material, moderately toxic, carcinogenic. When heated to decomposition it emits toxic fumes of metallic nickel [M. K.].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)	Ignites in air at about 752.0Â° F														(USCG, 1999)		752		(USCG, 1999)		446	
2709	ETHYL BUTYL KETONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	NICKEL SULFATE HEXAHYDRATE is incompatible with strong acids, sulfur, Ni(NO3)2, wood and other combustibles. (NTP, 1992) At elevated temperature undergoes violent reaction with powdered aluminum or magnesium. When heated to decomposition it emits very toxic fumes of oxides of sulfur [Lewis, 3rd ed., 1993, p. 918].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2704	ETHOXYLATED PENTADECANOL																				(NTP, 1992)	Explodes					(NTP, 1992)		137.15						(NTP, 1992)	at 74.7Â° F		5 to 10	mg/mL			C7H7NO2	Cellulose-Based Absorbents	6.0	0.0	6.0	2.0	2.0
2705	ETHYL 2-CHLOROPROPIONATE														(USCG, 1999)		1.92		68								(USCG, 1999)		395		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NAS	Class 9	Ni(NH4)2(SO4)2.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	9.0	2.0	2.0
2706	ETHYL 3-HYDROXYBUTYRATE														(USCG, 1999)	(est)	4		68								(USCG, 1999)		272.6		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NBR	Poison	NiBr2		5.0	0.0	8.0	2.0	2.0
2707	ETHYL ACETYLENE, INHIBITED	(USCG, 1999)		1.55				mm Hg							(USCG, 1999)		0.861		68		(USCG, 1999)		421		760		(USCG, 1999)		162.27											TEB	Combustible Liquid	C12H18		3.0	0.0	7.0	2.0	2.0
2708	ETHYL AMYL KETONE														(USCG, 1999)		4.1		68								(USCG, 1999)		92.72		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						NKH	Class 9	HO.Ni|H2NiO2		6.0	0.0	10.0	2.0	2.0
2709	ETHYL BUTYL KETONE	(NTP, 1992)	Essentially	0		68		mm Hg							(NTP, 1992)		2.07				(NTP, 1992)	Decomposes at 1544Â° F					(NTP, 1992)		262.86		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Class 9	NiSO4.6H2O		3.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2710	ETHYL CYCLOHEXANE	CYCLOHEXYL ETHANE|ETHYL CYCLOHEXANE	1678-91-7	A colorless liquid. (USCG, 1999)	2.5	5.0	2.5	4681.0	455.0	1602.0	835.0	504.0	1234.0	122.0	428.0	236.0	127.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2711	ETHYL ISOCYANATE	ETHYL ISOCYANATE|ISOCYANATO ETHANE|ISOCYANIC ACID, ETHYL ESTER	109-90-0	A colorless liquid. Less dense than water and insoluble in water. May irritate skin, eyes, and mucous membranes. May be lethal by Inhalation . Used to make pharmaceuticals and pesticides.	2.5	5.0	2.5	4683.0	457.0	1604.0	835.0	506.0	1235.0	123.0	429.0	236.0	128.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2712	ETHYL PHENYLPROPIOLATE	EPP|ETHYL 3-PHENYL-2-PROPYNOATE|ETHYL 3-PHENYLPROPARGYLATE|ETHYL 3-PHENYLPROPIOLATE|ETHYL 3-PHENYLPROPYNOATE|ETHYL PHENYLACETYLENECARBOXYLATE|ETHYL PHENYLPROPIOLATE|ETHYL PHENYLPROPYNOATE|PHENYLACETYLENE MONOCARBOXYLIC ACID ETHYL ESTER|3-PHENYLPROPARGYLIC ACID ETHYL ESTER|PROPIOLIC ACID, PHENYL-, ETHYL ESTER	2216-94-6	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4683.0	457.0	1604.0	835.0	506.0	1235.0	123.0	429.0	236.0	128.0	(BLOB)	(BLOB)	Wear positive pressure breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Stay away from ends of tanks. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. For small fires, use dry chemical or carbon dioxide. For large fires, use water spray, fog, or foam. (EPA, 1998)
2713	ETHYL PHOSPHORODICHLORIDATE	DICHLOROETHOXYPHOSPHINE OXIDE|ETHOXYPHOSPHORYL DICHLORIDE|ETHYL DICHLOROPHOSPHATE|ETHYL DICHLOROPHOSPHINATE|ETHYL PHOSPHORODICHLORIDATE|ETHYL PHOSPHORYL DICHLORIDE|ETHYLPHOSPHORIC ACID DICHLORIDE|PHOSPHORODICHLORIDIC ACID, ETHYL ESTER	1498-51-7	Ethyl phosphorodichloridate is strongly irritating to skin. It may cause visible destruction or irreversible alterations in human skin tissue at the site of contact. It is very toxic by ingestion, inhalation, or by skin absorption. It may be combustible though it may require some effort to ignite.	1.0	2.5	5.0	4685.0	457.0	1604.0	835.0	506.0	1236.0	123.0	429.0	236.0	128.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material should be controlled with a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
2714	ETHYLENE CYANOHYDRIN	BETA-CYANOETHANOL|BETA-HPN|BETA-HYDROXYETHYL CYANIDE|BETA-HYDROXYPROPIONITRILE|1-CYANO-2-HYDROXYETHANE|2-CYANOETHANOL ALCOHOL|2-CYANOETHANOL|2-CYANOETHYL ALCOHOL|ETHYLENE CYANOHYDRIN|GLYCOL CYANOHYDRIN|HYDRACRYLONITRILE|3-HYDROXY-2-CYANOETHANE|2-HYDROXYCYANOETHANE|2-HYDROXYETHYL CYANIDE|3-HYDROXYPROPANENITRILE {ETHYLENE CYANOHYDRIN}|3-HYDROXYPROPANENITRILE|3-HYDROXYPROPANOIC ACID, NITRILE|3-HYDROXYPROPIONITRILE|METHANOLACETONITRILE|USAF-RH-7	109-78-4	Colorless to yellow-brown liquid with a weak odor. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4687.0	457.0	1604.0	835.0	506.0	1237.0	123.0	429.0	236.0	128.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	(Non-Specific -- Poisonous Liquid, n.o.s.) Move container from fire area if you can do it without risk. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Poisonous Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
2715	ETHYLENE FLUOROHYDRIN	BETA-FLUOROETHANOL|ETHANOL, 2-FLUORO-|ETHYLENE FLUOROHYDRIN|1-FLUOROETHAN-2-OL|2-FLUOROETHANOL|FLUTRITEX 2|TL 741	371-62-0	A liquid. Used as a rodenticide, insecticide and acaricide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	4687.0	457.0	1604.0	835.0	506.0	1237.0	123.0	429.0	236.0	128.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2710	ETHYL CYCLOHEXANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	NICOTINE SULFATE arises from the neutralization of nicotine with sulfuric acid. Emits very toxic fumes of carbon monoxide and oxides of nitrogen when heated to decomposition [Lewis, 3rd ed., 1993, p. 919]. May react exothermically with strong oxidizing agents and strong reducing agents.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2711	ETHYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this container tightly closed under an inert atmosphere and store it under refrigerated conditions. (NTP, 1992)	(BLOB)	Insoluble in water.	N-ISOPROPYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		190																	(NIOSH, 2003)		-58	
2712	ETHYL PHENYLPROPIOLATE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Combines very rapidly with oxygen in the air to form nitrogen dioxide. Nitrogen dioxide reacts with water to form nitric acid and nitric oxide, reacts with alkalis to form nitrates and nitrites [Merck 11th ed. 1989].	NITRIC OXIDE can serve as both an oxidizing agent and as a reducing agent. Sustains the combustion of powdered aluminum [Mellor 5:209-212. 1946-47]. Enflames or explodes when mixed with vapors of carbon disulfide [Mellor 8, Supp. 2:232. 1967]. Reacts vigorously with sodium monoxide above 100Â°C [Mellor 2, Supp. 2:629. 1961]. Reacts on contact with oxygen at room temperature to form brown gaseous nitrogen dioxide. Reacts with alkalis to form nitrates and nitrites [Merck 11th ed. 1989]. The liquid is very sensitive to detonation in the presence of water.	Strong Oxidizing Agent; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1660 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																(EPA, 1998)		-262.5	
2713	ETHYL PHOSPHORODICHLORIDATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Water soluble.	1,3-PROPYLENE OXIDE reacts with Grignard reagents and organolithium compounds. It is also incompatible with oxidizing agents and strong acids. (NTP, 1992). An explosion occurred when propylene oxide was added to epoxy resin. Polymerization was catalyzed by amine accelerator in the resin [Bretherick 1995]. Propylene oxide and sodium hydroxide base-catalyzed the polymerization of the former, causing ignition and explosion of a drum of the crude product. [Combust Sci. Technol., 1983].	Highly Flammable; Polymerizable	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		-19																				
2714	ETHYLENE CYANOHYDRIN	(Non-Specific -- Poisonous Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Absorb small spills with sand or other noncombustible absorbent materials. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly Flammable	Nitroalkanes, such as NITROCYCLOHEXANE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3382 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4																(EPA, 1998)		-29	
2715	ETHYLENE FLUOROHYDRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	NITROFURANTOIN is sensitive to light. This chemical is incompatible with alkalis. It is also incompatible with strong oxidizers and strong acids. It decomposes on contact with metals other than stainless steel and aluminum. (NTP, 1992)					0																	(NTP, 1992)	(decomposes)	514	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2710	ETHYL CYCLOHEXANE																																								Poison	(C10H15N2)2SO4 (aqueous)		6.0	0.0	9.0	2.0	2.0
2711	ETHYL ISOCYANATE	(NIOSH, 2003)		0.03		77		mm Hg							(NIOSH, 2003)		0.93		60		(NTP, 1992)			397 to 399	760		(NTP, 1992)		135.21						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C9H13N		7.0	0.0	9.0	2.0	2.0
2712	ETHYL PHENYLPROPIOLATE	(EPA, 1998)		26000		68		mm Hg	(EPA, 1998)		1.04				(EPA, 1998)		1.27		-238.36		(EPA, 1998)		-241.1		760		(EPA, 1998)		30.01		(NIOSH, 2003)		100	ppm	(NIOSH, 2003)		5		%	NTX	Poison Gas|Oxidizer|Corrosive	NO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2713	ETHYL PHOSPHORODICHLORIDATE														(NTP, 1992)		0.893		77		(NTP, 1992)		122		760		(NTP, 1992)		58.08						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL		Flammable Liquid	C3H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	8.0	2.0	2.0
2714	ETHYLENE CYANOHYDRIN														(EPA, 1998)		1.061		68		(EPA, 1998)		401.9		768		(EPA, 1998)		129.16												Poison Inhalation Hazard	C6H11NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	10.0	2.0	2.0
2715	ETHYLENE FLUOROHYDRIN																											(NTP, 1992)		238.16						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL			C8H6N4O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2716	ETHYLENE GLYCOL DIETHYL ETHER	DEE|1,2-DIETHOXYETHANE|DIETHYL CELLOSOLVE|3,6-DIOXAOCTANE|2-ETHOXYETHYL ETHYL ETHER|ETHYL GLYME|ETHYLENE GLYCOL DIETHYL ETHER|GLYCOL DIETHYL ETHER	629-14-1	A clear colorless liquid with a faint ether-like odor. Flash point 95Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4687.0	457.0	1604.0	835.0	506.0	1237.0	123.0	429.0	236.0	128.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2717	ETHYLENE GLYCOL ISOPROPYL ETHER	B-HYDROXYETHYL ISOPROPYL ETHER|BETA-HYDROXYETHYL ISOPROPYL ETHER|DOWANOL EIPA|ETHANOL, 2-ISOPROPOXY|ETHYLENE GLYCOL ISOPROPYL ETHER|2-ISOPROPOXYETHANOL|ISOPROPYL CELLOSOLVE|ISOPROPYL CELLOSOLVEÂ®|ISOPROPYL GLYCOL	109-59-1	A clear liquid. Density 0.903 g / cm3. Flash point 114Â°F. An irritant.	2.5	5.0	2.5	4689.0	457.0	1606.0	835.0	506.0	1238.0	123.0	430.0	236.0	128.0	INHALATION: remove to fresh air; apply artificial respiration if breathing has stopped; call physician. EYES: treat for frostbite burns caused by liquid. SKIN: treat for frostbite; soak in lukewarm water. (USCG, 1999)	Behavior in Fire: Containers may explode when heated. (USCG, 1999)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2718	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE	ACETIC ACID 2-METHOXYETHYL ESTER|ACETYL METHYL CELLOSOLVE|BETA-METHOXYETHYL ACETATE|EGMEA|ETHYLENE GLYCOL ACETATE MONOMETHYL ETHER|ETHYLENE GLYCOL METHYL ACETATE|ETHYLENE GLYCOL METHYL ETHER ACETATE|ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE|GLYCOL ETHER EM ACETATE|GLYCOL MONOMETHYL ETHER ACETATE|MECSAC|2-METHOXYETHANOL ACETATE|2-METHOXYETHYL ACETATE|METHYL CELLOSOLVE ACETATE|METHYL CELLOSOLVEÂ® ACETATE|METHYL GLYCOL ACETATE|METHYL GLYCOL MONOACETATE	110-49-6	A clear colorless liquid with a pleasant odor. Flash point of 135Â°F. Denser than water and soluble in water. Vapors are heavier than air.	2.5	5.0	2.5	4689.0	457.0	1606.0	835.0	506.0	1238.0	123.0	430.0	236.0	128.0			
2719	ETHYLENEIMINE, INHIBITED	AMINOETHYLENE|AZACYCLOPROPANE|AZIRAN|AZIRANE|AZIRIDINE|DIHYDROAZIRENE|DIMETHYLENEIMINE|DIMETHYLENIMINE|EI|ENT-50324, ETHYLIMINE,|ETHYLENEIMINE|ETHYLENEIMINE, INHIBITED|ETHYLENEIMINE ; [INHIBITED]|ETHYLENIMINE|ETHYLENIMINE, INHIBITED|ETHYLIMINE|FAST MEG|1H-AZIRINE, DIHYDRO-	151-56-4	A clear colorless liquid with an ammonia-like odor. Flash point 12Â°F. Less dense than water. Flammable over a wide range of vapor air concentrations. Vapors irritate the skin, eyes, nose, and throat. May be toxic by prolonged inhalation, skin absorption, or ingestion. Carcinogenic. Vapors heavier than air. May polymerize exothermically if heated or contaminated. If the polymerization takes place inside a container, the container may rupture violently.	2.5	5.0	2.5	4689.0	457.0	1606.0	835.0	506.0	1238.0	123.0	430.0	236.0	128.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2720	ETHYLHEXALDEHYDES	ALPHA-ETHYLCAPROALDEHYDE|ALPHA-ETHYLHEXANAL|BUTYL ETHYL ACETALDEHYDE|BUTYLETHYLACETALDEHYDE|2-ETHYL HEXALDEHYDE|ETHYLBUTYLACETALDEHYDE|2-ETHYLCAPROALDEHYDE|ETHYLHEXALDEHYDE|2-ETHYLHEXALDEHYDE|ETHYLHEXALDEHYDES|(+-)-2-ETHYLHEXANAL|2-ETHYLHEXANAL|2-ETHYLHEXYLALDEHYDE|3-FORMYLHEPTANE|OCTYL ALDEHYDE	123-05-7	White liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4689.0	457.0	1606.0	835.0	506.0	1238.0	123.0	430.0	236.0	128.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2721	ETHYLIDENE NORBORNENE	ENB|ETHYLIDENE NORBORNENE|5-ETHYLIDENE-2-NORBORNENE|5-ETHYLIDENEBICYCLO (2, 2, 1)HEPT-2-ENE|5-ETHYLIDENEBICYCLO(2.2.1)-HEPT-2-ENE|5-ETHYLIDENEBICYCLO(2.2.1)-HEPT-2-ENE|5-ETHYLIDENEBICYCLO[2.2.1]HEPT-2-ENE|ETHYLIDENENORBORNENE|ETHYLIDENENORBORNYLENE|ETHYLIDENENORCAMPHENE|2-NORBORNENE, 5-ETHYLIDENE-	16219-75-3	Colorless liquid with an odor of turpentine. Flash point 101Â°F. Floats on water.	2.5	5.0	2.5	4691.0	457.0	1606.0	835.0	506.0	1239.0	123.0	430.0	236.0	128.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2716	ETHYLENE GLYCOL DIETHYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. Keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Water soluble.	Dry crystals are stable at temperatures up to 104Â° F. This chemical is incompatible with strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		226 to 232
2717	ETHYLENE GLYCOL ISOPROPYL ETHER	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Safety glasses or face shield; insulated gloves; long sleeves; trousers worn outside boots or over high-top shoes to shed spilled liquid; self-contained breathing apparatus where insufficient air is present. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	LIQUID NITROGEN is very unreactive. Nonflammable, noncombustible and nontoxic. Vapors can fill closed spaces and asphyxiate. Contact with water may result in vigorous or violent boiling and extremely rapid vaporization. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if the liquid contacts water in a closed container [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																			(USCG, 1999)		-354	
2718	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE			Insoluble in cold water, soluble in hot water.	Of interest as a shock or impact insensitive high explosive.	Explosive; Strong Oxidizing Agent						0																								
2719	ETHYLENEIMINE, INHIBITED	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	NITROSOETHYLURETHANE is a nitrated carbamate ester derivative. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.						0																								
2720	ETHYLHEXALDEHYDES	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Nitroalkanes, such as NITROSTARCH, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
2721	ETHYLIDENE NORBORNENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble. Heat from hydrolysis in water is extreme, may cause severe burns [Merck 11th ed. 1989].	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for sulfuric acid, CAS number 7664-93-9	3	0	2	2	No Water																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2716	ETHYLENE GLYCOL DIETHYL ETHER																									(NTP, 1992)		192.52						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C5H11Cl2N.ClH	Mineral-Based & Clay-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2717	ETHYLENE GLYCOL ISOPROPYL ETHER														(USCG, 1999)		0.807		-319.9		(USCG, 1999)		-320.1		760		(USCG, 1999)		28											NXX	Non-Flammable Gas	N2		6.0	0.0	7.0	2.0	2.0
2718	ETHYLENE GLYCOL MONOMETHYL ETHER ACETATE																																									CH4N4O2.HNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	9.0	2.0	2.0
2719	ETHYLENEIMINE, INHIBITED																									(NTP, 1992)		146.17														C5H10N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2720	ETHYLHEXALDEHYDES																																								Explosive 1.1D	[C6H7O2(NO3)3]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	10.0	2.0	2.0
2721	ETHYLIDENE NORBORNENE																																								Corrosive	H2O4S|HNO5S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2722	ETHYL-N-BUTYLAMINE	BUTYL ETHYLAMINE|BUTYLAMINE, N-ETHYL-|BUTYLETHYLAMINE|ETHYL-N-BUTYL AMINE|ETHYL-N-BUTYLAMINE|ETHYLBUTYLAMINE|N-BUTYL-N-ETHYLAMINE|N-BUTYLETHYLAMINE|N-ETHYL-1-BUTANAMINE|N-ETHYL-N-BUTYLAMINE|N-ETHYLBUTANAMINE|N-ETHYLBUTYLAMINE	13360-63-9	A colorless liquid with an ammonia-like odor. Insoluble in water and less dense than water. Flash point 65Â°F. Vapors much heavier than air. Liquid and vapors strongly irritate skin, eyes and mucous membranes. Contact with liquid may cause burns.	2.5	5.0	2.5	4693.0	457.0	1606.0	839.0	506.0	1240.0	123.0	430.0	238.0	128.0	INHALATION: remove victim to fresh air; call a doctor; enforce complete rest until doctor arrives; observe at least 24 hours for delayed effects. SKIN OR EYES: flush with water for at least 15 min.; consult physician. (USCG, 1999)	Special Hazards of Combustion Products: Very toxic gases are generated when heated (USCG, 1999)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2723	ETHYLTRICHLOROSILANE	ETHYL SILICON TRICHLORIDE|ETHYLTRICHLOROSILANE|LS 120|LS 120 (SILANE DERIVATIVE)|SIE 4901.0|SILANE, ETHYL(TRICHLORO)-|SILANE, ETHYLTRICHLORO-|SILANE, TRICHLOROETHYL-|SILICANE, TRICHLOROETHYL-|TRICHLOROETHYL SILANE|TRICHLOROETHYL SILICONE|TRICHLOROETHYLSILANE|TRICHLOROETHYL SILANE (ETHYL TRICHLOROSILANE)|TRICHLOROETHYLSILICANE|TRICHLOROETHYLSILICON|TSL 8226	115-21-9	A colorless fuming liquid with a pungent odor. Flash point 57Â°F. Boiling point 211.1Â°F (99.5Â°C). Vapor and liquid may cause burns. Denser than water. Vapors heavier than air.	2.5	5.0	2.5	4695.0	457.0	1606.0	839.0	506.0	1241.0	123.0	430.0	238.0	128.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH,	Behavior in Fire: Will support combustion, and may increase intensity of fire. Containers may explode when heated. (USCG, 1999)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2724	FENAMIPHOS	(BLOB)	22224-92-6	Brown waxy solid or colorless solid. Used as a nematocide. (EPA, 1998)	1.0	2.5	5.0	4695.0	459.0	1606.0	839.0	506.0	1241.0	124.0	430.0	238.0	128.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2725	FENTHION	(BLOB)	55-38-9	PHYSICAL DESCRIPTION: Yellow to tan oily liquid with a slight odor of garlic. (NTP, 1992)	2.5	5.0	2.5	4695.0	459.0	1608.0	839.0	506.0	1241.0	124.0	431.0	238.0	128.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2726	FERBAM	FERBAM|FERRIC DIMETHYLDITHIOCARBAMATE|TRIS(DIMETHYLCARBAMODITHIOATO-S,S')IRON|TRIS(DIMETHYLDITHIOCARBAMATO)IRON	14484-64-1	Dark brown to black odorless solid. Used as a fungicide. (NIOSH, 1997)	1.0	2.5	5.0	4697.0	459.0	1608.0	839.0	506.0	1242.0	124.0	431.0	238.0	128.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2722	ETHYL-N-BUTYLAMINE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Self-contained breathing apparatus (approved mask may be used for short exposures only); rubberized clothing; gloves; shoes; chemical goggles. (USCG, 1999)	Dissolves into and reacts with moisture in the air or with water to form hydrochloric acid and toxic red oxides of nitrogen.	NITROSYL CHLORIDE is an oxidizing agent. Dissociates into nitric oxide and chlorine on heating. Gives an explosive reaction when sealed in a tube with a residue of acetone and in the presence of platinum catalyst [Chem. Eng. News 35(43):60. 1967]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1069 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable			(USCG, 1999)		-74	
2723	ETHYLTRICHLOROSILANE	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	NITROUS OXIDE is an oxidizing agent. Nonflammable but supports combustion. Can explode at high temperature (after vaporization). Vapors can undergo a violent reaction with aluminum, boron, hydrazine, lithium hydride, phenyllithium, phosphine, sodium, tungsten carbide [Bretherick, 5th ed., 1995, p. 1686]. Contact of the cold liquefied gas with water may result in vigorous or violent boiling. If the water is hot, a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquefied gas contacts water in a closed container [Handling Chemicals Safely 1980].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		-131.5	
2724	FENAMIPHOS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor and high efficiency particulate filter cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Sensitive to heat. Water soluble. May decompose with prolonged exposure to moisture.	ALDICARB OXIME is incompatible with oxidizers, acids and alkalis [(NTP, 1992]. Several explosions or violent decompositions have occurred during distillation of alkoxides, which may be attributable to the formation of peroxides of various types. This is especially the case in the presence of acid, Chem. Eng. News, 1974, 52(35), 3. A nickel catalyzed aldoxime rearrangement to an amide, went out of control after changing the solvent employed, J. Loss Prev., 1993, 6(2), 69.	Peroxidizable Compound						0		(NTP, 1992)		244.4														(NTP, 1992)		545		(NTP, 1992)		70	
2725	FENTHION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	N-METHYLBUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NFPA, 2010)		55																		
2726	FERBAM	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	ALDRIN, a chlorinated diene, may be sensitive to prolonged exposure to light. This chemical is stable to heat and in the presence of inorganic and organic bases. It is stable to hydrated metal chlorides and mild acids. This compound is thermally stable up to 392Â° F and it is stable between pH 4 and 8. Solutions of this compound in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions. This compound reacts with concentrated acids and phenols in the presence of oxidizing agents. It can be corrosive to metals. It can react with acid catalysts, acid oxidizing agents and active metals. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2722	ETHYL-N-BUTYLAMINE														(USCG, 1999)		1.36		21.74		(USCG, 1999)		21.6		760		(USCG, 1999)		65.46											NTC	Poison Gas|Corrosive	ClNO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2723	ETHYLTRICHLOROSILANE	(NIOSH, 2003)		51.3				atm							(USCG, 1999)		1.266		-128.2		(USCG, 1999)		-129.1		760		(USCG, 1999)		44						(NIOSH, 2003)	at 77Â° F	0.1		%	NTO	Non-Flammable Gas|Oxidizer	N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0
2724	FENAMIPHOS	(NTP, 1992)			less than 0.1	68		mm Hg	(NTP, 1992)	(estimated)	4.6				(NTP, 1992)		1.05				(NTP, 1992)	(with partial decomposition)	410		760		(NTP, 1992)		133.21						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL			C5H11NOS		5.0	0.0	10.0	2.0	2.0
2725	FENTHION																																								Flammable Liquid|Corrosive	C5H13N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	10.0	2.0	2.0
2726	FERBAM																															(NIOSH, 2003)	: A potential human carcinogen.	25	mg/m3						Poison	C12H8Cl6	Dirt/Earth	7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2727	FERRIC FLUORIDE	FERRIC FLUORIDE|FERRIC FLUORIDE (FEF3)|FERRIC TRIFLUORIDE|IRON FLUORIDE|IRON TRIFLUORIDE|IRON(III) FLUORIDE	7783-50-8	Ferric fluoride is a green crystalline solid. It is slightly soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in ceramics.	1.0	2.5	5.0	4697.0	459.0	1608.0	839.0	506.0	1242.0	124.0	431.0	238.0	128.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2728	FERRIC GLYCEROPHOSPHATE	FERRIC GLYCEROPHOSPHATE	1301-70-8	Greenish-brown to greenish yellow solid. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4699.0	459.0	1608.0	839.0	506.0	1243.0	124.0	431.0	238.0	128.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2729	FERROUS AMMONIUM SULFATE	AMMONIUM FERROUS SULFATE|AMMONIUM IRON SULFATE|AMMONIUM IRON SULFATE (2:2:1)|DIAMMONIUM FERROUS DISULFATE|DIAMMONIUM IRON DISULFATE|FERROUS AMMONIUM SULFATE|FERROUS AMMONIUM SULFATE HEXAHYDRATE|FERROUS AMMONIUM SULPHATE|FERROUS DIAMMONIUM DISULFATE|IRON AMMONIUM SULFATE|MOHR'S SALT	10045-89-3	A light green crystalline solid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used in medicine, chemical analysis and metallurgy.	1.0	2.5	5.0	4701.0	459.0	1608.0	839.0	506.0	1244.0	124.0	431.0	238.0	128.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, ``alcohol'' foam, carbon dioxide, dry chemical (USCG, 1999)
2730	FLUORANTHENE	1,2-BENZACENAPHTHENE|BENZENE, 1,2-(1,8-NAPHTHALENEDIYL)-|BENZO (J,K) FLUORENE|BENZO[JK]FLUORENE|FLUORANTHENE|IDRYL|1,2-(1,8-NAPHTHALENE)BENZENE|1,2-(1,8-NAPHTHALENEDIYL)BENZENE|1,2-(1,8-NAPHTHYLENE)BENZENE	206-44-0	PHYSICAL DESCRIPTION: Light yellow fine crystals. (NTP, 1992)	1.0	2.5	5.0	4701.0	459.0	1608.0	839.0	506.0	1244.0	124.0	431.0	238.0	128.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2731	FLUOROACETIC ACID	ACETIC ACID, FLUORO-|ALPHA-FLUOROACETIC ACID|CYMONIC ACID|FAA|FLUOROACETIC ACID|2-FLUOROACETIC ACID|FLUOROETHANOIC ACID|GIFBLAAR POISON|HFA|MFA|MONOFLUOROACETIC ACID	144-49-0	A colorless crystalline solid. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	4701.0	459.0	1610.0	843.0	506.0	1244.0	124.0	432.0	240.0	128.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2732	FLUOROSULFONIC ACID	FLUOROSULFONIC ACID|FLUOROSULFURIC ACID|FLUOROSULFURIC ACID (HSO3F)|FLUOROSULPHONIC ACID|FLUOSULFONIC ACID|FLUOSULFURIC ACID|MONOFLUOROSULFURIC ACID	7789-21-1	A fuming liquid. Boiling point 163Â°C. Density 1.73 g / cm3. Corrosive to metals and to tissue. Both very short contact and the fumes can cause severe painful burns. Used as a catalyst in organic synthesis, in electroplating and as a fluorinating agent.	2.5	5.0	2.5	4703.0	459.0	1610.0	843.0	506.0	1245.0	124.0	432.0	240.0	128.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2727	FERRIC FLUORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Nitroorganics, such as DIETHYLENE GLYCOL DINITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
2728	FERRIC GLYCEROPHOSPHATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ALLETHRIN is an ester and ketone. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2729	FERROUS AMMONIUM SULFATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	Safety goggles or face shield. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Water soluble.	DIETHYLENE GLYCOL MONOBUTYL ETHER is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound		(NFPA, 2010)		1	2	1	3		(NTP, 1992)		172		(NTP, 1992)		1.2		%	(NTP, 1992)		8.5		%	(USCG, 1999)		442		(NTP, 1992)		-90.6	
2730	FLUORANTHENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear impervious coveralls, shoe covers and gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		greater than 200																				
2731	FLUOROACETIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2732	FLUOROSULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	N-NITROSODIETHANOLAMINE can react with alkoxides. It reacts with sulfuric acid at temperatures above 311Â° F. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2727	FERRIC FLUORIDE																																								Explosive 1.1D	C4H8N2O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	7.0	2.0	2.0
2728	FERRIC GLYCEROPHOSPHATE																																								Poison	C19H26O3	Dirt/Earth	4.0	0.0	10.0	2.0	2.0
2729	FERROUS AMMONIUM SULFATE	(NTP, 1992)		0.01		68		mm Hg	(NTP, 1992)		5.58				(USCG, 1999)		0.954		68		(NTP, 1992)		448		760		(NTP, 1992)		162.26						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DME		C8H18O3	Cellulose-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2730	FLUORANTHENE																				(NTP, 1992)						(NTP, 1992)		177.09						(NTP, 1992)	Insoluble (<1mg/ml)						C10H11NO2	Dirt/Earth	3.0	0.0	7.0	2.0	2.0
2731	FLUOROACETIC ACID														(NTP, 1992)		1.274		68		(NTP, 1992)			336 to 338	760		(NTP, 1992)		275.22						(NTP, 1992)	Sparingly soluble					Poison	C10H14NO6P	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2732	FLUOROSULFONIC ACID														(NTP, 1992)		1.28				(NTP, 1992)		237		1.5		(NTP, 1992)		134.16						(NTP, 1992)	at 68.9Â° F		greater than or equal to 100	mg/mL		Combustible Liquid	C4H10N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2733	FOLPET	FOLPET	133-07-3	White crystals. Used as a fungicide. Insoluble in water.	1.0	2.5	5.0	4703.0	459.0	1610.0	843.0	506.0	1245.0	124.0	432.0	240.0	128.0	(BLOB)	Special Hazards of Combustion Products: Releases irritating hydrogen chloride gas on combustion (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2734	FORMALDEHYDE CYANOHYDRIN	ACETONITRILE, HYDROXY-|ALPHA-HYDROXYACETONITRILE|ALPHA-HYDROXYMETHYLCYANIDE|CYANOMETHANOL|CYANOMETHYL ALCOHOL|FORMALDEHYDE CYANOHYDRIN|FORMALDEHYDE, CYANOHYDRIN|GLYCOLIC NITRILE|GLYCOLONITRILE|GLYCONITRILE|HYDROXYACETONITRILE|2-HYDROXYACETONITRILE|HYDROXYMETHYL CYANIDE|HYDROXYMETHYLNITRILE|2-HYDROXYMETHYLNITRILE|METHYLENE CYANOHYDRIN|USAF A-8565	107-16-4	Odorless colorless oil with a sweetish taste. Used in the manufacture of intermediates in pharmaceutical production, as a component of synthetic resins, as a chemical intermediate for organic compounds, and as a solvent. (EPA, 1998)	2.5	5.0	2.5	4703.0	459.0	1610.0	843.0	506.0	1245.0	124.0	432.0	240.0	128.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2735	FUEL OIL, [NO. 2]	FUEL OIL, [NO. 2]|FUEL OILS|HOME-HEATING OIL|OILS, FUEL: 2	68476-30-2	Oily yellow-brown liquid. Less dense than water and insoluble in water. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4703.0	459.0	1610.0	843.0	506.0	1245.0	124.0	432.0	240.0	128.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2736	FUEL OIL, [NO. 6]	BUNKER C OIL|FUEL OIL, [NO. 6]|FUEL OILS|NO. 6|OILS, FUEL: NO. 6|RESIDUAL FUEL OIL	68553-00-4	Thick black liquid with the odor of tar. Liquid is shipped at elevated temperature. Insoluble in water and usually less dense than water . (USCG, 1999)	2.5	5.0	2.5	4703.0	459.0	1610.0	843.0	506.0	1245.0	124.0	432.0	240.0	128.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2737	FUMARONITRILE	2-BUTENEDINITRILE, (E)-|(E)-1,2-DICYANOETHYLENE|FUMARIC ACID DINITRILE|FUMARIC NITRILE|FUMARODINITRILE|FUMARONITRILE|TRANS-1,2-DICYANOETHENE|TRANS-1,2-DICYANOETHYLENE|TRANS-DICYANOETHYLENE	764-42-1	PHYSICAL DESCRIPTION: Needles or brown crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4705.0	459.0	1610.0	843.0	506.0	1246.0	124.0	432.0	240.0	128.0	INHALATION: move victim to fresh air and call doctor immediately; give mouth-to-mouth resuscitation if needed; keep victim warm and comfortable; oxygen should be given only by experienced person, and only on doctor's instructions. EYES: flush with large amounts of running water for at least 15 min., holding eyelids apart to insure thorough washing; get medical attention as soon as possible; do not use chemical neutralizers, and avoid oils or ointments unless prescribed by doctor. SKIN: flush affected area with large amounts of water, do not use chemical neutralizers; get medical attention if irritation persists. INGESTION: do NOT induce vomiting; have victim drink large amounts of water or milk immediately; if vomiting occurs, give more fluids; get medical	Special Hazards of Combustion Products: Yields zinc oxide fumes when burning; can cause ``metal fume fever'' (see 5.2) Behavior in Fire: Reacts spontaneously with air or oxygen, and violently with water, evolving flammable ethane gas. Contact with water applied to adjacent fires will intensify the fire. (USCG, 1999)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2733	FOLPET	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	ALLYL CHLORIDE presents a serious fire and explosion hazard when exposed to heat, flame or oxidizing agents. Polymerizes violently and exothermically with Lewis acids (aluminum chloride, boron trifluoride, sulfuric acid) or metals (aluminum, magnesium, zinc, or galvanized metal) [MCA SD-99, 1973]. Incompatible with acids (nitric acid, chlorosulfonic acid, oleum), with strong bases (sodium hydroxide, potassium hydroxide), with ethyleneimine and ethylenediamine [Lewis, 3rd ed., 1993, p. 36]. Attempts to alkylate benzene or toluene using allyl chloride in the presence of ethylaluminum chlorides have led to explosions.	Highly Flammable; Polymerizable; Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NTP, 1992)		-25		(NTP, 1992)		3.3		%	(NTP, 1992)		11.2		%	(USCG, 1999)		737		(NTP, 1992)		-210.1	
2734	FORMALDEHYDE CYANOHYDRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as 1,4-DICHLOROBUTANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		104														(NTP, 1992)		-35.1	
2735	FUEL OIL, [NO. 2]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Sensitive to moisture--stability in aqueous alkaline solutions depends on pH.	N-NITROSO-N-ETHYLUREA is highly reactive. Sensitive to moisture and light. Its stability in aqueous solutions is pH-dependent. Incompatible with water and nucleophilic reagents. Alkaline hydrolysis produces a highly explosive gas. (NTP, 1992).	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)	(decomposes)		217 to 219
2736	FUEL OIL, [NO. 6]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	A nitrated amine, nicotine derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		117	
2737	FUMARONITRILE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Cartridge-type or fresh air mask for fumes or smoke; PVC fire-retardant or asbestos gloves; full face shield, safety glasses, or goggles; fire-retardant coveralls as standard wear; for special cases, use asbestos coat or rain suit. (USCG, 1999)	Highly flammable. Ignites in air with a blue flame giving off a peculiar garlic-like odor, [Merck, 11th ed., 1989]. Diethyl zinc is spontaneously flammable in air, [Douda(1966)]. Reacts violently with water to form flammable ethane gas, [Brauer(1965)].	DIETHYLZINC is pyrophoric in air, it ignites instantaneously. It reacts explosively with alcohols (methanol, ethanol), bromine, chlorine or liquefied sulfur dioxide [Houben-Weyl, 1973, 13.2a, p. 855, 757, 709]. Reaction with water, nitro compounds, arsenic trichloride, phosphorus trichloride is violent [Bretherick, 5th ed., 1995, p. 587].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7	No Water																(USCG, 1999)		0		(USCG, 1999)		-18	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2733	FOLPET	(NTP, 1992)	; 440 mm Hg at 86Â° F	340		68		mm Hg	(NTP, 1992)		2.64				(USCG, 1999)		0.94		68		(NTP, 1992)		113		760		(NTP, 1992)		76.53		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 66Â° F		1 to 10	mg/mL	ALC	Flammable Liquid|Poison	C3H5Cl	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	9.0	0.0	10.0	2.0	2.0
2734	FORMALDEHYDE CYANOHYDRIN	(NTP, 1992)		4		68		mm Hg	(NTP, 1992)		4.4				(NTP, 1992)		1.1408				(NTP, 1992)		309		760		(NTP, 1992)		127.03												Flammable Liquid	C4H8Cl2		5.0	0.0	7.0	2.0	2.0
2735	FUEL OIL, [NO. 2]																										(NTP, 1992)		117.13						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL		Poison	C3H7N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0
2736	FUEL OIL, [NO. 6]																				(NTP, 1992)		309		0.2		(NTP, 1992)		177.23						(NTP, 1992)	Insoluble					Poison	C9H11N3O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	8.0	2.0	2.0
2737	FUMARONITRILE														(USCG, 1999)		1.207		68		(USCG, 1999)		255		760		(USCG, 1999)		123.5										DEZ	Spontaneously Combustible|Dangerous When Wet	C4H10Zn		7.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2738	FURAN	AXOLE|DIVINYLENE OXIDE|1,4-EPOXY-1,3-BUTADIENE|FURAN|FURFURAN|FURFURANE|NCI-C56202|OXACYCLOPENTADIENE|OXOLE|TETROLE	110-00-9	A clear colorless liquid with a strong odor. Flash point below 32Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4705.0	459.0	1610.0	843.0	506.0	1246.0	124.0	432.0	240.0	128.0	(BLOB)	Combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2739	FURFURAL ACETONE	3-BUTEN-2-ONE, 4-(2-FURYL)-|4-(2-FURANYL)-3-BUTEN-2-ONE|FURFURAL ACETONE|FURFURALACETONE|FURFURYLIDENEACETONE|FURFURYLIDENEACETONE|2-FURFURYLIDENEACETONE|4(2-FURYL)-3-BUTEN-2-ONE|MONOFURFURYLIDENEACETONE	623-15-4	PHYSICAL DESCRIPTION: Reddish crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4707.0	459.0	1612.0	843.0	506.0	1247.0	124.0	433.0	240.0	128.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2740	FUSEL OIL	ALCOHOLS, FUSEL|ALCS., FUSEL|FUSEL OIL|OILS, FUSEL	8013-75-0	A clear colorless liquid with a mild odor. Vapors are heavier than air.	2.5	5.0	2.5	4707.0	459.0	1612.0	843.0	506.0	1247.0	124.0	433.0	240.0	128.0	(BLOB)	Combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2741	GALLIUM ARSENIDE	GALLIUM ARSENIDE|GALLIUM MONOARSENIDE|GALLIUM MONOARSENIDE (GAAS)	1303-00-0	PHYSICAL DESCRIPTION: Dark gray crystals with a metallic greenish-blue sheen or gray powder. Melting point 85.6Â°F (29.78Â°C).	1.0	2.5	5.0	4707.0	459.0	1614.0	843.0	506.0	1247.0	124.0	434.0	240.0	128.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2742	GAMMA-VALEROLACTONE	DIHYDRO-5-METHYL-2(3H)-FURANONE|DIHYDRO-5-METHYL-2-FURANONE|GAMMA-METHYL-GAMMA-BUTYROLACTONE|GAMMA-METHYLBUTYROLACTONE|(.+-.)-GAMMA-METHYLBUTYROLACTONE|GAMMA-PENTALACTONE|(.+-.)-GAMMA-PENTALACTONE|GAMMA-VALEROLACTONE|(.+-.)-GAMMA-VALEROLACTONE|4-HYDROXYPENTANOIC ACID GAMMA-LACTONE|4-HYDROXYPENTANOIC ACID LACTONE|4-HYDROXYVALERIC ACID GAMMA-LACTONE|4-HYDROXYVALERIC ACID LACTONE|4-METHYL-GAMMA-BUTYROLACTONE|(.+-.)-4-METHYLBUTYROLACTONE|4-METHYLBUTYROLACTONE|5-	108-29-2	PHYSICAL DESCRIPTION: Clear, colorless, mobile liquid. pH (anhydrous): 7.0. pH (10% solution in distilled water): 4.2. (NTP, 1992)	2.5	5.0	2.5	4707.0	459.0	1614.0	843.0	506.0	1247.0	124.0	434.0	240.0	128.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2738	FURAN	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Soluble in water.	A cyclic nitrosamine. Nitrated organics, such as N-NITROSOPYRROLIDINE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		181																				
2739	FURFURAL ACETONE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed in alkaline solution above pH 9.0.	A urea derivative. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2740	FUSEL OIL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that latex gloves may provide protection from contact with this compound. Latex over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Saturated aliphatic hydrocarbons, such as N-OCTADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		212														(NTP, 1992)		82.9	
2741	GALLIUM ARSENIDE	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Insoluble in water. Easily ignited by heat, sparks or flames. Forms explosive mixtures with air	DIFLUOROMETHANE can react with some metals to form dangerous products. May react violently with aluminum. Incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																								
2742	GAMMA-VALEROLACTONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Insoluble in water.	N-OCTYL METHACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This material is probably stable under normal laboratory conditions, but may be heat sensitive and susceptible to polymerization during long term storage. Polymerizes to a resin. (NTP, 1992)	Polymerizable						0		(NTP, 1992)		195																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2738	FURAN														(NTP, 1992)		1.085		68		(NTP, 1992)		417		760		(NTP, 1992)		100.14													Poison	C4H8N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	10.0	2.0	2.0
2739	FURFURAL ACETONE																																								Class 9	C14H9ClF2N2O2		5.0	0.0	7.0	2.0	2.0
2740	FUSEL OIL								(NTP, 1992)		8.73				(NTP, 1992)		0.7768		82		(NTP, 1992)		601		760		(NTP, 1992)		254.51													Flammable Solid	C18H38		6.0	0.0	6.0	2.0	2.0
2741	GALLIUM ARSENIDE																																								Flammable Gas	CH2F2		3.0	0.0	8.0	2.0	2.0
2742	GAMMA-VALEROLACTONE																																			(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C12H22O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2743	GERMANE	GERMANE|GERMANIUM HYDRIDE|GERMANIUM HYDRIDE (GEH4)|GERMANIUM TETRAHYDRIDE|GERMANIUM(4+) HYDRIDE|GERMANOMETHANE|MONOGERMANE|TETRA HYDROGERMANE	7782-65-2	Germane is a colorless gas with a pungent odor. It is flammable. The gas is heavier than air and a flame can flash back to the source of leak very easily. It is toxic by inhalation. Prolonged exposure of the containers to fire or intense heat may result in their violent rupturing and rocketing. It is used in making electronics.	5.0	1.0	1.0	4709.0	461.0	1616.0	843.0	508.0	1248.0	125.0	435.0	240.0	129.0	Call a physician after all exposures to this compound; it is more toxic than most of the closely related propellant gases. INHALATION: remove victim to fresh air; enforce bed rest; administer oxygen for 30 min. of every hour for 6 hours, even if no symptoms appear. SKIN: if frostbite has occured, apply warm water and treat burn. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen chloride and hydrogen fluoride gases are formed. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. Containers may explode in a fire. (USCG, 1999)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2744	GUANAZOLE	3,5-DIAMINO-1,2,4-TRIAZOLE|3,5-DIAMINO-1H-1,2,4-TRIAZOLE|3,5-DIAMINO-S-TRIAZOLE|3,5-DIAMINOTRIAZOLE|GUANAZOLE|1H-1,2,4-TRIAZOLE-3,5-DIAMINE|NCI-C04819|NSC 1895|S-TRIAZOLE, 3,5-DIAMINO-	1455-77-2	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	4709.0	461.0	1616.0	843.0	508.0	1248.0	125.0	435.0	240.0	129.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2745	HAFNIUM POWDER, DRY	CELTIUM|ELEMENTAL HAFNIUM|HAFNIUM|HAFNIUM METAL|HAFNIUM METAL, [DRY]|HAFNIUM POWDER, DRY	7440-58-6	Hafnium powder, dry, is a grayish metallic colored powder. Dust from dry powder may be ignited by static electricity. The dry powder reacts with moisture to produce hydrogen, a flammable gas. The heat from this reaction may be sufficient to ignite the hydrogen. It does not appreciably react with large quantities of water.	1.0	2.5	5.0	4709.0	461.0	1616.0	843.0	508.0	1248.0	125.0	435.0	240.0	129.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2746	HAFNIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	CELTIUM|ELEMENTAL HAFNIUM|HAFNIUM|HAFNIUM ELEMENT]HAFNIUM METAL|HAFNIUM METAL, [WET]|HAFNIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	7440-58-6	Grayish powdery solid wetted with water.	1.0	2.5	5.0	4709.0	463.0	1616.0	843.0	508.0	1248.0	126.0	435.0	240.0	129.0	(BLOB)	Avoid light. (EPA, 1998)	(Non-Specific -- Medicines, Solid, Poison B) Extinguish fire using agent suitable for type of surrounding fire; material burns with difficulty. Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
2747	HALOETHERS	HALOETHERS	124-73-2		2.5	5.0	2.5	4709.0	463.0	1616.0	843.0	508.0	1248.0	126.0	435.0	240.0	129.0	(BLOB)		
2748	HEPTYL ACETATE	ACETATE C-7|ACETIC ACID, HEPTYL ESTER|HEPTANYL ACETATE|HEPTYL ACETATE|1-HEPTYL ACETATE|N-HEPTYL ACETATE	112-06-1	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	4709.0	463.0	1616.0	843.0	508.0	1248.0	126.0	435.0	240.0	129.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2743	GERMANE	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Self-contained breathing apparatus; goggles; rubber gloves. (USCG, 1999)	Highly flammable.	Halogenated aliphatic compounds, such as TRIFLUOROCHLOROETHYLENE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines; nitrides; azo/diazo compounds; alkali metals; strong oxidizers such as chlorine perchlorate, oxygen, bromine; and epoxides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1082 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	3	7					(USCG, 1999)		16		%	(USCG, 1999)		34		%								
2744	GUANAZOLE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as ALPHA, ALPHA, ALPHA, PARA-TETRACHLOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
2745	HAFNIUM POWDER, DRY	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIS(1-CHLORO-2-PROPYL) PHOSPHATE may hydrolyze under acidic or alkaline conditions. (NTP, 1992)					0		(NTP, 1992)			greater than 200																
2746	HAFNIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER	(Non-Specific -- Medicines, Solid, Poison B) Avoid breathing dusts, and fumes from burning materials. Keep upwind. Avoid bodily contact with the material. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(EPA, 1998)	Decomposes.		446 to 509
2747	HALOETHERS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	1,4-DIMETHOXYBENZENE is an ether. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.					0																						(NTP, 1992)		133	
2748	HEPTYL ACETATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	N-PENTYL PROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		106													(USCG, 1999)		712				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2743	GERMANE														(USCG, 1999)		1.307		68		(USCG, 1999)		-18		760		(USCG, 1999)		116.5											TFC	Poison Gas|Flammable Gas	C2ClF3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	6.0	2.0	2.0
2744	GUANAZOLE																				(NTP, 1992)		473		760		(NTP, 1992)		229.92												Corrosive	C7H4Cl4		5.0	0.0	9.0	2.0	2.0
2745	HAFNIUM POWDER, DRY																										(NTP, 1992)		327.59					(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C9H18Cl3O4P		6.0	0.0	8.0	2.0	2.0
2746	HAFNIUM POWDER, WETTED WITH NOT LESS THAN 25% WATER																										(EPA, 1998)		780.92											Poison	C41H64O14	Cellulose-Based Absorbents|Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2747	HALOETHERS														(NTP, 1992)		1.053		131		(NTP, 1992)		414.7		760		(NTP, 1992)		138.18						(NTP, 1992)	Slightly soluble						C8H10O2		4.0	0.0	6.0	2.0	2.0
2748	HEPTYL ACETATE														(USCG, 1999)			0.869 to 0.873	68								(USCG, 1999)		144.22										PPE	Flammable Liquid	C8H16O2		5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2749	HEXABROMOCYCLODODECANE	BROMKAL 73-6CD|CD 75P|FR 1206|HBCD-LM|HBCD-LMS|HEXABROMOCYCLODODECANE|NICCA FI-NONE CG 1|NICCA FI-NONE TS 1|PYROGUARD F 800|PYROGUARD SR 103|PYROGUARD SR 103A|PYROVATEX 3887|SAYTEX HBCD|SAYTEX HBCD-LM|SAYTEX HBCD-SF|SR 104|YM 88	25637-99-4	PHYSICAL DESCRIPTION: White powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	4711.0	463.0	1616.0	843.0	508.0	1249.0	126.0	435.0	240.0	129.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
2750	HEXACHLOROACETONE	BIS(TRICHLOROMETHYL) KETONE|HCA|HEXACHLORO-2-PROPANONE|1,1,1,3,3,3-HEXACHLORO-2-PROPANONE|HEXACHLOROACETONE|HEXACHLOROPROPANONE|1,1,1,3,3,3-HEXACHLOROPROPANONE|PERCHLOROACETONE|2-PROPANONE, HEXACHLORO-	116-16-5	A yellow-colored liquid. Slightly soluble in water and denser than water. Vapors are much heavier than air. Irritates skin and eyes. May be toxic by ingestion or inhalation. Used to make other chemicals.	2.5	5.0	2.5	4711.0	463.0	1616.0	843.0	508.0	1249.0	126.0	435.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2751	HEXACHLOROCYCLOPENTADIENE	C 56|C-56|1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO-|GRAPHLOX|HCCPD|HEXACHLORO-1,3-CYCLOPENTADIENE|1,2,3,4,5,5-HEXACHLORO-1,3-CYCLOPENTADIENE|HEXACHLOROCYCLOPENTADIEN|HEXACHLOROCYCLOPENTADIENE|HEXACHLOROPENTADIENE|HRS 1655|NCI-C55607|PCL|PERCHLOROCYCLOPENTADIENE	77-47-4	A pale yellow liquid with a pungent odor. Density 14.3 lb /gal. Solidifies at 50Â°F. Insoluble in water. Noncombustible. Very toxic by skin absorption and inhalation. Corrosive to tissue.	2.5	5.0	2.5	4713.0	463.0	1618.0	843.0	508.0	1250.0	126.0	436.0	240.0	129.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2752	HEXAFLUOROACETONE SESQUIHYDRATE	HEXAFLUORO-2-PROPANONE SESQUIHYDRATE|HEXAFLUOROACETONE SESQUIHYDRATE|2-PROPANONE, 1,1,1,3,3,3-HEXAFLUORO-, SESQUIHYDRATE|2-PROPANONE, HEXAFLUORO-, SESQUIHYDRATE	13098-39-0	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4715.0	463.0	1618.0	843.0	508.0	1251.0	126.0	436.0	240.0	129.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen. SKIN: Wash with soap and copious amounts of water. EYES: Flush with copious amounts of water for at least 15 minutes. (USCG, 1999)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flashback. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2753	HEXAFLUOROETHANE	ETHYL HEXAFLUORIDE|FC 116|FREON 116|HEXAFLUOROETHANE|HEXAFLUOROETHANE, COMPRESSED|PERFLUOROETHANE|R 116|REFRIGERANT GAS R-116, COMPRESSED	76-16-4	Hexafluoroethane is a colorless, odorless gas. It is relatively inert. The mixture is nonflammable and nontoxic, though asphyxiation may occur because of displacement of oxygen. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4715.0	463.0	1618.0	843.0	508.0	1251.0	126.0	436.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)
2754	HEXAHYDRO-1,3,5-TRIS(HYDROXYETHYL)-5-TRIAZINE	ACTANE|BACTRACLEAN|BUSAN 1060|BUSAN 1506|ETA 75|GROTAN B|GROTAN BK|HEXAHYDRO 1,3,5-(2-HYDROXYETHYL)-S-TRIAZINE|HEXAHYDRO-1,3,5 TRIS(2-HYDROXYETHYL)-S-TRIAZINE|HEXAHYDRO-1,3,5-TRIS(2-HYDROXYETHYL)TRIAZINE|HEXAHYDRO-1,3,5-TRIS(HYDROXYETHYL)-5-TRIAZINE|KALPUR TE|KM 200|KM 200 (ALCOHOL)|N,N',N"-TRIS(2-HYDROXYETHYL)HEXAHYDRO-S-TRIAZINE|N,N',N"-TRIS(BETA-HYDROXYETHYL)HEXAHYDRO-S-TRIAZINE|ONYXIDE 200|ROKSOL T 1-7|S-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL|TRIADINE 3|1,3,5-TRIAZINE-1,3,5(2H,4H,6H)-TRIETHANOL|1,3,5-TRIS(2-HYDROXYETHYL)HEXAHYDRO-1,3,5-TRIAZINE|1,3,5-TRIS(2-	4719-04-4	PHYSICAL DESCRIPTION: Viscous yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4715.0	463.0	1618.0	843.0	508.0	1251.0	126.0	436.0	240.0	129.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorine containing compounds. Propyl chloroformate is a flammable/combustible material; it may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat or fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Runoff from fire control or dilution water may cause pollution. Gradually decomposed by water and alcohol. Unstable, decomposes spontaneously to form hydrochloric acid and other products. Avoid moist air. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: dry chemical, carbon dioxide, water spray and foam. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Spray cooling water on containers that are exposed to flames until after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2749	HEXABROMOCYCLODODECANE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Pyrophoric and explodes in oxygen, but only in the the presence of traces of moisture. Reacts vigorously with water, liberating hydrogen [Merck 11th ed. 1989]. Will flame when in contact with water [Eilern 1968 p. 45].	A powerful reducing agent. Reacts rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Incompatible with acids, alcohols, amines, and aldehydes. The borohydride reacts with alkenes and in the presence of oxygen, combustion is initiated even in the absence of moisture. Butene explodes after an induction period, while butadiene explodes immediately. Reaction with dimethylaminoborane or dimethylaminodiborane gives an oily substance which ignites in air and reacts violently with water, [J. Amer. Chem. Soc., 1951, 73, 953].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2750	HEXACHLOROACETONE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]							0																							
2751	HEXACHLOROCYCLOPENTADIENE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. It is insoluble in water.	Although TETRAMETHYLSILANE is not strictly a hydrocarbon, its properties and reactivity are very similar to saturated aliphatic hydrocarbons. It is highly flammable, insoluble in water, and chemically inert in most situations.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2752	HEXAFLUOROACETONE SESQUIHYDRATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as PROPYL BENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		118	(USCG, 1999)		0.8		%	(USCG, 1999)		6		%				(USCG, 1999)		-146.2	
2753	HEXAFLUOROETHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIHYDROXYBUTYROPHENONE is a ketone and phenol. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones.							0																									
2754	HEXAHYDRO-1,3,5-TRIS(HYDROXYETHYL)-5-TRIAZINE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Water (moisture in air or soil) reacts with generation of heat and hydrochloric acid.	Unstable, decomposes spontaneously to form hydrochloric acid and other products. Avoid moist air. [EPA, 1998]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2740 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		-58																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2749	HEXABROMOCYCLODODECANE																											71.53														Spontaneously Combustible|Dangerous When Wet	Al(BH4)3		5.0	0.0	7.0	2.0	2.0
2750	HEXACHLOROACETONE																																										C31H43NO3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	9.0	2.0	2.0
2751	HEXACHLOROCYCLOPENTADIENE																																								Flammable Liquid	C4H12Si		4.0	0.0	7.0	2.0	2.0
2752	HEXAFLUOROACETONE SESQUIHYDRATE	(USCG, 1999)		7.52				mm Hg							(USCG, 1999)		0.862				(USCG, 1999)		318.2		760		(USCG, 1999)		120.2										PBZ	Flammable Liquid	C9H12		4.0	0.0	7.0	2.0	2.0
2753	HEXAFLUOROETHANE														(NTP, 1992)		6		68								(NTP, 1992)		196.22						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C10H12O4		5.0	0.0	10.0	2.0	2.0
2754	HEXAHYDRO-1,3,5-TRIS(HYDROXYETHYL)-5-TRIAZINE								(EPA, 1998)		4.2				(EPA, 1998)		1.09		68		(EPA, 1998)			237 to 241	760		(EPA, 1998)		122.56												Poison Inhalation Hazard|Flammable Liquid|Corrosive	C4H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2755	HEXAMETHYLMELAMINE	ALTRETAMINE|ENT 50852|HEMEL|HEXALEN|HEXAMETHYL MELAMINE|HEXAMETHYLMELAMINE|HMM|MELAMINE, HEXAMETHYL|MELAMINE, HEXAMETHYL-|NCI-C50259|NSC 13875|S-TRIAZINE, 2,4,6-TRIS(DIMETHYLAMINO)-|2,4,6-TRIS(DIMETHYLAMINO)-1,3,5-TRIAZINE|1,3,5-TRIS(DIMETHYLAMINO)-S-TRIAZINE|2,4,6-TRIS(DIMETHYLAMINO)-S-TRIAZINE	645-05-6	PHYSICAL DESCRIPTION: Colorless crystalline solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	4715.0	463.0	1618.0	843.0	508.0	1251.0	126.0	436.0	240.0	129.0	INHALATION: remove from exposure; support respiration. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2756	HEXYL BENZOATE	BENZOIC ACID, HEXYL ESTER|HEXYL ALCOHOL, BENZOATE|HEXYL BENZOATE|1-HEXYL BENZOATE|HEXYLBENZOATE|N-HEXYL BENZOATE	6789-88-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4715.0	463.0	1618.0	843.0	508.0	1251.0	126.0	436.0	240.0	129.0	INGESTION: induce vomiting if large amount has been swallowed. EYES: flush with water. SKIN: remove spills on skin or clothing by washing with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
2757	HEXYLAMINE, [LIQUID]	1-AMINOHEXANE|ENT 16554|HEXYLAMINE|HEXYLAMINE, [LIQUID]|1-HEXYLAMINE|MONO-N-HEXYLAMINE|N-HEXYLAMINE	111-26-2	A water-white liquid with an amine-like odor. Less dense than water and poorly soluble in water. Hence floats on water. May be toxic by inhalation, ingestion or skin absorption.	2.5	5.0	2.5	4717.0	465.0	1618.0	843.0	508.0	1252.0	127.0	436.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2758	HYGROMYCIN B	ANTIHELMYCIN|D-STREPTAMINE, O-6-AMINO-6-DEOXY-L-GLYCERO-D-GALACTO-HEPTOPYRANOSYLIDENE-|HYDROMYCIN B|HYGROMIX 2.4|HYGROMIX-8|HYGROMYCIN B|HYGROVETIN|HYGROVETINE|1-2-3)-O-BETA-D-TALOPYRANOSYL-(1-5)-2-DEOXY-N(SUP3)-METHYL-	31282-04-9	PHYSICAL DESCRIPTION: Amorphous solid or tan powder. (NTP, 1992)	1.0	2.5	5.0	4719.0	465.0	1618.0	843.0	508.0	1253.0	127.0	436.0	240.0	129.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2759	ICHTHAMMOL	ALBICHTHOL|ALBICHTOL|ALBIKHTOL|AMMONIUM BITHIOLICUM|AMMONIUM ICHTHOSULFONATE|AMMONIUM ICHTHYOLATE|AMMONIUM SULFOBITUMINATE|AMMONIUM SULFOICHTHYOLATE|AMSUBIT|FUNGICHTHOL|HIRATHIOL|ICHDEN|ICHTAMMON|ICHTHADONE|ICHTHALUM|ICHTHAMMOL|ICHTHAMMONIUM|ICHTHIUM|ICHTHOSAN|ICHTHOSAURAN|ICHTHOSULFOL|ICHTHYMALL|ICHTHYN|ICHTHYNAT|ICHTHYOL|ICHTHYOL SULFONIC ACID, AMMONIUM SALT|ICHTHYOPON|ICHTHYSALLE|LEUKICHTHOL|LITHOL|PERICHTHOL|PETROSULPHO|PISCAROL|PISCIOL|SAUROL|SUBITOL|SULFOGENOL|SULFOICHTHYOLIC ACID, AMMONIUM SALT|THILAVEN|THIOLIN|THIOSEPTI|THIOZIN|TRASULPHANE|TUMENOL	8029-68-3	PHYSICAL DESCRIPTION: Pale yellow or brownish-black to dark brown very viscous liquid. Strong tarry odor and a burning taste. (NTP, 1992)	2.5	5.0	2.5	4719.0	465.0	1618.0	843.0	508.0	1253.0	127.0	436.0	240.0	129.0			
2760	INDENE	INDEN|INDENE|INDONAPHTHALENE|INDONAPHTHENE|NSC 9270	95-13-6	A colorless liquid derived from coal tar. Fp: -2Â°C; bp:182Â°C. Density 0.997 g cm-3. Insoluble in water but soluble in organic solvents.	2.5	5.0	2.5	4719.0	465.0	1618.0	843.0	508.0	1253.0	127.0	436.0	240.0	129.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2755	HEXAMETHYLMELAMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles. (USCG, 1999)	Highly flammable. Insoluble in water.	DIISOBUTYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)	(est.)	35							(USCG, 1999)		0.9		%	(USCG, 1999)		788		(USCG, 1999)		-136.3	
2756	HEXYL BENZOATE		Goggles or face shield and rubber gloves. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact with strong oxidizing agents. React exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. May attack some forms of plastics (USCG, 1999).					0		(USCG, 1999)		285														(USCG, 1999)		23	
2757	HEXYLAMINE, [LIQUID]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	O,P'-DDD dehydrohalogenates with strong alkalis. (NTP, 1992) Simple aromatic halogenated organic compounds are very unreactive; halogenated aliphatic compounds are moderately or very reactive. Both subgroups generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.					0																		(NTP, 1992)			171 to 172
2758	HYGROMYCIN B	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: If concentration is >5%, wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided (when concentration is >5%) in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Soluble in water. Sensitive to heat and air.	DIISOPROPYLAMINE can react violently with oxidizing agents and strong acids. Readily eutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		30		(NTP, 1992)		1.1		%	(NTP, 1992)		7.1		%	(USCG, 1999)		600		(NTP, 1992)		-78	
2759	ICHTHAMMOL			No rapid reaction with air. No rapid reaction with water.									0																						
2760	INDENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	OCTADECYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		300														(NTP, 1992)			120 to 126

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2755	HEXAMETHYLMELAMINE	(USCG, 1999)		82.72				mm Hg							(USCG, 1999)		0.715		68		(USCG, 1999)		214.7		760		(USCG, 1999)		112.22											DBL	Flammable Liquid	C8H16	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2756	HEXYL BENZOATE														(USCG, 1999)		0.855		68		(USCG, 1999)		601		760		(USCG, 1999)		232.4											UDB		C17H28		5.0	0.0	6.0	2.0	2.0
2757	HEXYLAMINE, [LIQUID]																											(NTP, 1992)		320.04						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C14H10Cl4		7.0	0.0	10.0	2.0	2.0
2758	HYGROMYCIN B	(USCG, 1999)		129.25				mm Hg	(NTP, 1992)		3.5				(USCG, 1999)		0.717		68		(NTP, 1992)		183		760		(NTP, 1992)		101.19		(NIOSH, 2003)		200	ppm	(NTP, 1992)	Slightly soluble				DIA	Flammable Liquid|Corrosive	C6H15N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2759	ICHTHAMMOL																																									C8Cl8	Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2760	INDENE								(NTP, 1992)		9.29				(NTP, 1992)		0.8618		68		(NTP, 1992)		660		760		(NTP, 1992)		269.52						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C18H39N	Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2761	INDOL-3-YL SODIUM PHOSPHATE	1H-INDOL-3-OL DIHYDROGEN PHOSPHATE ESTER, DISODIUM SALT]1H-INDOL-3-OL PHOSPHATE, DISODIUM SALT]3-HYDROXYINDOLE, DIHYDROGEN PHOSPHATE ESTER, DISODIUM SALT]3-HYDROXYINDOLE, PHOSPHATE ESTER, DISODIUM SALT]INDOL-3-OL, DIHYDROGEN PHOSPHATE (ESTER), DISODIUM SALT]INDOL-3-YL SODIUM PHOSPHATE]INDOL-3-YL SODIUM PHOSPHATE TRIHYDRATE]3-INDOLYL PHOSPHATE DISODIUM SALT]3-INDOXYL PHOSPHATE DISODIUM SALT]3-INDOXYL PHOSPHATE, DISODIUM SALT]IP 2NA	3318-43-2	White to off-white powder. (NTP, 1992)	1.0	2.5	5.0	4719.0	465.0	1618.0	843.0	508.0	1253.0	127.0	436.0	240.0	129.0	Call for medical aid. INHALATION: Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Give large amounts of water. Induce vomiting. EYES: Flush with water for at least 15 min., occasionally lifting lids. SKIN: Remove contaminated clothing and shoes. Flush with copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Produces sulfuric acid upon decomposition. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2762	IODOMETHYLPROPANE	1-IODO-2-METHYLPROPANE|IODOMETHYLPROPANE|IODOMETHYLPROPANES|ISOBUTYL IODIDE|2-METHYLPROPYL IODIDE	513-38-2	A colorless liquid mixture of isomers that discolors in air. Denser than water. Vapors are heavier than air. May be mildly toxic by inhalation. Used as a solvent and to make pharmaceuticals.	2.5	5.0	2.5	4719.0	465.0	1620.0	843.0	508.0	1253.0	127.0	437.0	240.0	129.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2763	IRON PENTACARBONYL	IRON CARBONYL|IRON CARBONYL (FE(CO)5)|IRON CARBONYL (FE(CO)5), (TB-5-11)-|IRON PENTACARBONYL|IRON PENTACARBONYL (FE(CO)5)|PENTACARBONYL IRON|PENTACARBONYL IRON|R 20	13463-40-6	A yellow to dark red liquid. Insoluble in water and denser than water. Very toxic by inhalation, ingestion, and skin absorption. Flash point 5Â°F. Used to make other chemicals.	2.5	5.0	2.5	4721.0	465.0	1620.0	843.0	508.0	1254.0	127.0	437.0	240.0	129.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2764	ISOAMYL CINNAMATE	CINNAMIC ACID, ISOPENTYL ESTER|ISOAMYL CINNAMATE|ISOPENTYL ALCOHOL, CINNAMATE|3-PHENYL-2-PROPENOIC ACID 3-METHYLBUTYL ESTER|2-PROPENOIC ACID, 3-PHENYL , 3-METHYLBUTYL ESTER	7779-65-9	PHYSICAL DESCRIPTION: Pale yellow liquid with iridescent sheen. (NTP, 1992)	2.5	5.0	2.5	4721.0	465.0	1620.0	843.0	508.0	1254.0	127.0	437.0	240.0	129.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2765	ISOBUTYL CAPROATE (COMBUSTIBLE LIQUID, N.O.S.)	HEXANOIC ACID, ISOBUTYL ESTER|ISOBUTYL CAPROATE|ISOBUTYL CAPROATE (COMBUSTIBLE LIQUID, N.O.S.)|ISOBUTYL HEXANOATE|2-METHYLPROPYL HEXANOATE	105-79-3	A liquid. Insoluble in water and less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4723.0	465.0	1620.0	843.0	508.0	1255.0	127.0	437.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2761	INDOL-3-YL SODIUM PHOSPHATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear impervious chemical protective clothing, including gloves to prevent skin contact with the liquid. Use splash-proof chemical safety goggles or face shield to prevent eye contact with liquid. Approved respirator should be used in the event of vapor concentrations. (USCG, 1999)	Water soluble.	ALUMINUM SULFATE, SOLUTION is acidic. Will corrode metals. A strong acid. [Handling Chemicals Safely 1980. p. 136].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(USCG, 1999)		3.9	
2762	IODOMETHYLPROPANE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	OCTAFLUOROBUT-2-ENE may be incompatible with strong oxidizing and reducing agents. Also may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2763	IRON PENTACARBONYL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	OCTANAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2																								
2764	ISOAMYL CINNAMATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Materials in this group range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitromethane is somewhat soluble in water; the higher nitroalkanes are insoluble in water.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																								
2765	ISOBUTYL CAPROATE (COMBUSTIBLE LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2761	INDOL-3-YL SODIUM PHOSPHATE														(USCG, 1999)			1.29 to 1.34	59		(USCG, 1999)		214		760		(USCG, 1999)		1235.7														Corrosive	Al2(SO4)3 (aqueous)		6.0	0.0	6.0	2.0	2.0
2762	IODOMETHYLPROPANE																																										Non-Flammable Gas	C4F8	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2763	IRON PENTACARBONYL																																									Corrosive	C8H19N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2764	ISOAMYL CINNAMATE																																									Explosive 1.1D	C7H5N3O6.C4H8N8O8.Al	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	10.0	2.0	2.0
2765	ISOBUTYL CAPROATE (COMBUSTIBLE LIQUID, N.O.S.)																																									Poison	C13H18CI2N2O2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2766	ISOBUTYL FORMATE	FORMIC ACID, ISOBUTYL ESTER|ISOBUTYL FORMATE|2-METHYLPROPYL FORMATE|TETRYL FORMATE	542-55-2	A colorless liquid. Less dense than water. Vapors heavier than air. Vapors may be narcotic and irritating in high concentrations. Used as a solvent and to make perfumes.	2.5	5.0	2.5	4725.0	465.0	1620.0	843.0	508.0	1256.0	127.0	437.0	240.0	129.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Emits highly toxic fumes of oxides of nitrogen. May explode. Behavior in Fire: Severe explosion hazard when exposed to heat or flame, or when shocked. (USCG, 1999)	Fire Extinguishing Agents: Water, CO 2 , or dry chemical. (USCG, 1999)
2767	ISOBUTYL METHACRYLATE	ISOBUTYL 2-METHYL-2-PROPENOATE|ISOBUTYL ALPHA-METHACRYLATE|ISOBUTYL ALPHA-METHYLACRYLATE|ISOBUTYL METHACRYLATE|ISOBUTYL METHACRYLATE, INHIBITED|METHACRYLIC ACID, ISOBUTYL ESTER|2-METHYL-2-PROPENOIC ACID, 2-METHYLPROPYL ESTER|2-METHYLPROPYL 2-METHYLPROPENOATE|2-METHYLPROPYL METHACRYLATE	97-86-9	Isobutyl methacrylate is a colorless liquid with a flash point of 120Â°F. When heated to high temperatures it may release acrid smoke and fumes. If it is subjected to heat for prolonged periods or becomes contaminated, it is subject to polymerization. If the polymerization takes place inside a container, the container may violently rupture. The vapors are heavier than air. It may be irritating to skin and eyes and produce a narcotic effect. It is used in making acrylic resins.	2.5	5.0	2.5	4727.0	465.0	1620.0	843.0	508.0	1257.0	127.0	437.0	240.0	129.0	Call emergency medical care. Inhalation: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES or SKIN: Immediately flush with running water for at least 15 minutes; hold eyelids open periodically, if appropriate. Speed in removing material from skin is of extreme importance. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation. (USCG, 1999)	Special Hazards of Combustion Products: May contain irritating or poisonous gases. Behavior in Fire: The primary constituent, anacardic acid, decarboxylates at high temperatures to produce carbon dioxide gas. This reaction could generate pressure in a heated closed container. (USCG, 1999)	Fire Extinguishing Agents: Small fires: Dry chemical, carbon dioxide, water spray or foam. Large Fires: Water spray, fog or foam. (USCG, 1999)
2768	ISODECYL ALCOHOL	ISODECYL ALCOHOL	25339-17-7	Colorless liquid with a mild alcohol odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4727.0	465.0	1620.0	843.0	508.0	1257.0	127.0	437.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective; water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
2769	ISOFLUORPHATE	DFF|DFP|DFP (PESTICIDE)|DIFLUOROPHATE|DIFLUPYL|DIFLURPHATE|DIISOPROPOXYPHOSPHORYL FLUORIDE|DIISOPROPYL FLUOROPHOSPHATE|DIISOPROPYL FLUOROPHOSPHONATE|DIISOPROPYL PHOSPHOFLUORIDATE|DIISOPROPYL PHOSPHOROFLUORIDATE|DIISOPROPYLFLUORO-PHOSPHATE|DIISOPROPYLFLUOROPHOSPHATE|DIISOPROPYLFLUOROPHOSPHORIC ACID ESTER|DIISOPROPYLPHOSPHORO-FLUORIDATE|DYFLOS|DYPHLOS|FLOROPRYL|FLUOPHOSPHORIC ACID, DIISOPROPYL ESTER|FLUORODIISOPROPYL PHOSPHATE|FLUOROPHOSPHORIC ACID, DIISOPROPYL ESTER|FLUOROPRYL|FLUOSTIGMINE|FLUROPRYL|ISOFLUOROPHATE|ISOFLUORPHA	55-91-4	Oily liquid. Clear, colorless or faintly yellow liquid. This material is used as a research tool in neuroscience for its ability to inhibit cholinesterase (by phosphorylation) on an acute/sub-acute basis and to produce a delayed neuropathy. An insecticide. Used in Germany as a basis for "nerve gases". (EPA, 1998)	2.5	5.0	2.5	4729.0	467.0	1622.0	843.0	508.0	1258.0	128.0	438.0	240.0	129.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2770	ISOOCTYL ALCOHOL	DIMETHYL-1-HEXANOLS|EXXAL 8|ISOOCTANOL|ISOOCTYL ALCOHOL|6-METHYL-1-HEPTANOL|OXO OCTYL ALCOHOL|OXOOCTYL ALCOHOL	26952-21-6	A clear colorless liquid with a faint pleasant odor. Flash point 180Â°F. Less dense than water and insoluble in water. Vapors are heavier than air. Used as a solvent, in the making of cutting and lubricating oils, in hydraulic fluids, and in the production of other chemicals.	2.5	5.0	2.5	4731.0	467.0	1622.0	843.0	508.0	1259.0	128.0	438.0	240.0	129.0	INHALATION: move to fresh air. INGESTION: give large amount of water. EYES: flush with copious quantities of tap water. SKIN: flush with water. (USCG, 1999)		Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
2771	ISOPROPENYL ACETATE	ACETIC ACID ISOPROPENYL ESTER|1-ACETOXY-1-METHYLETHYLENE|2-ACETOXY-1-PROPENE|2-ACETOXYPROPENE|2-ACETOXYPROPYLENE|ISOPROPENYL ACETATE|1-METHYLVINYL ACETATE|2-PROPENYL ACETATE	108-22-5	A clear colorless liquid. Less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4731.0	467.0	1622.0	843.0	508.0	1259.0	128.0	438.0	240.0	129.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2766	ISOBUTYL FORMATE		(BLOB)	Slowly mixes with water.	All three isomers have similar properties and may react vigorously with oxidizing materials. Their reaction with nitric acid (nitration) will lead to a mixture of trinitrobenzenes possessing high-explosive properties [Urbanski, 1967, vol. 3, p. 290]. If heat and reaction conditions of the nitration are not controlled, detonation comparable to TNT may occur [Anon., J. R. Inst. Chem., 1960, 84, p. 451]. Mixture of 1,3-dinitrobenzene with tetranitromethane was found highly explosive [Urbanski, 1964, vol. 1, 592]. 1,2-dinitrobenzene is a severe explosion hazard when shocked or exposed to heat or flame. When heated to decomposition all dinitrobenzens emit toxic fumes of nitrogen oxides [Sax, 9th ed., 1996, p. 1374].	Explosive; Strong Oxidizing Agent		(NFPA, 2010)		3	1	4	5		(USCG, 1999)		302												(USCG, 1999)		244.4	
2767	ISOBUTYL METHACRYLATE		Wear positive pressure breathing apparatus and special protective clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	OIL, [CASHEW] contains primarily esters. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. No restrictions on aluminum, aluminum alloys, copper, copper alloys zinc, galvanized steel or alloys having more than 10 percent zinc (by weight), lead, magnesium, silver or silver alloys, or mercury (USCG, 1999).							0																						
2768	ISODECYL ALCOHOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: SAFFLOWER react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to thicken and become rancid.							0																						
2769	ISOFLUORPHATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	WOOD TURPENTINE reacts with oxidizing agents. Calcium hypochlorite was placed in a turpentine container, thought to be empty. Reaction with the residual turpentine resulted in an explosion within a few minutes [Benson 1967]. Reacts violently with chromic anhydride [Haz. Chem. Data 1967 p. 68]. Reacts with stannic chloride producing heat and sometimes flame [Mellor 7:430 1946-47]. May also react exothermically with reducing agents to produce gaseous hydrogen.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		95		(NIOSH, 2003)		0.8		%										(NIOSH, 2003)		-76 to -58
2770	ISOOCTYL ALCOHOL		Dust mask and gloves (USCG, 1999)	Water soluble. Gives basic aqueous solution.	Salts, basic, such as OLEIC ACID, [SODIUM SALT], are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.							0																				(USCG, 1999)		455	
2771	ISOPROPENYL ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-NITROBENZOIC ACID is incompatible with strong oxidizing agents. Also incompatible with strong bases. May react with cyanides (NTP, 1992).							0																				(NTP, 1992)		297 to 298

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2766	ISOBUTYL FORMATE														(USCG, 1999)		1.31		68		(USCG, 1999)		606		760		(USCG, 1999)		168.11		(NIOSH, 2003)		50	mg/m3	(NIOSH, 2003)		0.05		%	DNO		C6H4N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0
2767	ISOBUTYL METHACRYLATE																																								OCN		C22H32O3	Dirt/Earth	7.0	0.0	10.0	2.0	2.0
2768	ISODECYL ALCOHOL														(USCG, 1999)		0.923		77																(NTP, 1992)	at 66Â° F		less than 1	mg/mL	OSF			Dirt/Earth	8.0	0.0	8.0	2.0	2.0
2769	ISOFLUORPHATE	(NIOSH, 2003)		4				mm Hg							(NIOSH, 2003)		0.86				(NIOSH, 2003)		309 to 338	760		(NIOSH, 2003)	(approx)	136		(NIOSH, 2003)		800	ppm	(NIOSH, 2003)	Insoluble					Flammable Liquid		Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2770	ISOOCTYL ALCOHOL														(USCG, 1999)			greater than 1.1	68								(USCG, 1999)	(approx.)	304										OAC		C18H34O2.Na	Dirt/Earth	6.0	0.0	8.0	2.0	2.0
2771	ISOPROPENYL ACETATE														(NTP, 1992)		1.575		68								(NTP, 1992)		167.12						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C7H5NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2772	ISOPROPYL BUTYRATE	BUTANOIC ACID ISOPROPYL ESTER|BUTYRIC ACID, ISOPROPYL ESTER|ISOPROPANOL BUTYRATE|ISOPROPYL BUTANOATE|ISOPROPYL BUTYRATE|ISOPROPYL N-BUTYRATE|1-METHYLETHYL BUTANOATE	638-11-9	A colorless liquid. Less dense than water. Vapors heavier than air. Used as a solvent and to make flavorings.	2.5	5.0	2.5	4731.0	467.0	1622.0	843.0	508.0	1259.0	128.0	438.0	240.0	129.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2773	ISOPROPYL CHLOROACETATE	ACETIC ACID, CHLORO-, ISOPROPYL ESTER|ISOPROPYL 2-CHLOROACETATE|ISOPROPYL CHLOROACETATE|1-METHYLETHYL MONOCHLOROACETATE	105-48-6	A clear colorless liquid. Less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4731.0	467.0	1622.0	843.0	508.0	1259.0	128.0	438.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2774	ISOPROPYL MERCAPTAN	1-PROPYLTHIOL|ISOPROPANETHIOL|ISOPROPYL MERCAPTAN|ISOPROPYLTHIOL|2-MERCAPTOPROPANE|1-METHYLETHANETHIOL|PROPANE-2-THIOL|2-PROPANETHIOL|2-PROPYLMERCAPTAN	75-33-2	White liquid with a strong skunk-like odor. (USCG, 1999)	2.5	5.0	2.5	4731.0	467.0	1622.0	843.0	508.0	1259.0	128.0	438.0	240.0	129.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2775	ISOPROPYL NITRATE	ISOPROPYL NITRATE|NITRIC ACID, ISOPROPYL ESTER|2-PROPYL NITRATE	1712-64-7	A clear colorless liquid with a pleasant odor. May spontaneously decompose and explode under prolonged exposure to fire or heat. Denser than water and insoluble in water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	4733.0	467.0	1624.0	843.0	508.0	1260.0	128.0	439.0	240.0	129.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2776	ISOPROPYL PROPIONATE	ISO-PROPYL PROPIONATE|ISOPROPYL PROPIONATE|1-METHYLETHYL PROPANOATE|PROPIONIC ACID, ISOPROPYL ESTER|2-PROPYL PROPIONATE	637-78-5	A colorless liquid. Less dense than water. Vapors heavier than air. Used as a solvent and to make flavorings.	2.5	5.0	2.5	4735.0	467.0	1624.0	843.0	508.0	1261.0	128.0	439.0	240.0	129.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2777	LACTOFEN	5-(2-CHLORO-4-(TRIFLUOROMETHYL)PHENOXY)-2-NITRO-2-ETHOXY-1-METHYL-2-OXOETHYL ESTER|COBRA|LACTOFEN	77501-63-4	Dark brown to tan solid. Insoluble in water. Used as an herbicide.	1.0	2.5	5.0	4735.0	467.0	1624.0	843.0	508.0	1261.0	128.0	439.0	240.0	129.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2772	ISOPROPYL BUTYRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.								0		(NTP, 1992)			greater than 230														(NTP, 1992)		36	
2773	ISOPROPYL CHLOROACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Nitriles, such as O-NITROPHENYLACETONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.								0																				(NTP, 1992)		183	
2774	ISOPROPYL MERCAPTAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to light and air. Water soluble.	ORPHENADRINE HYDROCHLORIDE is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																				(NTP, 1992)		313 to 315	
2775	ISOPROPYL NITRATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Simple aromatic halogenated organic compounds, such as ORTHOCHLOROPARAXYLENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																							
2776	ISOPROPYL PROPIONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Insoluble in water.	Phenols, such as O-SEC-BUTYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(NTP, 1992)		234																(NTP, 1992)		54	
2777	LACTOFEN	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with evolution of heat. The amount of heat generated may be large.	(BLOB)		Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)		(NFPA, 2010)		3	1	0	1																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2772	ISOPROPYL BUTYRATE	(NTP, 1992)	; 1.5 mm Hg at 84Â° F; 4.5 mm Hg at 124Â° F	1		81		mm Hg							(NTP, 1992)		1.19				(NTP, 1992)		513		760		(NTP, 1992)		167.16						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C8H9NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0
2773	ISOPROPYL CHLOROACETATE																				(NTP, 1992)		352		12		(NTP, 1992)		162.15						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C8H6N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	9.0	2.0	2.0
2774	ISOPROPYL MERCAPTAN																										(NTP, 1992)		305.85						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C18H23NO.ClH	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2775	ISOPROPYL NITRATE																																								Flammable Liquid	C8H9Cl		4.0	0.0	8.0	2.0	2.0
2776	ISOPROPYL PROPIONATE	(NIOSH, 2003)	Low												(NTP, 1992)		0.981		77		(NTP, 1992)			439 to 442	760		(NTP, 1992)		150.24						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C10H14O		6.0	0.0	8.0	2.0	2.0
2777	LACTOFEN																																								Non-Flammable Gas	H3N (aqueous)		7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2778	L-ASPARAGINASE, pure and 50% GLYCEROL SOLUTION	ASPARAGINASE|GLYCEROL|L-ASPARAGINASE, 50% GLYCEROL SOLUTION	9015-68-3	PHYSICAL DESCRIPTION: An enzyme preparation. Composed of 50% asparaginase (a white crystalline powder) and 50% glycerol (a clear colorless odorless syrupy liquid with a sweet warm taste) . (NTP, 1992)	2.5	5.0	2.5	4735.0	467.0	1624.0	843.0	508.0	1261.0	128.0	439.0	240.0	129.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Ventilation should be adequate. If polyurethane products are heated, protection against isocyanate release is necessary. Avoid decomposing heat. (EPA, 1998)	Should wear a self-contained breathing apparatus. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Should be extinguished with carbon dioxide, dry chemical or inert gas. For large fires fight with water in the form of spray. (EPA, 1998)
2779	L-CAMPHOR	(-)-ALCANFOR|BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMETHYL-, (1S)-|(-)-CAMPHOR|CAMPHOR, (1S,4S)-(-)-|L-(-)-CAMPHOR|L-CAMPHOR|(1S)-(-)-CAMPHOR|(1S)-1,7,7-TRIMETHYLBICYCLO[2.2.1]HEPTAN-2-ONE|(1S)-CAMPHOR|(1S,4S)-(-)-CAMPHOR	464-48-2	PHYSICAL DESCRIPTION: Colorless or white crystals. Fragrant and penetrating odor. Slightly bitter and cooling taste. Odor index at 68Â° F: 40. Flash point 149Â°F. Burns with a bright, smoky flame. Sublimes appreciably at room temperature and pressure; 14% sublimes within 60 minutes at 176Â°F and 12 mm Hg. (NTP, 1992)	1.0	2.5	5.0	4737.0	467.0	1624.0	843.0	508.0	1262.0	128.0	439.0	240.0	129.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2780	LEAD IODIDE	C.I. 77613|LEAD DIIODIDE|LEAD IODIDE|LEAD(II) IODIDE|PLUMBOUS IODIDE	10101-63-0	A yellow crystalline solid. Insoluble in water and denser than water. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment. Used in printing and photography, to seed clouds and other uses.	1.0	2.5	5.0	4739.0	467.0	1624.0	843.0	508.0	1263.0	128.0	439.0	240.0	129.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2781	LEAD PHOSPHATE	LEAD PHOSPHATE	7446-27-7	White powder.	1.0	2.5	5.0	4741.0	469.0	1624.0	843.0	508.0	1264.0	129.0	439.0	240.0	129.0	Call a physician. INHALATION: Move to fresh air. EYES: Flush with water. SKIN: Wash with soap and water. INGESTION: Dilute with water or milk. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes producing toxic combustion products. Behavior in Fire: Can explode when heated or shocked. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2782	LEAD TETRAACETATE	LEAD IV ACETATE|LEAD TETRAACETATE	546-67-8	Faintly pink wet crystals with an odor of vinegar. (USCG, 1999)	1.0	2.5	5.0	4743.0	469.0	1624.0	843.0	508.0	1265.0	129.0	439.0	240.0	129.0	INHALATION: Remove to fresh air; if symptoms persist consult a physician. EYES: Wash with water for 15 minutes and get medical attention. INGESTION: Give 3 to 4 glasses of water and induce vomiting. Consult a physician. (USCG, 1999)	Behavior in Fire: Sublimes above 238Â°C yielding toxic fumes. (USCG, 1999)	Fire Extinguishing Agents: Water spray will probably reduce fume and irritant gases. (USCG, 1999)
2783	LEAD THIOCYANATE	LEAD BIS(THIOCYANATE)|LEAD DITHIOCYANATE|LEAD SULFOCYANATE|LEAD THIOCYANATE|LEAD THIOCYANATE (PB(SCN)2)|LEAD(2+) THIOCYANATE|LEAD(II) THIOCYANATE	592-87-0	A white to yellow crystalline solid. Slightly soluble in water and denser than water. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment. Used to make explosives, safety matches, and in dyeing.	1.0	2.5	5.0	4745.0	469.0	1624.0	843.0	508.0	1266.0	129.0	439.0	240.0	129.0	(BLOB)	This chemical is combustible. Vapor forms explosive mixtures with air. (NTP, 1992)	Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2778	L-ASPARAGINASE, pure and 50% GLYCEROL SOLUTION	Caution : Mixing with water may result in a violent reaction. Sources of extreme heat or ignition (including sparks or fire) may result in the formation of toxic nitrogen oxide gases. Decontaminate with a suitable solution such as 10 percent ammonia with alcohol. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Ventilate closed spaces before entering them. Shut off ignition sources; no flares, smoking or flames in hazard area. Do not touch spilled material, stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	TOLUENE-2,6-DIISOCYANATE reacts violently with amines, alcohols, bases and warm water, causing fire and explosion hazards. [Handling Chemcials Safely 1980. p. 907]. Reaction with water to form Carbon Dioxide [Merck 11th ed. 1989].		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)	for a 80% 2,4;20% 2,6 TDI mixture	270														(EPA, 1998)	for a 80% 2,4;20% 2,6 TDI mixture		68 to 72
2779	L-CAMPHOR	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble; decomposes in hot water [Handbook of Chemistry and Physics].	Solutions of AMMONIUM ARSENATE are acidic. They neutralize bases in reactions that generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acids. Compounds usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			
2780	LEAD IODIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	DIMETHYL HEXADECANAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			
2781	LEAD PHOSPHATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Wear rubber gloves, industrial filter mask, face shield and safety glasses. (USCG, 1999)	Water soluble	AMMONIUM CHROMATE readily reacts with reducing materials, including large numbers of organic compounds. These reactions may be violent. A explosion hazard when shocked or heated [Lewis]. Emits toxic fumes of ammonia and nitrogen oxides when heated to decomposition [Sax, 9th ed., 1996, p. 207].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(USCG, 1999)		356	
2782	LEAD TETRAACETATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Mechanical filter respirator if dusty or misty; self contained breathing apparatus if fuming. Rubber gloves; safety glasses (dust) or chemical goggles (mist); full, clean work clothing. (USCG, 1999)	The white solid sublimes above 238Â°C. to form toxic fumes. The solid is water soluble.	Acidic inorganic salts are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(USCG, 1999)	Not flammable			(USCG, 1999)		446	
2783	LEAD THIOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Wear self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Water soluble.	DIMETHYL SUCCINATE reacts with acids to liberate heat along with methanol and succinic acid. May react with strong oxidizing acids to liberate enough heat to ignite the reaction products. Heat is also generated by the interaction with caustic solutions. Flammable hydrogen is generated with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		185	(NTP, 1992)		1	%	(NTP, 1992)		8.5	%	(USCG, 1999)		689		(NTP, 1992)		67.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value_tempDegF	sg_range_tempDegF	sg_range	sg_value	sg_unit	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_unit	hlfm_value	hlfm_note	hlfm_source	hlfm_range	solbly_value	solbly_unit	solbly_source	solbly_note	solbly_value	solbly_range	chris_codes	solubility	formulas	incompatible_absorbents	# of Natlons Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2778	LEAD PHOSPHATE	(EPA, 1998)	for a 80% 2,4:20% 2,6 TDI mixture	0.5	77	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	As (CrCVI)-: A potential human carcinoge n.	15	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Poison	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents]	4.0	0.0	8.0	2.0	2.0
2779	L-CAMPHOR	(EPA, 1998)	for a 80% 2,4:20% 2,6 TDI mixture	0.5	77	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	for Arsenic (inorganic compound s, as As): A potential human carcinoge n.	5	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Poison	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents]	4.0	0.0	8.0	2.0	2.0
2780	LEAD IODIDE	(NTP, 1992)	for a 80% 2,4:20% 2,6 TDI mixture	0.3	68	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	As (CrCVI)-: A potential human carcinoge n.	15	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Corrosive	Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0
2781	LEAD PHOSPHATE	(EPA, 1998)	for a 80% 2,4:20% 2,6 TDI mixture	0.5	77	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	As (CrCVI)-: A potential human carcinoge n.	15	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Poison	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents]	4.0	0.0	8.0	2.0	2.0
2782	LEAD TETRAACETATE	(EPA, 1998)	for a 80% 2,4:20% 2,6 TDI mixture	0.5	77	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	As (CrCVI)-: A potential human carcinoge n.	15	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Corrosive	Cellulose-Based Absorbents[Mln eral-Based & Clay-Based Absorbents[Dirr Earth	4.0	0.0	8.0	2.0	2.0
2783	LEAD THIOCYANATE	(NTP, 1992)	for a 80% 2,4:20% 2,6 TDI mixture	0.3	68	mm Hg	1.91	53.6	77	(EPA, 1998)	264 to 271	18	(EPA, 1998)	174.2	152.09	(NIOSH, 2003)	As (CrCVI)-: A potential human carcinoge n.	15	mg/m3	(NTP, 1992)	Reaction	(EPA, 1998)	(USCG, 1999)	1.22	for a 80% 2,4:20% 2,6 TDI mixture	(EPA, 1998)	(USCG, 1999)	1.871	59	(EPA, 1998)	(NTP, 1992)	1.117	760	385.5	146.14	(NTP, 1992)	greater than or equal to 100	mg/mL	DSE	Corrosive	Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2784	LINDANE	(BLOB)	58-89-9	Colorless solid with a musty odor; pure material is odorless. Used as a pesticide and scabicide. (EPA, 1998)	1.0	2.5	5.0	4747.0	469.0	1624.0	843.0	508.0	1267.0	129.0	439.0	240.0	129.0	INHALATION: remove to fresh air. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)
2785	LITHIUM BOROHYDRIDE	LITHIUM BOROHYDRIDE|LITHIUM BOROHYDRIDE (LIBH4)|LITHIUM BORON HYDRIDE|LITHIUM HYDROBORATE (LIBH4)|LITHIUM TETRAHYDROBORATE|LITHIUM TETRAHYDROBORATE (LIBH4)|LITHIUM TETRAHYDROBORATE(1-)	16949-15-8	A white to grayish crystalline powder.	1.0	2.5	5.0	4747.0	469.0	1624.0	843.0	508.0	1267.0	129.0	439.0	240.0	129.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water, dry chemical, foam, carbon dioxide (USCG, 1999)
2786	LITHIUM PEROXIDE	DILITHIUM PEROXIDE|LITHIUM OXIDE (LI2O2)|LITHIUM PEROXIDE|LITHIUM PEROXIDE (LI2O2)	12031-80-0	A white powder or sandy yellow granular solid. Irritates skin, eyes and mucous membranes. Used to produce a supply of high-purity oxygen.	1.0	2.5	5.0	4747.0	469.0	1624.0	843.0	508.0	1267.0	129.0	439.0	240.0	129.0	(BLOB)	This compound is flammable. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2787	LITHOCHOLIC ACID	3ALPHA-HYDROXY-5BETA-CHOLANIC ACID|3ALPHA-HYDROXY-5BETA-CHOLANOIC ACID|3ALPHA-HYDROXYCHOLANIC ACID|3-ALPHA-HYDROXYCHOLANIC ACID|3-ALPHAHYDROXY-5-BETA-CHOLAN-24-OIC ACID|3-ALPHAHYDROXY-5-BETA-CHOLANIC ACID|17-BETA-(1-METHYL-3-CARBOXYPROPYL)ETHIOCHOLAN-3-ALPHA-OL|17BETA-(1-METHYL-3-CARBOXYPROPYL)ETIOCHOLAN-3ALPHA-OL|5-BETA-CHOLAN-24-OIC ACID, 3-ALPHA-HYDROXY-|5BETA-CHOLAN-24-OIC ACID, 3ALPHA-HYDROXY-5-BETA-CHOLANIC ACID, 3-ALPHA-HYDROXY-CHOLAN-24-OIC ACID, 3-HYDROXY-, (3-ALPHA,5-BETA)- (9CI)|3-HYDROXYCHOLAN-24-OIC ACID|LITHOCHOLIC ACID|NCI-C03861	434-13-9	PHYSICAL DESCRIPTION: Hexagonal leaflets (from alcohols) or prisms (from acetic acid) or white powder. (NTP, 1992)	1.0	2.5	5.0	4749.0	469.0	1624.0	843.0	508.0	1268.0	129.0	439.0	240.0	129.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2788	LOCUST BEAN GUM	ALGAROBA|ALGOROBA|ARBOON|CAROB BEAN GUM|CAROB FLOUR|CAROB SEED GUM|CERATONIA GUM|CSL-M 250|FRUCTOLINE|GENUGUM RL 200|GENUGUM RL 220|GUMS, CAROB-BEAN|GUMS, LOCUST-BEAN|INDALCA ABV|INDALCA PR 90|JOHANNISBROTMEHL|KIPROGUM PLV|LOCUST BEAN GUM|LOCUST GUM|LUCTIN|LUPOGUM|M 175|MEYPRO LBG|MEYPRODYN 200|NCI-C50419|SERUPARU A 040|SOALOCUST A 200|ST. JOHN'S BREAD GUM|ST. JOHNS BREAD|SUPERCOL|SUPERCOL 912|TRAGACOL|TRAGASOL|TRAGON|TRAGON AY|TRAGON GUM|UNIGUM|VIDOGUM L 150|VIS TOP D 30	9000-40-2	PHYSICAL DESCRIPTION: Off-white to yellow-green powder. Odorless and tasteless, but acquires a leguminous taste when boiled in water. (NTP, 1992)	1.0	2.5	5.0	4751.0	469.0	1624.0	843.0	508.0	1269.0	129.0	439.0	240.0	129.0	INHALATION: move to fresh air. EYES: flush with water for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	
2789	MAGNESIUM BISULFITE SOLUTION	MAGNESIUM BISULFITE|MAGNESIUM BISULFITE SOLUTION|MAGNESIUM BISULPHITE SOLUTION|MAGNESIUM HYDROGEN SULFITE (MG(HSO3)2)|MAGNESIUM SULFITE (MG(HSO3)2)	13774-25-9	An aqueous solution of magnesium hydrogen sulfite. Corrosive.	2.5	5.0	2.5	4751.0	471.0	1626.0	843.0	510.0	1269.0	130.0	440.0	240.0	130.0	(BLOB)	Flash point data for this chemical is not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2784	LINDANE		Respirator for nuisance dust (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM GLUCONATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.							0																					
2785	LITHIUM BOROHYDRIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep it away from oxidizers. (NTP, 1992)	Molten DMT: goggles, face shield, gauntlets, and protective clothing. Solid: dust mask, goggles. (USCG, 1999)	When mixed with air, the vapor or dust forms very hazardous and highly reactive mixtures. (NTP, 1992). Insoluble in water.	DIMETHYL TEREPHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250]. This compound is sensitive to heat. The molten material reacts with water due to the temperature. This compound is incompatible with strong oxidizers, strong acids and strong bases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		308		(NTP, 1992)		33		g/m3						(USCG, 1999)		1058		(NTP, 1992)			284 to 288
2786	LITHIUM PEROXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber (NTP, 1992)	Highly flammable. Temperature sensitive and possibly sensitive to air. Water soluble.	DIMETHYLAMINOPROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		60												(NTP, 1992)		less than -94
2787	LITHOCHOLIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	Acidic inorganic salts, such as AMMONIUM METAVANADATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
2788	LOCUST BEAN GUM		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM MOLYBDATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																					
2789	MAGNESIUM BISULFITE SOLUTION	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,8-DINITRONAPHTHALENE is sensitive to heat and shock. (NTP, 1992)	Explosive; Strong Oxidizing Agent						0																	(NTP, 1992)		340 to 342

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2784	LINDANE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		213												AGC		C6H12O7.H3N	Cellulose-Based Absorbents	5.0	0.0	10.0	2.0	2.0
2785	LITHIUM BOROHYDRIDE	(NTP, 1992)	; 140 mm Hg at 302Â° F	16		212		mm Hg	(NTP, 1992)		6.7				(USCG, 1999)	1.08 at 145Â°C (liquid)	1.2		68		(NTP, 1992)	(sublimes)	572		760		(NTP, 1992)		194.19						(NTP, 1992)	at 55Â° F		less than 1	mg/mL	DMT	Poison	C10H10O4		6.0	0.0	9.0	2.0	2.0
2786	LITHIUM PEROXIDE														(NTP, 1992)		0.81				(NTP, 1992)		253		760		(NTP, 1992)		102.21						(NTP, 1992)	Soluble					Flammable Liquid	C5H14N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	6.0	2.0	2.0
2787	LITHOCHOLIC ACID																																								Poison	H4N.O3V	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2788	LOCUST BEAN GUM														(USCG, 1999)	2.398	1.4		68								(USCG, 1999)		123.6		(NIOSH, 2003)	(as Mo)	1000	mg/m3						AMB		H24Mo7N6O24		7.0	0.0	9.0	2.0	2.0
2789	MAGNESIUM BISULFITE SOLUTION								(NTP, 1992)		7.51																(NTP, 1992)		218.17						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C10H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2790	MAGNESIUM PHOSPHIDE	DETIAPHOS R|MAGNESIUM PHOSPHIDE|MAGTOXIN|TRI MAGNESIUM DIPHOSPHIDE	12057-74-8	Magnesium phosphide is a white crystalline solid. It reacts violently with water and may ignite upon contact with air. It is toxic by ingestion. It is used to make other chemicals.	1.0	2.5	5.0	4751.0	471.0	1628.0	843.0	510.0	1269.0	130.0	441.0	240.0	130.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2791	MAGNESIUM SILICIDE	DIMAGNESIUM MONOSILICIDE|DIMAGNESI UM SILICIDE|MAGNESIUM SILICIDE	22831-39-6	A colorless crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	4751.0	471.0	1628.0	843.0	510.0	1269.0	130.0	441.0	240.0	130.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2792	MANGANESE CYCLOPENTADIENYL TRICARBONYL	CYCLOPENTADIENYL TRICARBONYL MANGANESE|CYCLOPENTA DIENYL-.PI.-TRICARBONYLMANGANESE |CYCLOPENTADIENYLMAN GANESE TRICARBONYL|CYCLOPENT ADIENYLTRICARBONYLMA NGANESE|CYMANTRENE|.ETA.5-CYCLOPENTADIENYLMANG ANESE TRICARBONYL|MANGANES E CYCLOPENTADIENYL TRICARBONYL|MANGANES E CYCLOPENTADIENYLTRICA RBONYL|MANGANESE, TRICARBONYL-.PI.-CYCLOPENTADIENYL-|MCT|.PI.-CYCLOPENTADIENYLMANG ANESE TRICARBONYL|TRICARBON YL(.ETA.5-CYCLOPENTADIENYL)MAN GANESE|TRICARBONYL-.PI.-CYCLOPENTADIENYLMANG	12079-65-1	Bright yellow, crystalline solid with a camphor-like odor. Sublimes 75-77Â°C. Slightly soluble in water. Used as an octane enhancement additive for unleaded gasoline.	1.0	2.5	5.0	4751.0	471.0	1628.0	843.0	510.0	1269.0	130.0	441.0	240.0	130.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2793	MANGANESE TETROXIDE	M 34|M 34 (PIGMENT)|MANGANESE OXIDE|MANGANESE OXIDE; (MANGANESE TETROXIDE)|MANGANESE TETRAOXIDE|MANGANESE TETROXIDE|MANGANOMAN GANIC OXIDE|TRIMANGANESE TETRAOXIDE|TRIMANGANE SE TETROXIDE	1317-35-7	Brownish-black powder. mp: 1565Â°C. Density 4.88 g/cm3. Insoluble in water. Occurs as the mineral hausmannite. A mixture of MnO and Mn2O3.	1.0	2.5	5.0	4753.0	471.0	1628.0	843.0	510.0	1270.0	130.0	441.0	240.0	130.0	Remove from exposure-symptoms reversible. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes, giving off extremely toxic oxides of nitrogen. Behavior in Fire: May explode in fires. Supports combustion of common organic fuels. (USCG, 1999)	Fire Extinguishing Agents: Use flooding amounts of water in early stages of fire. When large quantities are involved in massive fires, control efforts should be confined to protecting from explosion. (USCG, 1999)
2794	M-DINITROBENZENE	BENZENE, 1,3-DINITRO-|BENZENE, M-DINITRO-|BINITROBENZENE|1,3-DINITROBENZENE|2,4-DINITROBENZENE|DINITRO BENZOL|1,3-DINITROBENZOL|DNB|M-DINITROBENZENE|M-DNB|META-DINITROBENZENE	99-65-0	Yellow solid with a slight odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	4755.0	471.0	1628.0	843.0	510.0	1271.0	130.0	441.0	240.0	130.0	Speed is essential. INHALATION: remove to fresh air. INGESTION: call physician immediately; induce vomiting. EYES: flush with water and seek medical attention. SKIN: flush with water. OTHER: watch for swelling of the glottis and delayed constriction of the esophagus. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam (USCG, 1999)
2795	MECOPROP	MCPP|MECOPROP	93-65-2	Colorless crystals. Corrosive to metals. Used as an herbicide.	1.0	2.5	5.0	4755.0	471.0	1628.0	843.0	510.0	1271.0	130.0	441.0	240.0	130.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Special Hazards of Combustion Products: Toxic gases are produced in a fire. Behavior in Fire: May explode when involved in fire or exposed to shock or friction. (USCG, 1999)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2790	MAGNESIUM PHOSPHIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Water soluble.	DIMETHYL-N-PROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2791	MAGNESIUM SILICIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Glove Type Model Number Thickness Bkthru Time Natural rubber Ansell 5-109 0.14 mm 240 min PVC Edmont 34-100 0.14 mm 240 min Neoprene Edmont 29-870 0.32 mm 480 min Nitrile Edmont 37-155 0.38 mm 480 min (NTP, 1992)	Water soluble.	An alcohol and an amide. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																								
2792	MANGANESE CYCLOPENTADIENYL TRICARBONYL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]						0																						
2793	MANGANESE TETROXIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Wear self-contained breathing apparatus (USCG, 1999)	Water soluble. Hot aqueous solutions of the nitrate above 50% conc., under confinement may decompose explosively. This process is aided catalytically with such substances as nitric acid and chloride ion, [Chem. Abs., 1982, 97, 78074].	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																(USCG, 1999)	Not flammable			(USCG, 1999)		337.8	
2794	M-DINITROBENZENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved dust respirator; rubber or plastic-coated gloves; chemical goggles (USCG, 1999)	Water soluble.	AMMONIUM OXALATE reacts as a base to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases). Can act as a reducing agent in reactions that generate carbon dioxide. Reacts within a few seconds with solutions of sodium hypochlorite [Mellor 2 Supp. 1:550 1956].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2795	MECOPROP	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	AMMONIUM PERCHLORATE is a strong oxidizing agent. Decomposes at 130Â°C and explodes at 380Â°C [Mellor 2 Supp. 1:608 1956]. Explosions have occurred in propellant formulations containing ammonium perchlorate to which ferrocene has been added as a burning rate catalyst. Although the cause was not been definitely established, it was most probably frictional heating from dragging a spatula through the mixture [ASESB Expl. Report 211 1966]. Can explode when mixed with sugar, charcoal or on contact with hot copper pipes. Becomes impact-sensitive when contaminated by powdered carbon, ferrocene, sulfur, or other reducing materials such as organic matter or powdered metals.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	4	4	Oxidizer																(USCG, 1999)		464					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2790	MAGNESIUM PHOSPHIDE																																								Flammable Liquid|Corrosive	C5H13N	Mineral-Based & Clay-Based Absorbents	6.0	0.0	8.0	2.0	2.0
2791	MAGNESIUM SILICIDE																									(NTP, 1992)		178.14						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C5H10N2O5	Cellulose-Based Absorbents	2.0	0.0	7.0	2.0	2.0
2792	MANGANESE CYCLOPENTADIENYL TRICARBONYL																									(NTP, 1992)		300.24													C9H12N6O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2793	MANGANESE TETROXIDE															(USCG, 1999)		1.72		68						(USCG, 1999)		80.05											AMN	Explosive 1.1D	H3N.HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0
2794	M-DINITROBENZENE															(USCG, 1999)		1.5		65.3						(USCG, 1999)		142.11											AOX	Corrosive	(NH4)2C2O4|NH4|2C2O4.H2O		6.0	0.0	8.0	2.0	2.0
2795	MECOPROP															(USCG, 1999)		1.95		59						(USCG, 1999)		117.49											AMP	Oxidizer|Explosive 1.1D	NH4ClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2796	MEMTETRAHYDROPHTHALIC ANHYDRIDE	MEMTETRAHYDROPHTHALIC ANHYDRIDE|METHYL NORBORNENE DICARBOXYLIC ANHYDRIDE	85-43-8	Clear colorless to light yellow slight viscous liquid. Highly toxic and a strong irritant to skin, eyes and mucous membranes. Corrosive to skin and metal. Used in making polyester, alkyd resins, and plasticizers.	2.5	5.0	2.5	4755.0	471.0	1628.0	843.0	510.0	1271.0	130.0	441.0	240.0	130.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
2797	MERCURIC POTASSIUM IODIDE, [SOLID]	DIPOTASSIUM TETRAIODOMERCURATE|DIPOTASSIUM TETRAIODOMERCURATE(2-)|MAYER'S REAGENT|MERCURATE(2-), TETRAIODO-, DIPOTASSIUM|MERCURIC POTASSIUM IODIDE|MERCURIC POTASSIUM IODIDE, [SOLID]|MERCURY POTASSIUM IODIDE (K2HGI4)|POTASSIUM IODOMERCURATE|POTASSIUM IODOMERCURATE(II) (K2HGI4)|POTASSIUM MERCURIC IODIDE|POTASSIUM TETRAIODOMERCURATE(2-)|POTASSIUM TETRAIODOMERCURATE(II)	7783-33-7	Odorless yellow crystals. Crystallizes with either one, two or three molecules of water. Soluble in water and denser than water. Commercially available in the anhydrous form. Highly toxic by ingestion, inhalation, and skin absorption.	1.0	2.5	5.0	4755.0	471.0	1628.0	843.0	510.0	1271.0	130.0	441.0	240.0	130.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2798	MERCURIC SULFIDE	ARTIFICIAL CINNABAR|CHINESE RED|ETHIOPS MINERAL|MERCURIC SULFIDE|MERCURIC SULFIDE, BLACK|MERCURIC SULFIDE, RED|VERMILION	1344-48-5	Odorless red or black solid. Sinks in water. Insoluble in water.	1.0	2.5	5.0	4757.0	471.0	1628.0	843.0	510.0	1272.0	130.0	441.0	240.0	130.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2799	MERCUROUS IODIDE, [SOLID]	DIMERCURY DIIODIDE|MERCUROUS IODIDE|MERCUROUS IODIDE, [SOLID]|MERCURY PROTOIODIDE|YELLOW MERCURY IODIDE	15385-57-6	Bright yellow powder. Becomes greenish on exposure to light due to disproportionation into metallic mercury and mercuric iodide. Insoluble in water but soluble in castor oil and aqueous ammonia. Becomes dark yellow, orange and red on heating but yellow again upon cooling. Density approx. 7.7 g / cm3. Toxic by inhalation and by ingestion.	1.0	2.5	5.0	4757.0	471.0	1628.0	843.0	510.0	1272.0	130.0	441.0	240.0	130.0			
2800	METHACRYLALDEHYDE	ALPHA-METHACROLEIN|ALPHA-METHYLACROLEIN|ALPHA-METHYLACRYLALDEHYDE|2-FORMYL-1-PROPENE|ISOBUTENAL|METHACROLEIN|METHACRYLALDEHYDE|METHACRYLALDEHYDE, INHIBITED|METHACRYLICALDEHYDE|2-METHYL-2-PROPENAL|METHYLACROLEIN|2-METHYLACROLEIN|METHYLACRYLALDEHYDE|2-METHYLENEPROPANAL|2-METHYLPROPENAL	78-85-3	A colorless liquid. Less dense than water. May be toxic by ingestion, inhalation and skin absorption. Severely irritating to skin and eyes. Used to make plastics.	2.5	5.0	2.5	4757.0	471.0	1628.0	843.0	510.0	1272.0	130.0	441.0	240.0	130.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2801	METHACRYLOYLOXYETHYL ISOCYANATE	BETA-ISOCYANATOETHYL METHACRYLATE|BETA-ISOCYANOETHYL METHACRYLATE|2-ISOCYANATOETHYL METHACRYLATE|ISOCYANIC ACID, 2-HYDROXYETHYL ESTER METHACRYLATE (ESTER)|KARENZU MOI|METHACRYLIC ACID BETA-ISOCYANATOETHYL ESTER|METHACRYLIC ACID, 2-ISOCYANATOETHYL ESTER|2-(METHACRYLOYLOXY)ETHYL ISOCYANATE|METHACRYLOYLOXYETHYL ISOCYANATE|2-PROPENOIC ACID, 2-METHYL-, 2-ISOCYANATOETHYL ESTER	30674-80-7	Liquid. (EPA, 1998)	2.5	5.0	2.5	4757.0	471.0	1628.0	843.0	510.0	1272.0	130.0	441.0	240.0	130.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2802	METHALLYL ALCOHOL	BETA-METHALLYL ALCOHOL|BETA-METHYLALLYL ALCOHOL|3-HYDROXY-2-METHYLPROPENE|ISOPROPENYL CARBINOL|METHACRYL ALCOHOL|METHALLYL ALCOHOL|2-METHALLYL ALCOHOL|2-METHYL-2-PROPEN-1-OL|2-METHYL-2-PROPENOL|2-METHYL-3-HYDROXY-1-PROPENE|2-METHYLALLYL ALCOHOL|2-METHYLPROP-1-EN-3-OL	513-42-8	A colorless liquid with a sharp pungent odor. Soluble in water and floats on water. Moderately toxic by ingestion and is an irritant to eyes and skin. Used in the chemical process industry.	2.5	5.0	2.5	4759.0	473.0	1628.0	843.0	510.0	1273.0	131.0	441.0	240.0	130.0	(BLOB)	When heated to decomposition, it can emit toxic fumes of oxides of nitrogen, phosphorus, and sulfur. High pressure hoses may scatter material from broken containers. Containers may explode when heated. Stable in distilled water and in acid solution. Store below 77-86F. It slowly decomposes in air and hydrolyzes in the presence of alkaline material. Containers may explode when heated. (EPA, 1998)	Use water spray to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse vapors and to provide protection for firefighters. Water spray may be used to flush spills away from exposures. Fight advanced or massive fires from a safe distance or from a protected location. Special protective clothing should be worn; normal protective clothing may be penetrated. Use water spray, dry chemical, foam, or carbon dioxide. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2796	MEMTETRAHYDROPHTHALIC ANHYDRIDE	STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	P-AMINOBENZOIC ACID is incompatible with ferric salts and oxidizing agents. (NTP, 1992)								0																			(NTP, 1992)			370 to 372
2797	MERCURIC POTASSIUM IODIDE, [SOLID]	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	AMMONIUM PICRATE is a high explosive when dry [Hawley]. Mixing with water greatly reduces its sensitivity to shock, friction and heat. Traces of metallic picrates may significantly lower the temperature at which this mixture will explode (Military Explosives p. 96). Self-reactive.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																							
2798	MERCURIC SULFIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	AMMONIUM POLYSULFIDE SOLUTION is a strongly alkaline aqueous solution. Reacts with acids to generate toxic gaseous hydrogen sulfide. Reacts with bases to release gaseous ammonia. May react vigorously with oxidizing agents, including inorganic oxoacids, organic peroxides and epoxides. Special Hazards of Combustion Products: Toxic hydrogen sulfide gas is released when solution is heated. If ignited, this will form irritating sulfur dioxide gas.(USCG, 1999).	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2799	MERCUROUS IODIDE, [SOLID]			Dissolves in water with evolution of some heat.	AMMONIUM SULFATE is acidic in aqueous solution. When a little ammonium sulfate is added to fused potassium nitrite, a vigorous reaction occurs attended by flame [Mellor 2:702 1946-47].								0																	(USCG, 1999)	Not flammable						
2800	METHACRYLALDEHYDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. Protect from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	This material is sensitive to light. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		435 to 437
2801	METHACRYLOYLOXYETHYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]								0																		(NTP, 1992)	(decomposes)		514 to 518
2802	METHALLYL ALCOHOL	In case of leaks or spills, special protective clothing should be worn. Use water spray to disperse vapors and flush spills away. Ventilate area of spill or leak. Spills may be absorbed in vermiculite, dry sand, earth, or a similar material. (EPA, 1998)	(BLOB)	Slightly soluble in water.	Light-yellow liquid, it turns solid at 6Â° C, a deadly poison by all routes. Organic phosphate insecticide, acts as an inhibitor of cholinesterase. Violent reaction when used as solvent to dissolve endrin. When heated to decomposition it emits very toxic fumes of oxides of sulfur, phosphorus, and nitrogen [Lewis, 3rd ed., 1993, p. 984].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)			248 to 320	(EPA, 1998)	Not highly flammable.					(EPA, 1998)	Not highly flammable.							(EPA, 1998)		43	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2796	MEMTETRAHYDROPHTHALIC ANHYDRIDE														(NTP, 1992)		1.37										(NTP, 1992)		137.14															C7H7NO2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	9.0	2.0	2.0
2797	MERCURIC POTASSIUM IODIDE, [SOLID]																																								Explosive 1.1D	NH4(C6H2N3O7)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	8.0	2.0	2.0
2798	MERCURIC SULFIDE																																								Corrosive|Poison	(NH4)2Sx (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0
2799	MERCUROUS IODIDE, [SOLID]														(USCG, 1999)		1.78		59								(USCG, 1999)		132.14											AMS		H8N2O4S		3.0	0.0	6.0	2.0	2.0
2800	METHACRYLALDEHYDE																											(NTP, 1992)		375.86						(NTP, 1992)	Soluble (>=10 mg/ml at 70Â° F)				Poison	C20H21NO4.ClH		6.0	0.0	7.0	2.0	2.0
2801	METHACRYLOYLOXYETHYL ISOCYANATE																											(NTP, 1992)		323.83						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C19H17N3.ClH	Dirt/Earth	3.0	0.0	8.0	2.0	2.0
2802	METHALLYL ALCOHOL	(EPA, 1998)		3.78E-05		68		mm Hg							(EPA, 1998)		1.26				(EPA, 1998)		707		760		(EPA, 1998)		291.27		(NIOSH, 2003)	(as parathion)	10	mg/m3	(NTP, 1992)	at 73Â° F		less than 1	mg/mL	PTO	Poison	C10H14NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2803	METHIDATHION	(BLOB)	950-37-8	Colorless crystals. This material is used as a non-systemic insecticide. (EPA, 1998)	1.0	2.5	5.0	4759.0	473.0	1628.0	843.0	510.0	1273.0	131.0	441.0	240.0	130.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2804	METHOXYISOPROPYLAMINE (FLAMMABLE LIQUIDS, N.O.S.)	2-AMINO-1-METHOXYPROPANE|2-AMINO-3-METHOXYPROPANE|ETHYLAMINE, 2-METHOXY-1-METHYL-|ETHYLAMINE, 2-METHOXYMETHYL-|1-METHOXY-2-AMINOPROPANE|(.+-.)-1-METHOXY-2-PROPANAMINE|1-METHOXY-2-PROPANAMINE|(.+-.)-1-METHOXY-2-PROPYLAMINE|1-METHOXY-2-PROPYLAMINE|METHOXYISOPROPYLAMINE|METHOXYISOPROPYLAMINE (FLAMMABLE LIQUIDS, N.O.S.)|1-METHOXYISOPROPYLAMINE|1-METHYL-2-METHOXYETHYLAMINE	37143-54-7	A colorless liquid,with a pungent, ammonia-like odor. Less dense than water. Vapors heavier than air. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	4759.0	473.0	1628.0	843.0	510.0	1273.0	131.0	441.0	240.0	130.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
2805	METHYL BENZOATE	BENZOIC ACID, METHYL ESTER|CLORIUS|ESSENCE OF NIOBE|METHYL BENZENECARBOXYLATE|METHYL BENZOATE|NIOBE OIL|OIL OF NIOBE|ONIOBE OIL|OXIDATE LE	93-58-3	A crystalline solid or a solid dissolved in a liquid. Denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	4761.0	473.0	1628.0	843.0	510.0	1274.0	131.0	441.0	240.0	130.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2806	METHYL BUTENOL	1-BUTEN-3-OL, 3-METHYL|METHYL BUTENOL|3-METHYL-1-BUTEN-3-OL|2-METHYL-3-BUTEN-2-OL|3-METHYL-BUTEN-(1)-OL(3)	115-18-4	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	4761.0	473.0	1628.0	843.0	510.0	1274.0	131.0	441.0	240.0	130.0	EYES: wash with water for at least 15 min.; consult a doctor. SKIN: wash with soap and water. INGESTION: induce vomiting and call a doctor. (USCG, 1999)	Special Hazards of Combustion Products: Toxic chlorinated biphenyls are formed in fires. Behavior in Fire: Solid may explode. Burns very rapidly when ignited. Smoke is unusually heavy when paste form is involved. (USCG, 1999)	Fire Extinguishing Agents: Flood with water, or use dry chemical, foam, carbon dioxide. (USCG, 1999)
2807	METHYL DICHLOROACETATE	DICHLOROACETIC ACID METHYL ESTER|DICHLOROACETIC ACID, METHYL ESTER|METHYL 2,2-DICHLOROACETATE|METHYL DICHLOROACETATE|METHYL DICHLOROETHANOATE	116-54-1	A colorless liquid with an ethereal odor. Combustible. Flash point 176Â°F. Corrosive to metals and tissue. Used to make other chemicals.	2.5	5.0	2.5	4761.0	473.0	1628.0	843.0	510.0	1274.0	131.0	441.0	240.0	130.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2808	METHYL FLUORIDE	METHYL FLUORIDE	593-53-3	Methyl fluoride (or fluoromethane) is a colorless flammable gas which is heavier than air. It has an agreeable ether-like odor. It is narcotic in high concentrations. It burns with evolution of hydrogen fluoride. The flame is colorless, similar to alcohol. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4761.0	473.0	1628.0	843.0	510.0	1274.0	131.0	441.0	240.0	130.0	INHALATION: Remove victim to fresh air, get medical attention if irrtation persists. EYES: Hold eyelids open and flush with plenty of water for at least 15 minutes and get medical attention. SKIN: Contaminated skin should be washed with soap and water. (USCG, 1999)	COMBUSTIBLE. Produces vapors irritating to eyes and skin. Decomposes to produce acrid smoke and fumes. (USCG, 1999)	Extingiush small fires: dry chemical, CO2, water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2803	METHIDATHION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light and moisture, and store it at ambient temperatures. This compound is a Schedule II DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Hygroscopic.	Incompatible with alkalis and calcium salts. (NTP, 1992). A weak acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			536 to 538
2804	METHOXYISOPROPYLAMINE (FLAMMABLE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		286																						
2805	METHYL BENZOATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slighly soluble in water.	TOLUIDINES are amines and therefore basic. They neutralize acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Can react vigorously with oxidizing reagents. When heated to decomposition, toxic fumes of oxides of nitrogen are emitted. Hypergolic reaction with red fuming nitric acid [Kit and Evered, 1960, p. 239, 242].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for o-toluidine, CAS number 95-53-4.	3	2	0	2																							
2806	METHYL BUTENOL		Goggles or face shield; rubber gloves; protective clothing. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	In pure crystalline form there is danger of explosion upon heating, shock, or friction. Peroxides are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion.	Explosive; Strong Oxidizing Agent						0																							
2807	METHYL DICHLOROACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	P-CYMEN-8-OL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. This chemical is incompatible with strong oxidizing agents. (NTP, 1992)						0		(NTP, 1992)		205																						
2808	METHYL FLUORIDE	Avoid contact with solid and dust. Keep people away. Wear self-contained positive pressure breathing apparatus and full protective clothing. Stop discharge if possible. Shut off ignition sources. Call fire department. Isolate and remove discharged material. Notify local health and pollution control agencies. Issue warning - water contaminant Should be removed. Chemical and physical treatment. Dangerous to aquatic life in high concentrations. May be dangerous if it enter water intakes. Notify local health and wildlife officials. Notify operators of nearby water intakes. (USCG, 1999)	Wear self-contained positive breathing apparatus and full protective clothing. (USCG, 1999)	With mixing, water soluble.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		147.2		(USCG, 1999)	Data not available					(USCG, 1999)	Data not available									(USCG, 1999)		91 to 95

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2803	METHIDATHION														(NTP, 1992)		1.15		77								(NTP, 1992)		368.49						(NTP, 1992)	at 61Â° F		50 to 100	mg/mL		Poison	C9H13N2O4S		3.0	0.0	10.0	2.0	2.0
2804	METHOXYISOPROPYLAMINE (FLAMMABLE LIQUIDS, N.O.S.)														(NTP, 1992)		1.4				(NTP, 1992)			725 to 788	760																Class 9			6.0	0.0	7.0	2.0	2.0
2805	METHYL BENZOATE																																									Poison	C7H9N		14.0	1.0	4.0	1.0	2.0
2806	METHYL BUTENOL														(USCG, 1999)			greater than 1.1	68								(USCG, 1999)		311.1												DZP		C14H8Cl2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	6.0	2.0	2.0
2807	METHYL DICHLOROACETATE								(NTP, 1992)	(Air=1)		greater than 1			(NTP, 1992)	(water=1)		0.96 to 0.98	77		(NTP, 1992)		147		0.6		(NTP, 1992)		150.22						(NTP, 1992)	at 68.9Â° F		1 to 10	mg/mL			C10H14O	Cellulose-Based Absorbents	5.0	0.0	7.0	2.0	2.0
2808	METHYL FLUORIDE								(USCG, 1999)	(est.)	3.5				(USCG, 1999)		0.905		122		(USCG, 1999)			325 to 327	760		(USCG, 1999)		102.13												TAA	Corrosive	C5H10O2		5.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2809	METHYL ISOTHIOCYANATE	ISOTHIOCYANATOMETHANE|ISOTHIOCYANIC ACID, METHYL ESTER|METHANE, ISOTHIOCYANATO-|METHYL ISOTHIOCYANATE|METHYL ISOTHIOCYANIDE|METHYL MUSTARD|METHYL MUSTARD OIL|METHYL THIOISOCYANATE|MIC|MITC|MITC (PESTICIDE)|MITC|MORTON EP-161E|TRAPEX|TRAPEXIDE|TROPEX|VORLEX|VORTEX|WN 12	556-61-6	A colorless liquid with a sharp odor. Lethal by inhalation of even small quantities of vapor. Does not have odor warning characteristics at low concentrations. Do not rely on the sense of smell to warn about the presence of vapors. Denser than water. May cause tearing and irritate the eyes, skin, nose and throat.	2.5	5.0	2.5	4761.0	473.0	1628.0	843.0	510.0	1274.0	131.0	441.0	240.0	130.0	(BLOB)	Flammability data for this compound is not available but it is probably nonflammable. (NTP, 1992)	Any fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2810	METHYL MERCAPTAN	MERCAPTOMETHANE|METHANEETHIOL|METHANETHIOL|METHYL MERCAPTAN|METHYL SULFHYDRATE|THIOMETHANOL|THIOMETHYL ALCOHOL	74-93-1	A colorless low-boiling liquid that is denser than water. Very toxic by inhalation. Can be absorbed through the skin. Has a sharp odor, but the sense of smell cannot be relied upon to warn of the presence of vapors at low concentrations. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 0.002 ppm Source/use/other hazard: From decayed organic matter - pulp mills, oil refineries; highly flammable; liquid burns/frostbite.	2.5	5.0	2.5	4763.0	473.0	1630.0	843.0	510.0	1275.0	131.0	442.0	240.0	130.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
2811	METHYL METHANESULFONATE	AS-DIMETHYL SULPHITE|METHANESULFONIC ACID, METHYL ESTER|METHANESULPHONIC ACID METHYL ESTER|METHYL ESTER OF METHANESULFONIC ACID|METHYL ESTER OF METHANESULPHONIC ACID|METHYL MESYLATE|METHYL METHANESULFONATE|METHYL METHANESULPHONATE|METHYL METHANSULFONATE|METHYL METHANSULPHONATE|METHYL METHYLSULFONATE|MMS|NSC 50256|NSC-50256	66-27-3	PHYSICAL DESCRIPTION: Colorless to amber liquid. (NTP, 1992)	2.5	5.0	2.5	4765.0	473.0	1632.0	843.0	512.0	1276.0	131.0	443.0	240.0	131.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this solid chemical or a liquid containing this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If irritation persists after washing, get medical attention. If this molten chemical contacts the skin or nonimpervious clothing, immediately flush the affected area with large amounts of water to remove heat. Get medical attention immediately. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get		
2812	METHYL PHOSPHONIC DICHLORIDE	DICHLOROMETHYLPHOSPHINE OXIDE|METHANEPHOSPHONODICHLORIDIC ACID|METHANEPHOSPHONYL CHLORIDE|METHANEPHOSPHONYL DICHLORIDE|METHYL PHOSPHONIC DICHLORIDE|METHYLPHOSPHONIC ACID DICHLORIDE|METHYLPHOSPHONIC DICHLORIDE|METHYLPHOSPHONODICHLORIDIC ACID|METHYLPHOSPHONYL CHLORIDE|METHYLPHOSPHONYL DICHLORIDE|PHOSPHONIC DICHLORIDE, METHYL-	676-97-1	Strongly irritates skin. Contact may destroy or irreversibly alter skin tissue. Very toxic by ingestion, inhalation, or by skin absorption. Combustible, though may be difficult to ignite.	2.5	5.0	2.5	4765.0	473.0	1632.0	843.0	512.0	1276.0	131.0	443.0	240.0	131.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2813	METHYL PHOSPHONOUS DICHLORIDE	DICHLOROMETHYLPHOSPHINE|METHYL PHOSPHONOUS DICHLORIDE|METHYLDICHLOROPHOSPHINE|METHYLPHOSPHINIC DICHLORIDE|METHYLPHOSPHINOUS DICHLORIDE|METHYLPHOSPHONOUS DICHLORIDE|METHYLPHOSPHORUS DICHLORIDE|PHOSPHINE, DICHLOROMETHYL-	676-83-5	A colorless liquid with a pungent odor. Very toxic by inhalation. Denser than water.	2.5	5.0	2.5	4765.0	473.0	1634.0	843.0	512.0	1276.0	131.0	444.0	240.0	131.0	EYES: Check for contact lenses and remove them at once if present. You should then immediately flush eyes with water for 15 minutes. Do not use oil or ointment in eyes. Arrange immediate transportation to a medical facility. SKIN: You should remove all contaminated clothing and flood skin with water. Wash all affected skin areas thoroughly with soap and water. If symptoms persist or develop, seek medical attention. INHALATION: If any of your laboratory personnel should inhale this chemical, remove them at once to open air and arrange for immediate transportation to a medical facility. INGESTION: If the exposed person is convulsing or unconscious, do not attempt first aid. Transport immediately to a hospital emergency room or poison control center. If the	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2814	METHYL TRICHLOROACETATE	METHYL TRICHLOROACETATE	598-99-2	A colorless liquid. Insoluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	4765.0	473.0	1634.0	843.0	512.0	1276.0	131.0	444.0	240.0	131.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2809	METHYL ISOTHIOCYANATE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.								0																						(NTP, 1992)		550	
		SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)				Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																													
2810	METHYL MERCAPTAN			Insoluble in water.	PENTACHLOROBENZENE is relatively unreactive. May be incompatible with strong oxidizing and reducing agents. Also may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.								0																						(NTP, 1992)		187	
2811	METHYL METHANESULFONATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water Insoluble in water	PENTACHLORONAPHTHALENE is non-flammable, but combustible. Gives off irritating or toxic gases in a fire. Incompatible with strong oxidizing agents. Reacts violently with aluminum, with bases, and with liquid O2.								0																						(NIOSH, 2003)		248	
2812	METHYL PHOSPHONIC DICHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to long term exposure to air and light (NTP, 1992). Insoluble in water.	A halide- and amine-substuted aromatic compound. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.								0		(NTP, 1992)		greater than 392																(NTP, 1992)		439	
2813	METHYL PHOSPHONOUS DICHLORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	PENTAERYTHRITE TETRANITRATE is a high explosive. An oxidizing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. Emits highly toxic nitrogen oxide fumes on decomposition.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)								0																							
2814	METHYL TRICHLOROACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. May be sensitive to prolonged exposure to air. Aqueous solutions deteriorate on storage. Water soluble.	Can decompose on prolonged exposure to light. [[Details on specifics of reactivity not yet available.]]								0																						(NTP, 1992)		370 to 378	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2809	METHYL ISOTHIOCYANATE														(NTP, 1992)		2.97		63								(NTP, 1992)		486.62						(NTP, 1992)	Insoluble (<1 mg/ml)						C7H3Br5		5.0	0.0	9.0	2.0	2.0
2810	METHYL MERCAPTAN														(NTP, 1992)		1.8342				(NTP, 1992)		531		760		(NTP, 1992)		250.34						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C6HCl5		7.0	0.0	10.0	2.0	2.0
2811	METHYL METHANESULFONATE	(NIOSH, 2003)			less than 1			mm Hg							(NIOSH, 2003)		1.67				(NIOSH, 2003)		636		760		(NIOSH, 2003)		300.4						(NIOSH, 2003)	Insoluble						C10H3Cl5		6.0	0.0	8.0	2.0	2.0
2812	METHYL PHOSPHONIC DICHLORIDE																										(NTP, 1992)		381.04						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C14H7Br2NO2		5.0	0.0	7.0	2.0	2.0
2813	METHYL PHOSPHONOUS DICHLORIDE																																			(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Explosive 1.1D	C5H8N4O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0
2814	METHYL TRICHLOROACETATE																										(NTP, 1992)		592.75						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C19H24N4O2.2C2H6O4S	Cellulose-Based Absorbents	6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2815	METHYL VALERATE	METHYL N-VALERATE|METHYL PENTANOATE|METHYL VALERATE|METHYL VALERIANATE|N-VALERIC ACID METHYL ESTER|PENTANOIC ACID, METHYL ESTER|VALERIC ACID, METHYL ESTER	624-24-8	PHYSICAL DESCRIPTION: Clear colorless to yellowish oily liquid. (NTP, 1992)	2.5	5.0	2.5	4765.0	473.0	1634.0	843.0	512.0	1276.0	131.0	444.0	240.0	131.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2816	METHYLCYCLOPENTADIENE DIMER, [LIQUID]	3A,4,7,7A-TETRAHYDRODIMETHYL-4,7-METHANOINDENE|BIS(METHYLCYCLOPENTADIENE)|DIMETHYLDICYCLOPENTADIENE|4,7-METHANOINDENE, 3A,4,7,7A-TETRAHYDRODIMETHYL-|4,7-METHANOINDENE, 3A,4,7,7A-TETRAHYDRODIMETHYL|METHYLCYCLOPENTADIENE DIMER|METHYLCYCLOPENTADIENE DIMER, [LIQUID]	26472-00-4	A colorless liquid. Slightly less dense than water and insoluble in water. Hence floats on water. Flash point 140Â°F.	2.5	5.0	2.5	4765.0	473.0	1634.0	843.0	512.0	1276.0	131.0	444.0	240.0	131.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2817	METHYLCYCLOPENTADIENYLMANGANESE TRICARBONYL	(BLOB)	12108-13-3	An orange liquid with a pleasant odor. Slightly soluble in water and denser than water. May be toxic by inhalation, ingestion and/or skin absorption.	2.5	5.0	2.5	4765.0	473.0	1636.0	843.0	512.0	1276.0	131.0	445.0	240.0	131.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2818	METHYLGLYOXAL	ACETYLFORMALDEHYDE|ACETYLFORMYL|ALPHA-KETOPROPIONALDEHYDE|GLYOXAL, METHYL|1-KETOPROPIONALDEHYDE|2-KETOPROPIONALDEHYDE|METHYLGLYOXAL|NSC 79019|2-OXOPROPANAL|2-OXOPROPANOL|2-OXOPROPIONALDEHYDE|PROPANEDIONE|PROPANOLONE|PYRORACEMIC ALDEHYDE|PYRUVALDEHYDE|PYRUVIC ALDEHYDE	78-98-8	PHYSICAL DESCRIPTION: Clear yellow slightly viscous liquid with a pungent odor. Yellowish-green vapors. Faintly acidic to litmus. (NTP, 1992)	2.5	5.0	2.5	4765.0	473.0	1636.0	847.0	512.0	1276.0	131.0	445.0	242.0	131.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2819	METHYLNAPHTHALENE	DISTILLATES (PETROLEUM), CATALYTIC REFORMER FRACTIONATOR RESIDUE, LOW-BOILING|DYCAR MN|METHYL NAPHTHALENE|METHYLNAFTALEN|METHYLNAPHTHALENE|MONOMETHYLNAPHTHALENE|SURE-SOL 187|TETROSIN MNLF	1321-94-4	PHYSICAL DESCRIPTION: Bluish-brown oil or a clear yellow liquid. Coal tar or mothball odor. (NTP, 1992)	2.5	5.0	2.5	4767.0	473.0	1636.0	847.0	512.0	1277.0	131.0	445.0	242.0	131.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective.Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2815	METHYL VALERATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations. Water soluble.	PENTETRAZOL is incompatible with oxidizing agents. (NTP, 1992). Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Azo dyes can be explosive when suspended in air at specific concentrations.	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)			135 to 136
2816	METHYLCYCLOPENTADIENE DIMER, [LIQUID]	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Slightly soluble in water.	PERCHLORYL FLUORIDE is a propellant; a powerful oxidant. It ignites upon contact with alcohols, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174].	Strong Oxidizing Agent	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3083 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NIOSH, 2003)		-234	
2817	METHYLCYCLOPENTADIENYLMANGANESE TRICARBONYL	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	PERFLUORO(ETHYLVINYL ETHER) oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979. p.151-154, 164].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							
2818	METHYLGLYOXAL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in PETROLEUM ETHER, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)			-86 to -40	(NIOSH, 2003)		1.1		%	(NIOSH, 2003)		5.9		%					(NIOSH, 2003)		-99	
2819	METHYLNAPHTHALENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	PETROLEUM NAPHTHA, [FLAMMABLE LIQUID LABEL] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)	(approx.)	20		(USCG, 1999)		0.9		%	(USCG, 1999)		6		%	(USCG, 1999)		450					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2815	METHYL VALERATE																										(NTP, 1992)		138.18						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C6H10N4		5.0	0.0	8.0	2.0	2.0
2816	METHYLCYCLOPENTADIENE DIMER, [LIQUID]	(NIOSH, 2003)		10.5				atm													(NIOSH, 2003)		-52		760		(NIOSH, 2003)		102.5		(NIOSH, 2003)		100	ppm	(NIOSH, 2003)		0.06		%		Poison Gas|Oxidizer	ClFO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	9.0	2.0	2.0
2817	METHYLCYCLOPENTADIENYLMANGANESE TRICARBONYL																																								Flammable Gas	C4F8O	Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2818	METHYLGLYOXAL	(NIOSH, 2003)	(approx)	40				mm Hg							(USCG, 1999)		0.75		68		(NIOSH, 2003)			86 to 460	760		(NIOSH, 2003)		99		(NIOSH, 2003)		1100	ppm	(NIOSH, 2003)	Insoluble					Flammable Liquid			4.0	0.0	7.0	2.0	2.0
2819	METHYLNAPHTHALENE														(USCG, 1999)		0.74		68		(USCG, 1999)		207		760		(NIOSH, 2003)		110		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)	Insoluble				PTN|NVM	Flammable Liquid			4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2820	MICHLER'S KETONE	BENZOPHENONE, 4,4'-BIS(DIMETHYLAMINO)-|BIS(4-(DIMETHYLAMINO)PHENYL)METHANONE|BIS(4-DIMETHYLAMINOPHENYL)KETONE|4,4'-BIS(DIMETHYLAMINO)BENZOPHENONE|4,4'-BIS(N,N-DIMETHYLAMINO)BENZOPHENONE|BIS(P-(N,N-DIMETHYLAMINO)PHENYL)KETONE|BIS[P-(N,N-DIMETHYLAMINO)PHENYL]KETONE|DABP|DI(P-DIMETHYLAMINO)BENZOPHENONE|DI-P-DIMETHYLAMINOPHENYL KETONE|MICHLER KETONE|MICHLER'S KETONE|N,N,N',N'-TETRAMETHYL-4,4'-DIAMINOBENZOPHENONE|NCI-C02006|NISSO CURE MABP|P,P'-BIS(DIMETHYLAMINO)BENZOPHENONE|P,P'-BIS(N,N-DIMETHYLAMINO)BENZOPHENONE|P,P'-MICHLER'S	90-94-8	PHYSICAL DESCRIPTION: White to greenish crystalline leaflets or blue powder. (NTP, 1992)	1.0	2.5	5.0	4769.0	473.0	1636.0	847.0	512.0	1278.0	131.0	445.0	242.0	131.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2821	M-NITROBENZAMIDE	BENZAMIDE, M-NITRO-|M-NITROBENZAMIDE|3-NITROBENZAMIDE|3-NITROBENZOIC ACID, AMIDE	645-09-0	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	4771.0	473.0	1636.0	847.0	512.0	1279.0	131.0	445.0	242.0	131.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2822	MONODODECYLPHENOL (CORROSIVE LIQUIDS, N.O.S.)	MONODODECYLPHENOL (CORROSIVE LIQUIDS, N.O.S.)	27193-86-8	A straw-colored liquid with a phenolic odor. Causes eye and skin burns. May cause respiratory tract irritation and can cause lung injury if swallowed and aspirated.	2.5	5.0	2.5	4771.0	473.0	1636.0	847.0	512.0	1279.0	131.0	445.0	242.0	131.0	(BLOB)	When heated to decomposition it emits very toxic fumes of sulfur oxides and chlorine containing compounds. (EPA, 1998)	
2823	MONO-TERT-BUTYL-M-CRESOL	MONO-TERT-BUTYL-M-CRESOL	88-60-8	A clear colorless liquid. Less dense than water and insoluble in water. Used as a disinfectant, to make rubber, as a lubricating oil additive, and for many other uses.	2.5	5.0	2.5	4771.0	473.0	1636.0	847.0	512.0	1279.0	131.0	445.0	242.0	131.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2824	M-PHENETIDINE	3-AMINOETHOXYBENZENE|3-ETHOXYANILINE|3-ETHOXYBENZENAMINE|M-AMINOETHOXYBENZENE|M-ETHOXYANILINE|M-ETHOXYPHENYLAMINE|M-PHENETIDINE|META-ETHOXYANILINE|META-PHENETIDINE	621-33-0	PHYSICAL DESCRIPTION: Dark red liquid. (NTP, 1992)	2.5	5.0	2.5	4773.0	475.0	1636.0	847.0	514.0	1280.0	132.0	445.0	242.0	132.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2825	MUSCIMOL	AGARIN|AGARINE|5-(AMINOMETHYL)-3-ISOXAZOLOL|5-AMINOMETHYL-3-HYDROXYISOXAZOLE|5-AMINOMETHYL-3-ISOXYZOLE|3(2H)-ISOXAZOLONE, 5-(AMINOMETHYL)-|3-HYDROXY-5-AMINOMETHYLISOXAZOLE|AGARIN|3-HYDROXY-5-AMINOMETHYLISOXAZOLE|4-ISOXAZOLIN-3-ONE, 5-(AMINOMETHYL)-|3-ISOXAZOLOL, 5-(AMINOMETHYL)-|MUSCIMOL|PANTHERINE	2763-96-4	Crystals. Formerly used as a sedative and an anti-emetic. (EPA, 1998)	1.0	2.5	5.0	4775.0	475.0	1636.0	847.0	514.0	1281.0	132.0	445.0	242.0	132.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dr chemical, carbon dioxide or Halon extinguisher. A water spray can also be use. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2820	MICHLER'S KETONE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organometallics, such as DIPHENYLAMINE CHLORO/ARSINE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: If this material is being used as a weapon, see ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1698 datasheet. Otherwise increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
2821	M-NITROBENZAMIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	This compound is sensitive to air and light (darkens). Soluble in water and denser than water.	ANILINE HYDROCHLORIDE is incompatible with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		380														(NTP, 1992)		388	
2822	MONODODECYLPHENOL (CORROSIVE LIQUIDS, N.O.S.)		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PHENOL, 2,2'-THIOBIS-4-CHLORO-6-METHYL- is a halogenated organosulfide and phenol. Incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials may generate heat and toxic or flammable gas. Heat is also generated by the acid-base reaction with bases.					0																		(EPA, 1998)		347	
2823	MONO-TERT-BUTYL-M-CRESOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHENOLPHTHALEIN is incompatible with alkaloids. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(NTP, 1992)			496 to 504
2824	M-PHENETIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this compound under refrigerated conditions and protect it from exposure to light. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	PHENOTHIAZINE is slowly decomposed by sunlight. (NTP, 1992). Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.					0																		(NTP, 1992)			365.9 to 366.6
2825	MUSCIMOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ANTHRAQUINONE is incompatible with strong oxidizing agents. (NTP, 1992)			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		365												(NTP, 1992)	(sublimes)	547	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2820	MICHLER'S KETONE																											277.59													Poison	C12H9AsCIN		5.0	0.0	7.0	2.0	2.0
2821	M-NITROBENZAMIDE								(NTP, 1992)		4.46				(NTP, 1992)		1.2215				(NTP, 1992)		473		760		(NTP, 1992)		129.6						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C6H7N.ClH		5.0	0.0	6.0	2.0	2.0
2822	MONODODECYLPHENOL (CORROSIVE LIQUIDS, N.O.S.)																										(EPA, 1998)		315.22													[H3CC6H2(Cl)(OH)]2S		5.0	0.0	6.0	2.0	2.0
2823	MONO-TERT-BUTYL-M-CRESOL														(NTP, 1992)		1.299		77								(NTP, 1992)		318.33						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Combustible Liquid	C20H14O4		6.0	0.0	10.0	2.0	2.0
2824	M-PHENETIDINE	(NIOSH, 2003)	(approx)	0				mm Hg													(NTP, 1992)		700		760		(NTP, 1992)		199.28						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H9NS	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2825	MUSCIMOL	(NTP, 1992)		1		374		mm Hg	(NTP, 1992)		7.16				(NTP, 1992)		1.438		68		(NTP, 1992)			714 to 718	760		(NTP, 1992)		208.22						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C14H8O2		5.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2826	MUSK AMBRETTE	AMBER MUSK|AMBRETTE MUSK|ANISOLE, 6-TERT-BUTYL-3-METHYL-2,4-DINITRO-|ARTIFICIAL MUSK AMBRETTE|1-(1,1-DIMETHYLETHYL)-2-METHOXY-4-METHYL-3,5-DINITROBENZENE|2,6-DINITRO-3-METHOXY-4-T-BUTYLTOLUENE|2,6-DINITRO-3-METHOXY-4-TERT-BUTYLTOLUENE|MUSK AMBRETTE|MUSK AMBRETTE (ARTIFICIAL)|SYNTHETIC MUSK AMBRETTE|5-T-BUTYL-1,3-DINITRO-4-METHOXY-2-METHYLBENZENE|6-T-BUTYL-3-METHYL-2,4-DINITROANISOLE|5-TERT-BUTYL-1,3-DINITRO-4-METHOXY-2-METHYLBENZENE|4-TERT-BUTYL-3-METHOXY-2,6-DINITROTOLUENE|6-TERT-BUTYL-3-METHYL-2,4-DINITROANISOLE	83-66-9	PHYSICAL DESCRIPTION: Pale yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	4775.0	475.0	1636.0	847.0	514.0	1281.0	132.0	445.0	242.0	132.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2827	N,N'-DI-2-NAPHTHYL-P-PHENYLENEDIAMINE	ACETO DIPP|AGERITE W|AGERITE WHITE|ANTAGE F|ANTIGENE F|ANTIOXIDANT 123|ANTIOXIDANT DNP|ASM-DNT|1,4-BIS(2-NAPHTHYLAMINO)BENZENE|DI-BETA-NAPHTHYL-P-PHENYLDIAMINE|DI-BETA-NAPHTHYL-P-PHENYLENEDIAMINE|DIAFEN NN|DNPD|DNPDA|N,N'-(DI-2-NAPHTHYL)-P-PHENYLENEDIAMINE|N,N'-BIS(2-NAPHTHYL)-1,4-PHENYLENEDIAMINE|N,N-BIS(2-NAPHTHYL)-P-PHENYLENEDIAMINE|N,N'-BIS(BETA-NAPHTHYL)-P-PHENYLENEDIAMINE|N,N'-DI(2-NAPHTHYL)-P-PHENYLENEDIAMINE|N,N'-DI-2-NAPHTHALENYL-1,4-BENZENEDIAMINE|N,N'-DI-2-NAPHTHYL-1,4-BENZENEDIAMINE|N,N'-DI-2-NAPHTHYL-P-PHENYLENEDIAMINE|N,N'-DI-BETA-NAPHTHYL-P-	93-46-9	PHYSICAL DESCRIPTION: Gray powder. (NTP, 1992)	1.0	2.5	5.0	4775.0	475.0	1636.0	847.0	514.0	1281.0	132.0	445.0	242.0	132.0	(BLOB)	Reacts violently with water, to form poisonous hydrogen fluoride fumes. If confined and wet can cause explosion. May cause fire in contact with combustible material. Hazardous polymerization may not occur. (EPA, 1998)	Wear full protective clothing and acid-gas-type canister mask. Move container from fire area. Spray cooling water on containers that are exposed to flames until well after fire is out. Reacts violently with water. Do not use water or foam on fire or on adjacent fires; extinguish with dry chemicals or carbon dioxide. (EPA, 1998)
2828	N,N'-DIETHYLCARBANILIDE	BIS(N-ETHYL-N-PHENYL)UREA|CARBAMITE|CARBANILIDE, N,N'-DIETHYL-|CENTRALITE|CENTRALITE 1|CENTRALITE I|CENTRALITE-1|1,3-DIETHYL-1,3-DIPHENYLUREA|ETHYL CENTRALITE|N,N'-DIETHYL-N,N'-DIPHENYLUREA|N,N'-DIETHYLCARBANILIDE|SYM-DIETHYLDIPHENYLUREA|USAF EK-1047	85-98-3	PHYSICAL DESCRIPTION: White flakes or white crystalline solid. Peppery odor. (NTP, 1992)	1.0	2.5	5.0	4777.0	475.0	1636.0	847.0	514.0	1282.0	132.0	445.0	242.0	132.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2829	N,N-DIETHYL-P-PHENYLENEDIAMINE	4-AMINO-N,N-DIETHYLANILINE|DIETHYL-PARA-PHENYLENEDIAMINE|4-(DIETHYLAMINO)ANILINE|DIETHYLAMINOANILINE|DPD|N,N-DIETHYL-1,4-BENZENEDIAMINE|N,N-DIETHYL-1,4-PHENYLENEDIAMINE|N,N-DIETHYL-4-AMINOANILINE|N,N-DIETHYL-P-PHENYLENEDIAMINE|N,N-DIETHYL-PARA-PHENYLENEDIAMINE|4-(N,N-DIETHYLAMINO)ANILINE|P-(DIETHYLAMINO)ANILINE|P-AMINO-N,N-DIETHYLANILINE|P-PHENYLENEDIAMINE, N,N-DIETHYL-|PARAAMINO-DIETHYLANILINE|PPD 89	93-05-0	PHYSICAL DESCRIPTION: Reddish brown or black liquid. (NTP, 1992)	2.5	5.0	2.5	4779.0	475.0	1636.0	847.0	514.0	1283.0	132.0	445.0	242.0	132.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2830	N,N-DIISOPROPYL ETHANOLAMINE, [CORROSIVE]	2-(DIISOPROPYLAMINO)ETHANOL|2-(DIISOPROPYLAMINO)ETHYL ALCOHOL|ETHANOL, 2-(DIISOPROPYLAMINO)-|N,N-DIISOPROPYL ETHANOLAMINE, [CORROSIVE]|N,N-DIISOPROPYL-2-AMINOETHANOL|N,N-DIISOPROPYLAMINO)ETHANOL|N,N-DIISOPROPYLETHANOLAMINE	96-80-0	A colorless liquid. Slightly soluble in water and less dense than water. Severely irritates skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4779.0	475.0	1636.0	847.0	514.0	1283.0	132.0	445.0	242.0	132.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2826	MUSK AMBRETTE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	PHENOXYACETIC ACID reacts exothermically with all bases, both organic (for example, the amines) and inorganic.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		208 to 212
2827	N,N'-DI-2-NAPHTHYL-P-PHENYLENEDIAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Fumes in air to form small amounts of hydrogen fluoride (reacts with moisture in air). May React with water to give hydrofluoric acid (HF) [Merck 11th ed. 1989]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ANTIMONY PENTAFLUORIDE is strongly acidic. Reacts vigorously with bases. When heated to decomposition, it emits highly toxic fumes of fluorides and metallic antimony. Reacts with ammonia to form a diammoniate.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1732 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1							(EPA, 1998)	Not flammable.					(EPA, 1998)	Not flammable.										(EPA, 1998)		47
2828	N,N'-DIETHYLCARBANILIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble	DIPOTASSIUM ENDOTHALL is the potassium salt a dibasic acid. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
2829	N,N-DIETHYL-P-PHENYLENEDIAMINE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Fumes in air. Decomposes in water or steam to form very corrosive hydrogen chloride gas.	PHENYLACETYL CHLORIDE is incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
2830	N,N-DIISOPROPYL ETHANOLAMINE, [CORROSIVE]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound is relatively stable at ambient temperatures. Aqueous decomposition of this chemical occurs by hydrolysis and oxidation. Insoluble in water.	PHENYLBUTAZONE is incompatible with strong oxidizers, strong acids and strong bases. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2826	MUSK AMBRETTE																				(NTP, 1992)	(Decomposes)	545		760		(NTP, 1992)		152.16						(NTP, 1992)	at 63Â° F		1 to 5	mg/mL			Poison|Flammable Liquid	C6H5OCH2COOH		5.0	0.0	10.0	2.0	2.0
2827	N,N'-DI-2-NAPHTHYL-P-PHENYLENEDIAMINE														(EPA, 1998)		3.097		78.44		(EPA, 1998)		286		760		(EPA, 1998)		216.76		(NIOSH, 2003)	(as Sb)	50	mg/m3						APF	Corrosive|Poison	SbF5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	6.0	2.0	2.0
2828	N,N'-DIETHYLCARBANILIDE																																								Poison	C8H8O5.2K		6.0	0.0	10.0	2.0	2.0
2829	N,N-DIETHYL-P-PHENYLENEDIAMINE																																								Corrosive	C8H7ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	8.0	2.0	2.0
2830	N,N-DIISOPROPYL ETHANOLAMINE, [CORROSIVE]																																								Poison	C19H20N2O2		6.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2831	N,N-DIMETHYL-M-TOLUIDINE	DIMETHYL-M-TOLUIDINE|3-(DIMETHYLAMINO)TOLUENE|M,N,N-TRIMETHYLANILINE|M-METHYL-N,N-DIMETHYLANILINE|M-TOLUIDINE, N,N-DIMETHYL-|3-METHYL-N,N-DIMETHYLANILINE|N,N,3-TRIMETHYLANILINE|N,N-DIMETHYL-3-METHYLANILINE|N,N-DIMETHYL-M-METHYLANILINE|N,N-DIMETHYL-M-TOLUIDINE	121-72-2	A clear colorless liquid with an aromatic odor. Density 0.932 g / cm3 (Lancaster) and insoluble in water. Hence floats on water. Toxic by skin absorption and inhalation. May release toxic vapors when burned.	2.5	5.0	2.5	4779.0	475.0	1636.0	847.0	514.0	1283.0	132.0	445.0	242.0	132.0	(BLOB)	Fire may produce irritating or poisonous gases. When heated to decomposition, very toxic mercuric fumes may be given off. Phenylmercuric ion is incompatible with halides, with which precipitates are formed. (EPA, 1998)	Materials are extremely hazardous to health, but areas may be entered with extreme care. Full protective clothing, including self-contained breathing apparatus, rubber gloves, boots and bands around legs, arms, and waist should be provided. No skin should be exposed. Use dry chemical, foam, or carbon dioxide on solution. Use water as necessary, but run-off should be limited and controlled to prevent it from entering streams or water supplies. (EPA, 1998) If the compound is mixed with an organic liquid fight fire given the characteristics of the liquid solvent, in addition to the mercuric hazards.
2832	N,N'-DINITROSOPENTAMETHYLENE TETRAMINE	ACETO DNPT 100|ACETO DNPT 40|ACETO DNPT 80|CELLMIC A|CELLMIC A 80|CELLMIC AN|CELLULAR C|CELLULAR D|CELLULAR GX|CHEMPOR N 90|CHEMPOR PC 55|CHEMPOR PC 65|CHKHZ 18|3,7-DI-N-NITROSO(PENTAMETHYLENE)TETRAMINE|DI-N-NITROSOPENTAMETHYLENETETRAMINE|3,7-DINITROSO-1,3,5,7-TETRAAZABICYCLO[3.3.1]NONANE|DINITROSOPENTAMETHENETETRAMINE|DINITROSOPENTAMETHYLENETETRAMINE|DINITROSOPENTAMETHYLENETETRAMINE|DIPENTAX|DNO/F|DNPMT|DNPT|KEMPORE N 90|1,5-METHANO-3,7-DINITROSO-1,3,5,7-TETRAAZACYCLOOCTANE|MICROPOR|MIKROFOR N|N,N'-DINITROSOPENTAMETHYLENE TETRAMINE|N,N'-	101-25-7	Flammable explosive solid.	1.0	2.5	5.0	4781.0	475.0	1636.0	847.0	514.0	1284.0	132.0	445.0	242.0	132.0	Call a physician. INHALATION: Remove from exposure. SKIN: Flush with copious amounts of water. INGESTION: Have victim drink water or milk. Induce vomiting. Perform gastric lavage. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2833	N,N-ETHYLENE-BIS(TETRABROMOPHTHALIMIDE)	1,2-BIS(TETRABROMOPHTHALIMIDO) ETHANE|1,2-BIS(TETRABROMOPHTHALIMIDO)ETHANE|BT 93|BT 93W|CITEX BT 93|2,2'-(1,2-ETHANDIYL)BIS[4,5,6,7-TETRABROMO-1H-ISOINDOLE-1,3(2H)-DIONE]|N,N'-ETHYLENEBIS(TETRABROMOPHTHALIMIDE)|N,N-ETHYLENE-BIS(TETRABROMOPHTHALIMIDE)|PHTHALIMIDE, N,N'-ETHYLENEBIS[TETRABROMO-|SAYTEX BT 93|SAYTEX BT 93W	32588-76-4	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	4783.0	475.0	1636.0	847.0	514.0	1285.0	132.0	445.0	242.0	132.0	INHALATION: move victim at once to fresh air and keep him warm, but not hot; call a physician immediately; nasal passages may be irrigated from a gently flowing hose. INGESTION: induce vomiting by giving large quantities of warm salt water; have a physician see the patient at once. EYES: flush with copious amounts of water for at least 15 min.; call a physician at once. SKIN: flush with large quantities of flowing water followed by washing of skin surfaces with soap and water; remove all contaminated clothing promptly. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating antimony oxide and hydrogen chloride may form in fires. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2834	NABAM	CHEM BAM|DISODIUM ETHYLENEBIS[DITHIOCARBAMATE]|DITHANE|EBDC, SODIUM SALT|ETHYLENEBIS [DITHIOCARBAMIC ACID], DISODIUM SALT|NABAM	142-59-6	Colorless to light amber solid with a a slight odor. Mixes with water. (USCG, 1999)	1.0	2.5	5.0	4785.0	475.0	1636.0	847.0	514.0	1286.0	132.0	445.0	242.0	132.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2835	N-ACETYL-M-TOLUIDINE	ACETAMIDE, N-(3-METHYLPHENYL)-|1-ACETAMIDO-3-METHYLBENZENE|3-ACETAMIDOTOLUENE|ACET O-M-AMINOTOLUENE|ACETOTOLUIDE|M-ACETOTOLUIDE|M-ACETOTOLUIDINE|M-METHYLACETANILIDE|M-N-ACETYLTOLUIDINE|M-TOLYLACETAMIDE|3'-METHYLACETANILIDE|3-METHYLACETANILIDE|N-(3-METHYLPHENYL)ACETAMIDE|N-ACETYL-3-METHYLANILINE|N-ACETYL-M-TOLUIDINE|N-M-TOLYLACETAMIDE	537-92-8	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	4787.0	475.0	1636.0	847.0	514.0	1287.0	132.0	445.0	242.0	132.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2831	N,N-DIMETHYL-M-TOLUIDINE	Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water. Slightly soluble in water (NTP, 1992).	PHENYLMERCURIC ACETATE may react with strong oxidizing agents (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(USCG, 1999)		140													(NTP, 1992)		300	
2832	N,N'-DINITROSOPENTAMETHYLENE TETRAMINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Gloves, dustproof clothing, goggles, and, where atmospheric exposure is high, respirators should be used. (USCG, 1999)	Water slowly hydrolyzes antimony tribromide to form antimony (III) oxide and hydrobromic acid. The dry powdered oxide ignites on heating in air [Mellor Vol. 9 425 1939].	Acidic salts, such as ANTIMONY TRIBROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. It is corrosive to metals and tissue.	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)		205.88	
2833	N,N-ETHYLENE-BIS(TETRABROMOPHTHALIMIDE)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Note: The respiratory system is the chief avenue of entrance of antimony and its compounds into the body. Bu. Mines-approved respirator; chemical safety goggles; face shield; leather or rubber safety shoes; rubber apron; rubber gloves (USCG, 1999)	Fumes in air to form hydrochloric acid [Merck 11th ed. 1989]. Decomposed by water to form hydrochloric acid and antimony oxychloride. The dry powdered oxide ignites on heating in air [Mellor Vol. 9 425.1939].	Acidic salts, such as ANTIMONY TRICHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)		163	
2834	NABAM	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air to form hydrochloric acid [Merck 11th ed. 1989]. Decomposed by water to form hydrochloric acid and antimony oxychloride.	Acidic salts, such as ANTIMONY TRICHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
2835	N-ACETYL-M-TOLUIDINE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water slowly hydrolyzes antimony fluoride to form antimony (III) oxide. The dry powdered oxide ignites on heating in air [Mellor Vol. 9 425.1939].	ANTIMONY TRIFLUORIDE is a colorless, solid compound, toxic and corrosive. When heated to decomposition, it emits very toxic fumes of fluoride and metallic antimony [Lewis, 3rd ed., 1993, p. 83].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2831	N,N-DIMETHYL-M-TOLUIDINE	(NTP, 1992)		9		95		mm Hg							(USCG, 1999)	(est)	0.24										(NTP, 1992)		336.75						(NTP, 1992)	Slightly soluble				PMA	Poison	C8H8HgO2		5.0	0.0	8.0	2.0	2.0
2832	N,N'-DINITROSOPENTAMETHYLENE TETRAMINE														(USCG, 1999)		4.148		73.4		(USCG, 1999)		536		760		(USCG, 1999)		361.51											ATB	Poison	Br3Sb		8.0	0.0	9.0	2.0	2.0
2833	N,N-ETHYLENE-BIS(TETRABROMOPHTHALIMIDE)														(USCG, 1999)		3.14		68		(USCG, 1999)		433		760		(USCG, 1999)		228											ATM	Corrosive	Cl3Sb		5.0	0.0	10.0	2.0	2.0
2834	NABAM																																								Corrosive	Cl3Sb		5.0	0.0	6.0	2.0	2.0
2835	N-ACETYL-M-TOLUIDINE																																								Poison	SbF3 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2836	NALED	ALVORA|ARTHODIBROM|BROMCHLOPHOS|BROMEX|BROMEX (INSECTICIDE)|BROMEX 50|BRPJDIBROM|DIBROMFOS|1,2-DIBROMO-2,2-DICHLOROETHYL DIMETHYL PHOSPHATE|DIBROMÅ®|DIMETHYL 1,2-DIBROMO-2,2-DICHLOROETHYL PHOSPHATE|DIMETHYL-1,2-DIBROMO-2,2-DICHLORETHYL PHOSPHATE|ENT 24988|FLIBOL EX|FOSBROM|NALED|RE 4355	300-76-5	Naled is a white solid that may be dissolved in a liquid organic carrier with a pungent odor. It is a water emulsifiable liquid. It is insoluble in water and sinks in water. It can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. If it is in liquid form, it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used as a pesticide.	1.0	2.5	5.0	4789.0	477.0	1636.0	849.0	516.0	1288.0	133.0	445.0	243.0	133.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2837	N-AMYL BUTYRATE	AMYL BUTYRATE|AMYL BUTYRATES|BUTYRIC ACID, PENTYL ESTER|N-AMYL BUTYRATE|N-PENTYL BUTYRATE|N-PENTYL N-BUTYRATE|PENTYL BUTANOATE|PENTYL BUTYRATE|1-PENTYL BUTYRATE	540-18-1	A colorless liquid. Less dense than water. May emit acrid fumes and irritating smoke when burned. Used to make plastics.	2.5	5.0	2.5	4791.0	477.0	1636.0	849.0	516.0	1289.0	133.0	445.0	243.0	133.0	(BLOB)	Do not get water inside containers. Vapors may travel to ignition source and flash back. Runoff to sewer may create fire or explosion hazard. Flammable/combustible material; may be ignited by heat, sparks or flames. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Emits toxic chloride fumes when heated to decomposition. Do not mix with halogenated compounds, because a trace quantity of free halogen may cause violent explosion. May react violently with water. Readily hydrolyzed in water/moisture, producing hydrochloric acid. Avoid mixing with water or exposing to moisture. (EPA, 1998)	Full protective clothing, including self-contained breathing apparatus, coat, pants, gloves, boots, and bands around legs, arms, and waist should be provided. No skin surface should be exposed. Move container from fire area if you can do so without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Dry chemical, carbon dioxide, fog, or foam. May react violently with water. (EPA, 1998)
2838	N-AMYL FORMATE	AMYL FORMATE|AMYL FORMATES|N-AMYL FORMATE|N-PENTYL FORMATE|PENTYL FORMATE	638-49-3	A clear colorless liquid with a plum-like odor. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	4791.0	477.0	1636.0	849.0	516.0	1289.0	133.0	445.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2839	N-BUTYL FORMATE	BUTYL FORMATE|BUTYL METHANOATE|N-BUTYL FORMATE	592-84-7	A clear colorless liquid. Flash point 64Â°F. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	4791.0	477.0	1636.0	849.0	516.0	1289.0	133.0	445.0	243.0	133.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. When heated to decomposition, it emits very toxic fumes of oxides of phosphorus, sulfur, and nitrogen. Hydrolyzed by alkalies. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, foam, or fog. (EPA, 1998)
2840	N-BUTYLANILINE	ANILINE, N-BUTYL-|BUTYLANILINE|BUTYLPHENYLAMINE|N-(N-BUTYL)ANILINE|N-BUTYLANILINE|N-BUTYLBENZENAMINE|4-(PHENYLAMINO)BUTANE	1126-78-9	An amber colored liquid. Slightly denser than water and insoluble in water. May be toxic by skin absorption and ingestion. Severely irritates skin and eyes. Used to make dyes.	2.5	5.0	2.5	4791.0	477.0	1636.0	849.0	516.0	1289.0	133.0	445.0	243.0	133.0	(BLOB)	Highly toxic nitrogen oxides and sulfur oxides. Avoid extreme heat. (EPA, 1998)	Use protective clothing and respiratory protection. (EPA, 1998)
2841	N-BUTYLUREA	BUTYLUREA|1-BUTYLUREA|N-BUTYLUREA|N-N-BUTYLUREA|NCI-C02131	592-31-4	PHYSICAL DESCRIPTION: Odorless white solid. (NTP, 1992)	1.0	2.5	5.0	4791.0	477.0	1638.0	849.0	516.0	1289.0	133.0	446.0	243.0	133.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2836	NALED	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	During the measurement of the shock sensitivity of a mixture containing hydrazine, a drop of the hydrazine mixture fell on a tetryl explosive. The tetryl immediately burst into flames (ASESB 105).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0		(NIOSH, 2003)	Explodes																	(NIOSH, 2003)		268	
2837	N-AMYL BUTYRATE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas. [Handling Chemicals Safely 1980. p. 924]. Phenyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 2.6 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as PHENYLTRICHLOROSILANE are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1804 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(EPA, 1998)		196																			
2838	N-AMYL FORMATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and keep it away from oxidizing materials and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PHENYTOIN is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical is incompatible with strong oxidizers and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)			563 to 568
2839	N-BUTYL FORMATE	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Keep unnecessary people away. Do not touch spilled material. Use water spray to reduce vapors. Take up spills with noncombustible absorbent materials. Small dry spills: with clean shovel place material into clean, dry container and cover; move container from spill area. For large spills dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzed by alkalis. [EPA, 1998].	Organophosphates, such as PHOSFOLAN, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(EPA, 1998)			98.6 to 113
2840	N-BUTYLANILINE	Decontaminants include bleach slurry and hot soapy water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)		318.2																(EPA, 1998)		Freezing point below -60Â° F	
2841	N-BUTYLUREA	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Pure oxygen is a potent oxidizer. The rare gas, Ar, is inert, so much of the reactivity of this mixture is connected to the % content of each component. The higher the % content rare gas the less reactive in terms of it being an oxidizing agent.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for oxygen, CAS number 7782-44-7.	3	0	0	0	Oxidizer																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2836	NALED	(NIOSH, 2003)			less than 1			mm Hg							(NIOSH, 2003)		1.57				(NIOSH, 2003)	(Explodes)		356 to 374	760		(NIOSH, 2003)		287.2		(NIOSH, 2003)		750	mg/m3	(NIOSH, 2003)		0.02		%		Explosive 1.1D	C7H5N5O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	6.0	2.0	2.0
2837	N-AMYL BUTYRATE								(EPA, 1998)		7.36				(EPA, 1998)		1.326		64.4		(EPA, 1998)		395		760		(EPA, 1998)		211.55												Corrosive	C6H5Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	7.0	0.0	9.0	2.0	2.0
2838	N-AMYL FORMATE																										(NTP, 1992)		252.27						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL		Poison	C15H12N2O2		5.0	0.0	7.0	2.0	2.0
2839	N-BUTYL FORMATE																				(EPA, 1998)			239 to 244.4		0.001	(EPA, 1998)		255.3												Poison	C7H14NO3PS2	Mineral-Based & Clay-Based Absorbents	6.0	0.0	9.0	2.0	2.0
2840	N-BUTYLANILINE	(EPA, 1998)		0.0007		77		mm Hg	(EPA, 1998)		9.2				(EPA, 1998)		1.0083		77		(EPA, 1998)	decomposes	568		760		(EPA, 1998)		267.37												Poison	C11H26NO2PS	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0
2841	N-BUTYLUREA																																							Non-Flammable Gas	Ar(O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2842	N-EICOSANE	DIDECYL|EICOSANE|ICOSANE|N-EICOSANE	112-95-8	PHYSICAL DESCRIPTION: Colorless crystals or white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4791.0	477.0	1638.0	849.0	516.0	1289.0	133.0	446.0	243.0	133.0	INHALATION: Get medical aid. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: If victim is conscious, have victim drink 2 glasses of water and induce vomiting by sticking a finger down the throat. Do not give anything to an unconscious or convulsive person. EYES: Flush eyes with lots of running water for 15 minutes, lifting the upper and lower eyelids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with lots of soap and water. (USCG, 1999)	Special Hazards of Combustion Products: When heated to decomposition, it emits acrid smoke. (USCG, 1999)	Fire Extinguishing Agents: Water spray, dry chemical, carbon dioxide, alcohol foam. (USCG, 1999)
2843	NEODECANOIC ACID, 2,3-EPOXYPROPYL ESTER	CARDURA E 10|CARDURA E-10 (MONOGLYCIDYL ESTER)|2,3-EPOXYPROPYL NEODECANOATE|GLYCIDYL NEODECANOATE|GLYDEXX N 10|NEODECANOIC ACID, 2,3-EPOXYPROPYL ESTER|NEODECANOIC ACID, GLYCIDYL ESTER|1-PROPANOL, 2,3-EPOXY-, NEODECANOATE	26761-45-5	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4793.0	477.0	1638.0	849.0	516.0	1290.0	133.0	446.0	243.0	133.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2844	N-HYDROXYBENZAMIDE	BENZAMIDE, N-HYDROXY-|BENZENEHYDROXAMIC ACID|BENZHYDROXAMIC ACID|BENZOHYDROXAMATE|BENZOHYDROXAMIC ACID|BENZOHYDROXIMIC ACID|BENZOYLHYDROXAMIC ACID|BENZOYLHYDROXYLAMINE|BHAM|HYDROXYLAMINE, N-BENZOYL-|HYDROXYLAMINE, N-BENZOYL-|N-BENZOHYDROXAMIC ACID|N-BENZOYLHYDROXYLAMINE|N-HYDROXYBENZAMIDE|PHENYLHYDROXAMIC ACID	495-18-1	PHYSICAL DESCRIPTION: Rhombic crystals or light beige solid. (NTP, 1992)	1.0	2.5	5.0	4795.0	477.0	1640.0	849.0	516.0	1291.0	133.0	447.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2845	NICKEL FLUOROBORATE	NICKEL (II) FLUOBORATE|NICKEL FLUOROBORATE|NICKEL FLUOROBORATE SOLUTION, NICKEL,[TETRAFLUOROBORATE	14708-14-6	Green odorless aqueous solution. Sinks in and mixes with water. (USCG, 1999)	2.5	5.0	2.5	4797.0	477.0	1640.0	849.0	516.0	1292.0	133.0	447.0	243.0	133.0	Excerpt from GUIDE 159 [Substances (Irritating)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects should disappear after individual has been exposed to fresh air for approximately 10 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2846	NICKEL FORMATE	NICKEL FORMATE|NICKEL FORMATE DIHYDRATE	3349-06-2	Odorless green solid. Sinks in and mixes with water. (USCG, 1999)	1.0	2.5	5.0	4799.0	477.0	1640.0	849.0	516.0	1293.0	133.0	447.0	243.0	133.0	Consult physician after all overexposures to this compound. INHALATION: Move to fresh air. INGESTION: Induce vomiting by giving warm salt water; repeat until vomit is clear. EYES: Flush with water for at least 15 min. SKIN: Wash well with water. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2842	N-EICOSANE		Self-contained breathing apparatus, rubber boots, rubber gloves, and rubber apron. If spill is small, a full facepiece air purifying cartridge respirator equipped with organic vapor cartridge may be satisfactory. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0		(USCG, 1999)			greater than 300														(USCG, 1999)		-22	
2843	NEODECANOIC ACID, 2,3-EPOXYPROPYL ESTER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Absorbs oxygen from the air very readily to form phosphoric acid [Hawley]. Soluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
2844	N-HYDROXYBENZAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	DIRECT BLUE 1 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. Cleavage of the diazo group by reducing agents may lead to benzidine production. (NTP, 1992)	Explosive						0																						
2845	NICKEL FLUOROBORATE	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Halogenated aliphatic compounds, such as 1-BROMO-3-CHLOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
2846	NICKEL FORMATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ARSENIC TRISULFIDE is dissolved by alkalis and by hydrochloric acid (slowly). Decomposed by nitric acid. May react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. The reactions may be violent. Arsenic trisulfide reacts with concentrated solutions of chloric acid with incandescence [Mellor Supp. II Part I:584 1956]. Generates toxic gaseous hydrogen sulfide on contact with acids.	Strong Reducing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																					(USCG, 1999)		572	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2842	N-EICOSANE														(USCG, 1999)		1.13				(USCG, 1999)		446		760		(USCG, 1999)		342.42													C20H22O5		4.0	0.0	6.0	2.0	2.0
2843	NEODECANOIC ACID, 2,3-EPOXYPROPYL ESTER																																							Corrosive	H2[HPO3]		3.0	0.0	9.0	2.0	2.0
2844	N-HYDROXYBENZAMIDE																										(NTP, 1992)		992.81						(NTP, 1992)	at 73Â° F		1 to 5	mg/mL			C34H28N6O16S4.4Na		8.0	0.0	10.0	2.0	2.0
2845	NICKEL FLUOROBORATE																																							Poison	C3H6BrCl		3.0	0.0	8.0	2.0	2.0
2846	NICKEL FORMATE														(USCG, 1999)		3.43		68								(USCG, 1999)		246		(NIOSH, 2003)	as arsenic, suspected human carcinogen.	5	mg/m3					ART	Poison	As2S3		6.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2847	NICKELOCENE	BIS(CYCLOPENTADIENYL)NICKEL(II)|BIS(ETA5-2,4-CYCLOPENTADIEN-1-YL)NICKEL|BIS(ETA5-CYCLOPENTADIENYL)NICKEL|BIS(N(SUP 5)-2,4-CYCLOPENTADIEN-1-YL)NICKEL|DI-PI-CYCLOPENTADIENYLNICKEL|DICYCLOPENTADIENYLNICKEL|NICKEL, BIS(ETA5-2,4-CYCLOPENTADIEN-1-YL)-|NICKEL, COMPOUND WITH PI-CYCLOPENTADIENYL (1:2)|NICKEL, DI-PI-CYCLOPENTADIENYL-|NICKEL, DICYCLOPENTADIENYL-|NICKELOCENE|NICKELOCENE (8-10 PERCENT IN TOLUENE)|PI-CYCLOPENTADIENYL COMPOUND OF NICKEL	1271-28-9	PHYSICAL DESCRIPTION: Dark liquid in an 8-10% solution in toluene. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	4801.0	477.0	1640.0	849.0	516.0	1294.0	133.0	447.0	243.0	133.0	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, keep exposed skin areas immersed in water or covered with wet bandages until medical attention is received. Removal of solidified molten material from skin requires medical assistance. Remove and isolate contaminated clothing and shoes at the site and place in metal container filled with water. Fire hazard if allowed to dry. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: Extremely flammable; will ignite itself if exposed to air. Burns rapidly, releasing dense, white, irritating fumes. Substance may be transported in a molten form. May re-ignite after fire is extinguished. Corrosive substances in contact with metals may produce flammable hydrogen gas. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: SMALL FIRE: Water spray, wet sand or wet earth. LARGE FIRE: Water spray or fog. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2848	NICOTINE TARTRATE	NICOTINE ACID TARTRATE|NICOTINE BITARTRATE|(-)-NICOTINE BITARTRATE|NICOTINE D-BITARTRATE|NICOTINE HYDROGEN TARTRATE|NICOTINE HYDROTARTRATE|NICOTINE TARTRATE|NICOTINE, TARTRATE|NICOTINE, TARTRATE (1:1)|NICOTINE, TARTRATE (1:2)|NICOTINE-D-TARTRATE|PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-, (S)-, [R-(R*,R*)]-2,3-DIHYDROXYBUTANEDIOATE|PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-, (S)-, [R-(R*,R*)]-2,3-DIHYDROXYBUTANEDIOATE (1:1)|PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-, (S)-, [R-(R*,R*)]-2,3-DIHYDROXYBUTANEDIOATE (1:2)	65-31-6	A reddish white crystalline solid. Combustible. Toxic by inhalation (dust, etc.) and may be toxic by skin absorption. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	4801.0	477.0	1640.0	849.0	516.0	1294.0	133.0	447.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2849	N-ISOPROPYLANILINE	ANILINE, N-ISOPROPYL-|ISOPROPYLANILINE|ISOPROPYLPHENYLAMINE|N-(1-METHYLETHYL)-BENZENAMINE|N-(1-METHYLETHYL)BENZENAMINE|N-IPA|N-ISOPROPYLANILINE|N-ISOPROPYLBENZENAMINE|N-PHENYLISOPROPYLAMINE|PHENYLISOPROPYLAMINE	768-52-5	PHYSICAL DESCRIPTION: Clear brown liquid. (NTP, 1992)	2.5	5.0	2.5	4801.0	477.0	1640.0	849.0	516.0	1294.0	133.0	447.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2850	NITRAPYRIN	ALPHA,ALPHA,ALPHA-6-TETRACHLORO-2-PICOLINE|6-CHLORO-2-(TRICHLOROMETHYL)PYRIDINE|2-CHLORO-6-(TRICHLORO-METHYL)PYRIDINE|2-CHLORO-6-(TRICHLOROMETHYL)PYRIDINE|2-CHLORO-6-TRICHLOROMETHYL PYRIDINE|2-CHLORO-6-TRICHLOROMETHYLPYRIDINE|CP|DOWCO-163|N-SERVE|N-SERVE 24E|N-SERVE NITROGEN STABILIZER|N-SERVEÂ®|NITRAPYRIN|2,2,2,6-TETRACHLORO-2-PICOLINE|2-TRICHLOROMETHYL-6-CHLOROPYRIDINE	1929-82-4	PHYSICAL DESCRIPTION: Colorless crystals or off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4801.0	477.0	1640.0	849.0	516.0	1294.0	133.0	447.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2851	NITRILOTRIACETIC ACID TRISODIUM SALT MONOHYDRATE	ACETIC ACID, NITRILOTRI-, TRISODIUM SALT, MONOHYDRATE|HAMPSHIRE NTA NA3 CRYSTALS|N,N-BIS(CARBOXYMETHYL)GLYCINE TRISODIUM SALT MONOHYDRATE|NCI-C01445|NITRILOACETIC ACID TRISODIUM SALT MONOHYDRATE|NITRILOTRIACETIC ACID TRISODIUM SALT MONOHYDRATE|NTA SODIUM HYDRATE|PERMAKLEER NTA NA3 CRYSTALS|SODIUM NITRILOTRIACETATE MONOHYDRATE|TRILON A92|TRISODIUM NITRILOTRIACETATE MONOHYDATE|TRISODIUM NITRILOTRIACETATE MONOHYDRATE|TRISODIUM SALT OF NITRILOTRIACETIC ACID, MONOHYDRATE	18662-53-8	PHYSICAL DESCRIPTION: White crystals or powder with a slight odor of ammonia. pH (1% aqueous solution) about 11. pH (40%) 11-13. (NTP, 1992)	1.0	2.5	5.0	4801.0	477.0	1640.0	849.0	516.0	1294.0	133.0	447.0	243.0	133.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2847	NICKELOCENE	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL SPILL: Cover with water, sand or earth. Shovel into metal container and keep material under water. LARGE SPILL: Dike for later disposal and cover with wet sand or earth. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. For Phosphorus (UN1381): Special aluminized protective clothing should be worn when direct contact with the substance is possible. (ERG, 2012)	When exposed to air emits a green light and gives off white fumes. Ignites at 30Â°C in moist air, higher temperatures are required for ignition in dry air [Merck 11th ed. 1989]. The reactivity of phosphorus with oxygen or air depends on the allotrope of phosphorus involved and the conditions of contact, white (yellow) phosphorus being by far more reactive. White phosphorus readily ignites in air if warmed, finely divided, or under conditions where the slow oxidative isotherm cannot be dissipated. Contact with finely divided charcoal or lampblack promotes ignition, probably by the absorbed oxygen. Contact with amalgamated aluminum also promotes ignition [Mellor 1940 and 1971].	WHITE PHOSPHORUS reacts with air (fire, acidic solution); sulfur and oxidants (fire, explosion). Bromine trifluoride reacts similarly with arsenic, boron, bromine, iodine, phosphorus, and sulfur [Mellor 2:113. 1946-47]. Bromoazide explodes on contact with antimony, arsenic, phosphorus, silver foil, or sodium. Red phosphorus reacts in the cold with selenium oxychloride evolving light and heat; white phosphorus reacts explosively [Mellor 10:906. 1946-47]. When thorium is heated with phosphorus, they unite with incandescence [Svenska Akad. 1829. p. 1].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6																									
2848	NICOTINE TARTRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	DIRECT RED 39 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																								(NTP, 1992)	(decomposes)	545	
2849	N-ISOPROPYLANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PHTHALAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This chemical is incompatible with acids. (NTP, 1992).						0																								(NTP, 1992)	(decomposes)	442	
2850	NITRAPYRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																													
2851	NITRILOTRIACETIC ACID TRISODIUM SALT MONOHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		greater than 572	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2847	NICKELOCENE																																								Spontaneously Combustible|Poisson	P		5.0	0.0	9.0	2.0	2.0
2848	NICOTINE TARTRATE																										(NTP, 1992)		704.71						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C32H28N4O8S2.2Na		4.0	0.0	6.0	2.0	2.0
2849	N-ISOPROPYLANILINE																				(NTP, 1992)	Decomposes					(NTP, 1992)		164.16						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C8H8N2O2		5.0	0.0	9.0	2.0	2.0
2850	NITRAPYRIN																										(NTP, 1992)		420.39						(NTP, 1992)	at 64Â° F		50 to 100	mg/mL			C22H16N2O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0
2851	NITRILOTRIACETIC ACID TRISODIUM SALT MONOHYDRATE																										(NTP, 1992)		358.38						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C18H18N2O6	Mineral-Based & Clay-Based Absorbents	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2852	NITROANISOLE	ANISOLE, O-NITRO-|ANISOLE, P-NITRO-|BENZENE, 1-METHOXY-2-NITRO-|4-METHOXY-1-NITROBENZENE|1-METHOXY-2-NITROBENZENE|1-METHOXY-4-NITROBENZENE|2-METHOXYNITROBENZENE|4-METHOXYNITROBENZENE|METHYL 4-NITROPHENYL ETHER|METHYL P-NITROPHENYL ETHER|NCI-C60388|4-NITRO-1-METHOXYBENZENE|NITROANISOLE|NITROANISOLE, LIQUID|NITROANISOLE, SOLID|2-NITROANISOLE|4-NITROANISOLE|4-NITROMETHOXYBENZENE|4-NITROPHENYL METHYL ETHER|O-NITROPHENYL METHYL ETHER|P-METHOXYNITROBENZENE|P-NITROANISOLE|P-NITROBENZENE METHYL ETHER|P-NITROMETHOXYBENZENE	91-23-6	A light red or amber-colored liquid or crystals. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4801.0	477.0	1640.0	853.0	516.0	1294.0	133.0	447.0	245.0	133.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2853	NITROBROMOBENZENE	4-BROMO-1-NITROBENZENE|1-BROMO-4-NITROBENZENE|BROMONITROBENZENE|4-BROMONITROBENZENE|NITROBROMOBENZENE|NITROBROMOBENZENE, LIQUID|NITROBROMOBENZENE, SOLID|4-NITROBROMOBENZENE|4-NITROPHENYL BROMIDE|P-BROMONITROBENZENE|P-NITROBROMOBENZENE|P-NITROPHENYL BROMIDE	586-78-7	Nitrobromobenzenes are colorless to pale-yellow liquids or solids with a repugnant odor that may liquefy in transportation. They are insoluble in water and weigh less than water. Contact with the material may cause irritation to skin, eyes, and mucous membranes. They are toxic by ingestion, inhalation or skin absorption. They are used to make other chemicals.	2.5	5.0	2.5	4803.0	477.0	1640.0	853.0	516.0	1295.0	133.0	447.0	245.0	133.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2854	NITROETHANE	NITROETAN|NITROETHAN|NITROETHANE	79-24-3	A colorless oily liquid with a pleasant odor. Flash point of 82Â°F. Decomposes above 350Â°F. Density 1.052 g / cm3. Vapors much heavier than air. and insoluble in water. Vapors may irritate skin, eyes and mucous membranes. Produces toxic oxides of nitrogen during combustion. Used as a propellant and as a solvent.	2.5	5.0	2.5	4805.0	479.0	1640.0	853.0	518.0	1296.0	134.0	447.0	245.0	134.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2855	NITROGEN DIOXIDE	NITRIT(O)NITRO|NITROGEN DIOXIDE|NITROGEN DIOXIDE (NITROGEN OXIDES)|NITROGEN DIOXIDE, LIQUEFIED|NITROGEN DIOXIDE, [LIQUID]|NITROGEN OXIDE(NO2)|NITROGEN PEROXIDE|NITROGEN PEROXIDE, LIQUID	10102-44-0	A reddish brown gas or yellowish-brown liquid when cooled or compressed. Shipped as a liquefied gas under own vapor pressure. Vapors are heavier than air. Toxic by inhalation (vapor) and skin absorption. Noncombustible, but accelerates the burning of combustible materials. Cylinders and ton containers may not be equipped with a safety relief device.	5.0	1.0	1.0	4807.0	479.0	1640.0	853.0	518.0	1297.0	134.0	447.0	245.0	134.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2856	NITROGUANIDINE (PICRITE), WETTED WITH NOT LESS THAN 20% WATER	ALPHA-NITROGUANIDINE|BETA-NITROGUANIDINE|N''-NITROGUANIDINE|N1-NITROGUANIDINE|NITROGUANIDINE|NITROGUANIDINE (PICRITE), WETTED WITH NOT LESS THAN 20% WATER|1-NITROGUANIDINE|2-NITROGUANIDINE|NQ|PICRITE|PICRITE (PROPELLANT)|PICRITE, WETTED|PICRITE, [WET, WITH >= 20% WATER]	556-88-7	Nitroguanidine is shipped as a slurry or wet mass of pale yellow crystals. If it should dry out it can explode due to shock, heat, flame, or friction. The primary hazard is blast where the entire load can explode instantaneously and not from flying projectiles and fragments. Under prolonged exposure to fire or heat they can explode.	1.0	2.5	5.0	4809.0	479.0	1640.0	853.0	518.0	1298.0	134.0	447.0	245.0	134.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2852	NITROANISOLE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organic amides/imides, such as THALIDOMIDE, react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			516 to 520
2853	NITROBROMOBENZENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	A mixture of thallic oxide and antimony sulfide or sulfur explodes when ground in a mortar [Mellor 5:421 1946-47]. This material is decomposed by HCl with evolution of chlorine gas, and by H2SO4 with evolution of oxygen.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
2854	NITROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	PICLORAM may be sensitive to prolonged exposure to light. Aqueous solutions may be decomposed by light. This chemical is incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides. (NTP, 1992)						0																						(NTP, 1992)	(decomposes)	392	
2855	NITROGEN DIOXIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Very soluble in water.	ZINC BROMATE is an oxidizing agent. May cause ignition in contact with organic materials. Accelerates the burning of combustible materials. May explode after prolonged heating. A mixture with finely divided aluminum can explode by heat, percussion, and friction [Mellor 2:310 1946-47]. May react violently or explosively with aluminum, arsenic, copper, carbon, phosphorus, sulfur, hydrides of alkali and alkaline-earth metals; sulfides of antimony, arsenic, copper and tin; metal cyanides, thiocyanates; impure manganese dioxide.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
2856	NITROGUANIDINE (PICRITE), WETTED WITH NOT LESS THAN 20% WATER	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. AZODIISOBUTYRONITRILE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	3	6																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2852	NITROANISOLE																									(NTP, 1992)		258.25						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C13H10N2O4		5.0	0.0	6.0	2.0	2.0
2853	NITROBROMOBENZENE																																								Poison	OTI2		7.0	0.0	10.0	2.0	2.0
2854	NITROETHANE	(NTP, 1992)		6.16E-07		95		mm Hg													(NIOSH, 2003)	Decomposes					(NTP, 1992)		241.46						(NTP, 1992)	at 68Â° F		less than 0.1	mg/mL			C6H3Cl3N2O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	8.0	2.0	2.0
2855	NITROGEN DIOXIDE																																								Oxidizer	ZnBrO3.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0
2856	NITROGUANIDINE (PICRITE), WETTED WITH NOT LESS THAN 20% WATER																																								Flammable Solid	C8H12N4		4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2857	NITROGUANIDINE, [DRY]	ALPHA-NITROGUANIDINE|BETA-NITROGUANIDINE|N''-NITROGUANIDINE|N1-NITROGUANIDINE|NITROGUANIDINE|NITROGUANIDINE, [DRY]|1-NITROGUANIDINE|2-NITROGUANIDINE|NQ|PICRITE|PICRITE (PROPELLANT)	556-88-7	A yellow solid in the form of crystalline needles. Decomposes at 480Â°F and emits toxic oxides of nitrogen. May explode under exposure to intense heat or fire. Primary hazard is blast of explosion, not flying projectiles or fragments .	1.0	2.5	5.0	4809.0	479.0	1640.0	853.0	518.0	1298.0	134.0	447.0	245.0	134.0	(BLOB)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2858	NITROGUANIDINE, WETTED WITH NOT LESS THAN 20% WATER	NITROGUANIDINE, WETTED WITH NOT LESS THAN 20% WATER|NITROGUANIDINE, [WET WITH >= 20% WATER]	556-88-7	Shipped as a slurry or wet mass of pale yellow crystals. May explode due to shock, heat, flame, or friction when dry. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	4809.0	479.0	1640.0	853.0	518.0	1298.0	134.0	447.0	245.0	134.0	(BLOB)	Flash point data for this compound are not available. It is probably highly flammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2859	NITROSYLSULFURIC ACID	NITROSONIUM BISULFATE|NITROSONIUM HYDROGEN SULFATE|NITROSULFONIC ACID|NITROSYL BISULFATE|NITROSYL HYDROGEN SULFATE|NITROSYL SULFATE|NITROSYL SULFATE ((NO)H(SO4))|NITROSYLSULFURIC ACID|NITROSYLSULFURIC ACID (NOHSO4)|NITROSYLSULPHURIC ACID	7782-78-7	Shipped in solution with sulfuric acid (solutions are usually 40% nitrosylsulfuric acid and 54% sulfuric acid (Hawley)). Solution is a straw-colored oily liquid with a sharp odor. When pure, a crystalline solid decomposing at 73Â°C. Very irritating to skin and eyes. Used to make dyes and other chemicals.	2.5	5.0	2.5	4809.0	479.0	1640.0	853.0	518.0	1298.0	134.0	447.0	245.0	134.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2860	N-METHYLBENZAMIDE	N-METHYLBENZAMIDE|N-METHYLBENZENAMIDE|N-METHYLBENZENECARBOXAMIDE	613-93-4	PHYSICAL DESCRIPTION: Off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4811.0	479.0	1642.0	853.0	518.0	1299.0	134.0	448.0	245.0	134.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2861	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE	GUANIDINE, 1-METHYL-3-NITRO-1-NITROSO-|GUANIDINE, N-METHYL-N'-NITRO-N-NITROSO-|1-METHYL-1-NITROSO-3-NITROGUANIDINE|1-METHYL-1-NITROSO-N-METHYLGUANIDINE|1-METHYL-3-NITRO-1-NITROSOGUANIDINE|METHYLNITRONITROSOGUANIDINE|MNG|MNNG|N'-NITRO-N-NITROSO-N-METHYLGUANIDINE|N-METHYL-N'-NITRO-N-NITROSOGUANIDINE|N-METHYL-N-NITROSO-N'-NITROGUANIDINE|N-NITROSO-N'-NITRO-N-METHYLGUANIDINE|N-NITROSO-N-METHYL-N'-NITROGUANIDINE|N-NITROSO-N-METHYLNITROGUANIDINE|NCI-C01423|NG|1-NITRO-N-NITROSO-N-METHYLGUANIDINE|1-NITROSO-3-NITRO-1-METHYLGUANIDINE|NITRO	70-25-7	A yellow powder. Melting point 244Â°F. Decomposes above 212Â°F. A suspected carcinogen. Extremely hazardous as a mutagen. Avoid skin contact and inhalation of of vapors. Usually stored frozen (below 32Â°F) in polyethylene bottles that are tightly closed and contained in a metal can. May decomposed during prolonged storage and develop sufficient pressure in a closed container to explode. Keep away from heat, sparks, and open flame.	1.0	2.5	5.0	4811.0	479.0	1642.0	853.0	518.0	1299.0	134.0	448.0	245.0	134.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2857	NITROGUANIDINE, [DRY]	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	4	6	Oxidizer	(NTP, 1992)		65														(NTP, 1992)		-40	
2858	NITROGUANIDINE, WETTED WITH NOT LESS THAN 20% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in an explosion-proof freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). If either of these are not available, wear a full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. However, note that full face chemical cartridge respirators provide a substantially lower protection level than do positive supplied-air or SCBA equipment. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air and elevated temperatures (NTP, 1992). Soluble in water.	AZOXYMETHANE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2859	NITROSYLSULFURIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May become discolored on exposure to air. Insoluble in water.	TRANS-SQUALENE is incompatible with strong oxidizing agents. (NTP, 1992).					0		(NTP, 1992)		greater than 235														(NTP, 1992)		-103	
2860	N-METHYLBENZAMIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2861	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	BARIUM AZIDE, WETTED WITH NOT LESS THAN 50% WATER is a suspension or slurry of of an unstable solid in sufficient water to allow safe shipping and handling. May explode if allowed to dry out and then heated or shocked. Incompatible with strong oxidizing agents, strong reducing agents.	Highly Flammable; Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2857	NITROGUANIDINE, [DRY]	(NTP, 1992)		19.51		68		mm Hg	(NTP, 1992)		5.03				(NTP, 1992)		0.704		68		(NTP, 1992)		232		760		(NTP, 1992)		146.23						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Organic Peroxide	C8H18O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2858	NITROGUANIDINE, WETTED WITH NOT LESS THAN 20% WATER														(NTP, 1992)		0.994		72.3		(NTP, 1992)		208		760		(NTP, 1992)		74.1						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison	C2H6N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2859	NITROSYLSULFURIC ACID														(NTP, 1992)		0.8584		68		(NTP, 1992)		545		25		(NTP, 1992)		410.73						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C30H50	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2860	N-METHYLBENZAMIDE																																								Poison|Flammable Liquid	CH2NS2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0
2861	N-METHYL-N'-NITRO-N-NITROSOGUANIDINE																																								Flammable Solid|Poison	Ba(N3)2		6.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2862	N-METHYLOLACRYLAMIDE	ACRYLAMIDE, N-(HYDROXYMETHYL)-|MH 100|MH 100 (AMIDE)|MONOMETHYLOLACRYLAMIDE|N-(HYDROXYMETHYL)-2-PROPENAMIDE|N-(HYDROXYMETHYL)ACRYLAMIDE|N-MAM P|N-METHANOLACRYLAMIDE|N-METHYLOLACRYLAMIDE|NCI-C60333|NMA 60|ROCAGILBT|U-RAMIN T 80|URAMINE T 80	924-42-5	A colorless or yellow aqueous solution.	2.5	5.0	2.5	4811.0	479.0	1644.0	853.0	518.0	1299.0	134.0	449.0	245.0	134.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2863	N-NITROSODIPHENYLAMINE	CURETARD A|DELAC J|DIPHENYL N-NITROSOAMINE|DIPHENYLAMINE, N-NITROSO-|DIPHENYLNITROSAMINE|N,N-DIPHENYL-N-NITROSOAMINE|N,N-DIPHENYLNITROSAMINE|N-NITROSO-N-DIPHENYLAMINE|N-NITROSO-N-PHENYLANILINE|N-NITROSO-N-PHENYLBENZENAMINE|N-NITROSODIPHENYLAMINE|NAUGARD TJB|NCI-C02880|NDPA|NDPHA|NITROSODIPHENYLAMINE|NITROUS DIPHENYLAMIDE|ORTARD|PHENYL-N-NITROSOAMINE|REDAX|RETARDER J|SCONOC|TJB|VULCALENT A|VULCATARD|VULCATARD A|VULKALENT A|VULTROL	86-30-6	Yellow to brown or orange powder or flakes or a black solid. Insoluble in water and denser in water. Hence sinks in water. (NTP, 1992)	1.0	2.5	5.0	4813.0	479.0	1644.0	853.0	518.0	1300.0	134.0	449.0	245.0	134.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2864	N-NITROSO-N-METHYLUREA	CARBAMIDE, N-METHYL-N-NITROSO-|1-METHYL-1-NITROSOUREA|METHYLNITROSOUREA|MNU|N-METHYL-N-NITROSOUREA|N-NITROSO-N-METHYLCARBAMIDE|N-NITROSO-N-METHYLUREA|1-NITROSO-1-METHYLUREA|NITROSOMETHYLUREA|NMH|NMM|NMU|NSC 23909|SKI 24464|SRI 859|UREA, 1-METHYL-1-NITROSO-|UREA, N-METHYL-N-NITROSO-	684-93-5	PHYSICAL DESCRIPTION: Pale yellow crystals or light yellow moist powder. (NTP, 1992)	1.0	2.5	5.0	4813.0	479.0	1644.0	853.0	518.0	1300.0	134.0	449.0	245.0	134.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: Dry chemical, CO 2 , or foam (USCG, 1999)
2865	N-NONANE	N-NONANE|NONANE|NONANES|NONYL HYDRIDE|SHELLSOL 140	111-84-2	A clear colorless liquid with a sharp odor. Flash point 86Â°F. Insoluble in water and less dense than water. Contact may irritate eyes and possibly injury the cornea. May irritate skin. Vapor inhalation may cause irritation. Prolonged inhalation may lead to breathing difficulty. Ingestion causes abdominal discomfort, nausea and diarrhea.	2.5	5.0	2.5	4813.0	479.0	1644.0	853.0	518.0	1300.0	134.0	449.0	245.0	134.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2866	NOCODAZOLE	2-BENZIMIDAZOLECARBAMIC ACID, 5-(2-THENOYL)-, METHYL ESTER|METHYL (5-(2-THIENYLCARBONYL)-1H-BENZIMIDAZOLE-2-YL)CARBAMATE|METHYL 5-(2-THENOYL)-2-BENZIMIDAZOLECARBAMATE|N-(5-(2-THIENOYL)-2-BENZIMIDAZOLYL)CARBAMIC ACID METHYL ESTER|N-[5-(2-THENOYL)-2-BENZIMIDAZOLYL]CARBAMIC ACID METHYL ESTER|NOCODAZOLE|NSC 238 159|NSC 238159|ONCODAZOLE|R 17934|5-(2-THENOYL)-2-BENZIMIDAZOLECARBAMIC ACID METHYL ESTER|5-(2-THIENOYL)-2-BENZIMIDAZOLECARBAMIC ACID METHYL ESTER|(5-(2-THIENYLCARBONYL)-1H-BENZIMIDAZOL-2-YL)CARBAMIC ACID METHYL ESTER|5-(2-THIENYLCARBONYL)-2-	31430-18-9	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4815.0	481.0	1644.0	853.0	518.0	1301.0	135.0	449.0	245.0	134.0	Get medical attention. Alert doctor to possibility of barium poisoning, particularly if compound was swallowed. INHALATION: remove to fresh air. EYES: flush with copious quantities of water for at least 15 min.; get medical attention. SKIN: flush with water. INGESTION: induce vomiting and call a physician; have victim drink aqueous 10% solution of magnesium or sodium sulfate; for severe intoxication, calcium or a magnesium salt may have to be given I.V. with caution; treatment otherwise is supportive and symptomatic. (USCG, 1999)	Special Hazards of Combustion Products: Yields toxic fumes when involved in fire. Behavior in Fire: May cause an explosion when involved in a fire. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2867	N-OCTADECANE	C18-N-ALKANE|N-OCTADECANE|OCTADECANE	593-45-3	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4815.0	481.0	1644.0	853.0	518.0	1301.0	135.0	449.0	245.0	134.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2862	N-METHYLOLACRYLAMIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2863	N-NITROSODIPHENYLAMINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
2864	N-NITROSO-N-METHYLUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Not required (USCG, 1999)	Insoluble in water.	DIUNDECYL PHTHALATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Can generate electrostatic charges [Handling Chemicals Safely, 1980. p. 250].					0		(NTP, 1992)			greater than 200																		
2865	N-NONANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																							(NTP, 1992)		172 to 176
2866	NOCODAZOLE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Goggles or face shield; dust respirator (U.S. Bureau of Mines approved); rubberized shoes and gloves; coveralls or other suitable outer clothing. (USCG, 1999)	Water soluble.	BARIUM CHLORATE is an oxidizing agent. Liberates explosive chlorine dioxide gas in the presence of a strong acid. Heating a moist metal chlorate and a dibasic organic acid liberates chlorine dioxide and carbon dioxide [Bretherick 1979 p. 100]. Mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination, in finely divided form with finely divided aluminum can explode by heat, percussion, or friction [Mellor 2:310 1946-4].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for barium chlorate, CAS number 13477-00-4	2	0	1	1	Oxidizer																			(USCG, 1999)		777	
2867	N-OCTADECANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is unstable in water. Slowly hydrolyzes	PIVALOLACTONE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is incompatible with alkanes. (NTP, 1992)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2862	N-METHYLOLACRYLAMIDE																																								Non-Flammable Gas	C2HClF4		7.0	0.0	10.0	2.0	2.0
2863	N-NITROSODIPHENYLAMINE																																								Poison	CH2NS2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	8.0	0.0	9.0	2.0	2.0
2864	N-NITROSO-N-METHYLUREA																										(NTP, 1992)		474.72						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)				DUP		C30H50O4		5.0	0.0	6.0	2.0	2.0
2865	N-NONANE															(NTP, 1992)	1.1										(NTP, 1992)		227.33						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C15H17NO	Mineral-Based & Clay-Based Absorbents	3.0	0.0	7.0	2.0	2.0
2866	NOCODAZOLE															(USCG, 1999)	3.18		68									(monohydrate)	322.25											BCR	Oxidizer|Poison	Ba(ClO3)2.H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0
2867	N-OCTADECANE																										(NTP, 1992)		100.13						(NTP, 1992)	at 66Â° F		10 to 50	mg/mL			C5H8O2		5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2868	NONANOL	NONANOL|1-NONANOL|NONYL ALCOHOL|NONYL ALCOHOL/PELARGONIC ALCOHOL|OCTYCARBINOL	143-08-8	Colorless liquid with a rose or fruity odor. Floats on water. Freezing point 23Â°F. (USCG, 1999)	2.5	5.0	2.5	4815.0	481.0	1644.0	853.0	518.0	1301.0	135.0	449.0	245.0	134.0	(BLOB)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2869	NONENE	N-NONENE|NONENE|NONENE (NONLINEAR)	27215-95-8	A clear colorless liquid with a sharp odor. Flash point 75Â°F. Insoluble in water and less dense than water. Hence floats on water. May irritate skin on contact. Inhalation of vapors may cause irritation. Prolonged inhalation may lead to breathing difficulty. Ingestion causes abdominal discomfort, nausea and diarrhea.	2.5	5.0	2.5	4815.0	481.0	1644.0	853.0	518.0	1301.0	135.0	449.0	245.0	134.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2870	NONYL ACETATE	ACETATE C-9|ACETIC ACID, N-NONYL ESTER|N-NONYL ACETATE|NONANOL ACETATE|NONYL ACETATE	143-13-5	Colorless liquid with a pungent odor of mushrooms. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	4815.0	481.0	1644.0	853.0	518.0	1301.0	135.0	449.0	245.0	134.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2871	N-PENTADECANE	N-PENTADECANE|PENTADECANE|PENTADECANE (N)	629-62-9	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4817.0	481.0	1644.0	853.0	520.0	1302.0	135.0	449.0	245.0	135.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Melts and burns (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical or carbon dioxide (USCG, 1999)
2872	N-PENTYL PROPIONATE	N-AMYL PROPIONATE|N-PENTYL PROPIONATE	624-54-4	Colorless liquid with an apple-like odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4819.0	481.0	1644.0	853.0	520.0	1303.0	135.0	449.0	245.0	135.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2868	NONANOL	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Most alkyl monohydroperoxides are liquid, the explosivity of the lower members (e.g., methyl hydroperoxide, or possibly due to traces of the dialkyl peroxides) decreasing with increasing chain length and branching [Bretherick 2nd ed. 1979. p. 10].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		127																			
2869	NONENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	P-METHYL BENZYL ALCOHOL can react with acids, acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)						0																			(NTP, 1992)			138 to 142
2870	NONYL ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	In aqueous solution behaves as an acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																			(NTP, 1992)	(decomposes)		482 to 500
2871	N-PENTADECANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	It may be sensitive to prolonged exposure to air and light. Insoluble in water. This chemical is sensitive to moisture.	P-NITROANILINE may react vigorously with sulfuric acid above 392Â° F. It may also react with sodium hydroxide at 266Â° F. Under pressure, it may produce an explosive compound. It is incompatible with strong oxidizers and strong reducing agents. It is capable of explosive decomposition with strong initiators. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3		(NTP, 1992)		390													(NTP, 1992)		356		(NTP, 1992)		298	
2872	N-PENTYL PROPIONATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organonitrate compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

| id | name | vp_source | vp_note | vp_value | vp_range | vp_range_temp[beg | vp_range_temp[beg | vd_value | vd_note | vd_source | vp_unit | sg_range_temp[beg | sg_range_temp[beg | sg_value_temp[beg | sg_range | sg_value | sg_note | sg_source | sg_range_temp[beg | vd_range_temp[beg | vd_range

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2873	N-PROPYL BENZENE	BENZENE, PROPYL|ISOCUMENE|N-PROPYL BENZENE|N-PROPYLBENZENE|1-PHENYLPROPANE|PROPYL BENZENE|PROPYLBENZENE|1-PROPYLBENZENE	103-65-1	A clear colorless liquid. Insoluble in water and less dense than water. Flash point 86Â°F. Mildly toxic by ingestion and inhalation. Used to make other chemicals.	2.5	5.0	2.5	4821.0	481.0	1644.0	853.0	520.0	1304.0	135.0	449.0	245.0	135.0	(BLOB)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
2874	N-PROPYL FORMATE	N-PROPYL FORMATE|PROPYL FORMATE|PROPYL FORMATES|PROPYL METHANOATE	110-74-7	A clear colorless liquid with a pleasant odor. Slightly soluble in water and less dense than water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	4823.0	481.0	1646.0	853.0	520.0	1305.0	135.0	450.0	245.0	135.0	(BLOB)	Special Hazards of Combustion Products: Yields toxic oxides of nitrogen when burning. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2875	N-PROPYL ISOCYANATE	1-ISOCYANATOPROPANE|ISOCYANIC ACID, PROPYL ESTER|N-PROPYL ISOCYANATE|PROPYL ISOCYANATE|1-PROPYL ISOCYANATE	110-78-1	A colorless liquid with a pungent odor. Very toxic by ingestion. May be toxic by skin absorption and inhalation. Insoluble in water but reacts with water to produce a toxic vapor. Used to make other chemicals.	2.5	5.0	2.5	4823.0	481.0	1646.0	853.0	520.0	1305.0	135.0	450.0	245.0	135.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2876	O,P'-DDD	2,2-BIS(2-CHLOROPHENYL-4-CHLOROPHENYL)-1,1-DICHLOROETHANE|CB 313|CHLODITAN|CHLODITHANE|1-CHLORO-2-(2,2-DICHLORO-1-(4-CHLOROPHENYL))ETHYLBENZENE|2-(2-CHLOROPHENYL)-2-(4-CHLOROPHENYL)-1,1-DICHLOROETHANE|2,4'-DDD|1,1-DICHLORO-2,2-BIS(2,4'-DICHLOROPHENYL)ETHANE|1,1-DICHLORO-2-(O-CHLOROPHENYL)-2-(P-CHLOROPHENYL)ETHANE|2,4'-DICHLORODIPHENYLDICHLOROETHANE|ETHANE, 1,1-DICHLORO-2-(O-CHLOROPHENYL)-2-(P-CHLOROPHENYL)-|LYSODREN|MITOTAN|MITOTANE|NCI-C04933|NSC 38721|O,P'-DDD|O,P'-DICHLORODIPHENYL-DICHLOROETHANE|O,P'-DICHLORODIPHENYLDICHL	53-19-0	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	4825.0	483.0	1646.0	853.0	520.0	1306.0	136.0	450.0	245.0	135.0	Get medical attention. Alert doctor to possibility of barium poisoning, particularly if compound was swallowed. INHALATION: remove to fresh air. EYES: flush with water for at least 15 min. SKIN: flush with water. INGESTION: oral administration of an aqueous 10% solution of magnesium or sodium sulfate; for severe intoxication, calcium or a magnesium salt may have to be given I.V. with caution; treatment otherwise is supportive and symptomatic. (USCG, 1999)	Behavior in Fire: Increases the intensity of fire. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2877	O-ACETOTOLUIDIDE	2'-METHYLACETANILIDE|2-METHYLACETANILIDE|N-(2-METHYLPHENYL)-ACETAMIDE|N-(O-METHYLPHENYL)ACETAMIDE|N-ACETYL-O-TOLUIDIDE|N-ACETYL-O-TOLUIDINE|N-O-TOLYLACETAMIDE|O-ACETAMIDOTOLUENE|O-ACETOTOLUIDIDE|O-ACETYLTOLUIDIDE|O-METHYLACETANILIDE	120-66-1	PHYSICAL DESCRIPTION: Colorless crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	4827.0	483.0	1646.0	853.0	520.0	1307.0	136.0	450.0	245.0	135.0	Get medical attention. Alert doctor to possibility of barium poisoning, particularly if compound was swallowed. INHALATION: remove to fresh air. EYES: flush with copious amounts of water for 15 min. SKIN: wash with copious amounts of water. INGESTION: induce vomiting; give a 10% water solution of Epsom salt. (USCG, 1999)	Behavior in Fire: Can increase the intensity of fire. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2873	N-PROPYL BENZENE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Susceptible to spontaneous combustion upon exposure to air. Insoluble in water.	P-NITROSODIMETHYLANILINE has a delayed violent reaction with acetic anhydride. (NTP, 1992)	Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)			198.5 to 200.3
2874	N-PROPYL FORMATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	P-NITROTOLUENE may react violently with sodium, tetranitromethane, strong oxidizing agents , sulfuric acid and other acids. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(NTP, 1992)		223		(NTP, 1992)		1.6		%								(NTP, 1992)		130.1	
2875	N-PROPYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)						0																	(NTP, 1992)	(Turbid)	226	
2876	O,P'-DDD	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Goggles or face shield; dust respirator; rubber gloves and shoes; suitable coveralls. (USCG, 1999)	Water soluble.	Reflux heating of BARIUM PERCHLORATE with alcohols yields perchlorate esters, which are highly explosive [Kirk-Othmer 2nd ed. 5:75 1963]. A strong oxidizing agent. May react violently with organic materials.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)		941	
2877	O-ACETOTOLUIDIDE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Goggles or face shield; dust respirator; rubber gloves and shoes. (USCG, 1999)	Soluble in water.	Acetic acid or acetic anhydride can explode with permanganates, such as BARIUM PERMANGANATE, if not kept cold [Von Schwartz 1918 p 34]. Explosions can occur when permanganates that have been treated with sulfuric acid come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter.	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	yp_source	yp_note	yp_value	yp_range	yp_value_tempDegF	yp_range_tempDegF	yp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	solbility_note	solbility_value	solbility_source	solbility_temperature	hlfn_unit	hlfn_value	hlfn_note	hlfn_source	hlfn_range	molwgt_source	molwgt_value	molwgt_range	solbility_value	solbility_unit	chris_codes	doe_labels	formulas	incompatible_substems	# of Natlons Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2873	N-PROPYL BENZENE																1.145		(NTP, 1992)							(NTP, 1992)		150.18	less than 0.1	mg/mL			at 70Â° F	(NTP, 1992)										Spontaneo usly Combusti ble	C8H10N2O	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	6.0	0.0	8.0	0.0	2.0
2874	N-PROPYL FORMATE	(NTP, 1992)	1		128.7		mm Hg	(NTP, 1992)		4.72					(ICSC, 1999)		1.286	68		(NTP, 1992)		460.9			760		(NTP, 1992)		137.15	less than 1	mg/mL	NTT	Poison	at 68.9Â° F	(NTP, 1992)	ppm	200		(NIOSH, 2003)								C7H7NO 2	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2875	N-PROPYL ISOCYANATE																			(NTP, 1992)							(NTP, 1992)		250.34	less than 1	mg/mL			at 68Â° F	(NTP, 1992)											C15H22O 3		6.0	0.0	6.0	2.0	2.0
2876	O,P-DDD																3.2	68		(ICSC, 1999)							(ICSC, 1999)		390.35	(trihydrate)																	BPC	Oxidizer/P oison	Ba(ClO4) 2.3H2O	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	5.0	0.0	10.0	2.0	2.0
2877	O-ACETOTOLUIDIDE																3.77	68		(ICSC, 1999)							(ICSC, 1999)		375				BPM	Oxidizer/P oison	Ba(MnO4))2	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2878	O-AMINOAZOTOLUENE	AAT|4-AMINO-2',3-DIMETHYLAZOBENZENE|4'-AMINO-2,3'-AZOTOLUENE|4'-AMINO-2,3'-DIMETHYLAZOBENZENE|4'-AMINO-2:3'-AZOTOLUENE|2-AMINO-5-AZOTOLUENE|AMINOAZOTOLUENE|AMINOAZOTOLUENE (INDICATOR)|BRASILAZINA OIL YELLOW R|BUTTER YELLOW|C.I. 11160|C.I. 11160B|C.I. SOLVENT YELLOW 3|2',3-DIMETHYL-4-AMINOAZOBENZENE|FAST GARNET GBC BASE|FAST OIL YELLOW|FAST YELLOW AT|FAT YELLOW B|HIDACO OIL YELLOW|2-METHYL-4-((2-METHYLPHENYL)AZO)BENZENAMINE|2-METHYL-4-[(O-TOLYL)AZO]ANILINE|O-AAT|O-AMINOAZOTOLUENE|O-AMINOAZOTOLUOL|O-AT|O-TOLUENEAZO-O-TOLUIDINE|O-TOLUIDINE, 4-(O-TOLYLAZO)-O-	97-56-3	PHYSICAL DESCRIPTION: Reddish-brown to golden crystals; orangish red powder. Odorless. (NTP, 1992)	1.0	2.5	5.0	4827.0	483.0	1646.0	853.0	520.0	1307.0	136.0	450.0	245.0	135.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2879	OCHRATOXIN A	ALANINE, N-((5-CHLORO-8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL)-3-|ALANINE, N-[(5-CHLORO-8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL]-3-PHENYL-, (-)-|L-PHENYLALANINE, N-[(5-CHLORO-3,4-DIHYDRO-8-HYDROXY-3-METHYL-1-OXO-1H-2-BENZOPYRAN-7-YL)CARBONYL]-, (R)-|N-(((3R)-5-CHLORO-8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL)-3-|(-)-N-((5-CHLORO-8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL)-3-PHENYLALANINE|NCI-C56586|OCHRATOXIN A|PHE-OTA|PHENYL-, (-)-|PHENYL-L-ALANINE|PHENYLALANINE-OCHRATOXIN A	303-47-9	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	4827.0	483.0	1646.0	853.0	520.0	1307.0	136.0	450.0	245.0	135.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2880	O-CRESYL GLYCIDYL ETHER	CRESOL, O-EPOXYPROPYL ETHER|EPODIL 742|1,2-EPOXY-3-(2-METHYLPHENOXY)PROPANE|1,2-EPOXY-3-(O-TOLYLOXY)PROPANE|1-(2,3-EPOXYPROPOXY)-2-METHYLBENZENE|GLYCIDYL 2-METHYLPHENYL ETHER|GLYCIDYL O-METHYLPHENYL ETHER|GLYCIDYL O-TOLYL ETHER|HELOXY 62|1-(2-METHYLPHENOXY)-2,3-EPOXYPROPANE|(2-METHYLPHENOXY)METHYL)OXIRANE|(2-METHYLPHENOXYMETHYL)OXIRANE|2-METHYLPHENYL GLYCIDYL ETHER|O-CRESYL GLYCIDYL ETHER|1-(O-METHYLPHENOXY)-2,3-EPOXYPROPANE|O-TOLYL EPOXYPROPYL ETHER|O-TOLYL GLYCIDYL ETHER|OXIRANE, ((2-EPOXYPROPANE|((2-METHYLPHENOXY)METHYL)OXIRANE|(2-METHYLPHENOXYMETHYL)OXIRANE|2-METHYLPHENYL GLYCIDYL ETHER|O-CRESYL GLYCIDYL ETHER|1-(O-METHYLPHENOXY)-2,3-EPOXYPROPANE|O-TOLYL EPOXYPROPYL ETHER|O-TOLYL GLYCIDYL ETHER|OXIRANE, ((2-	2210-79-9	PHYSICAL DESCRIPTION: Clear light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4827.0	483.0	1646.0	853.0	520.0	1307.0	136.0	450.0	245.0	135.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2881	OCTACHLORONAPHTHALENE	HALOWAX|HALOWAX 1051|HALOWAXÃ® 1051|OCTACHLORONAPHTHALENE|1,2,3,4,5,6,7,8-OCTACHLORONAPHTHALENE|PERCHLORONAPHTHALENE|PERNA	2234-13-1	PHYSICAL DESCRIPTION: Pale yellow solid with an aromatic odor. (NTP, 1992)	1.0	2.5	5.0	4829.0	483.0	1646.0	853.0	520.0	1308.0	136.0	450.0	245.0	135.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2882	OCTYLTRICHLOROSILANE	LS 2190|OCTYLTRICHLOROSILANE|P 09830|TRICHLOROOCTYLSILANE	5283-66-9	Octyltrichlorosilane is a colorless liquid with a pungent odor. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue. It is used as an intermediate for silicones.	2.5	5.0	2.5	4829.0	483.0	1646.0	853.0	520.0	1308.0	136.0	450.0	245.0	135.0	(BLOB)	Fire may produce irritating or poisonous gases. Unstable. Avoid aeration. (EPA, 1998)	Keep unnecessary people away; stay upwind; keep out of low areas. Wear full protective clothing and self-contained breathing apparatus. Extinguish with dry chemical, carbon dioxide, water spray or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2878	O-AMINOAZOTOLUENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	DIVINYL SULFONE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen or hydrogen sulfide. May react exothermically with both acids and bases. May undergo exothermic polymerization iIn the presence of various catalysts (such as acids) or initiators.	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		217																(NTP, 1992)		-15	
2879	OCHRATOXIN A	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under ambient temperatures. This compound is a Schedule II DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	An acidic salt of the amine, therefore behaves as a weak acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)			271 to 275
2880	O-CRESYL GLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	POLYSORBATE 80 is incompatible with strong alkalis and oxidizers. (NTP, 1992)						0		(NTP, 1992)		greater than 230																		
2881	OCTACHLORONAPHTHALENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BARIUM SELENITE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Noncombustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2882	OCTYLTRICHLOROSILANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water. Decomposes slowly in air.	Salts, basic, such as POTASSIUM ARSENITE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Fire may produce irritating or poisonous gases. Unstable. Avoid aeration. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2878	O-AMINOAZOTOLUENE														(NTP, 1992)		1.1788		68		(NTP, 1992)		453		760		(NTP, 1992)		118.15						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL		Poison	C4H6O2S	Mineral-Based & Clay-Based Absorbents	Dirt/Earth	3.0	0.0	8.0	2.0	2.0
2879	OCHRATOXIN A																									(NTP, 1992)		185.72						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C10H15N.ClH		6.0	0.0	6.0	2.0	2.0
2880	O-CRESYL GLYCIDYL ETHER														(NTP, 1992)		1.1										(NTP, 1992)		1309.68						(NTP, 1992)	at 73Â° F		50 to 100	mg/mL			C64H124O26 (approximate)		5.0	0.0	9.0	2.0	2.0
2881	OCTACHLORONAPHTHALENE																																									Poison	BaSeO3		4.0	0.0	6.0	2.0	2.0
2882	OCTYLTRICHLOROSILANE																									(EPA, 1998)		253.9		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						POA	Poison	AsH3O3.xK		3.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2883	O-ISOPROPYL PHENOL	2-ISOPROPYL PHENOL|O-ISOPROPYL PHENOL|PRODOX 131	88-69-7	Light-yellow liquid. Less dense than water and insoluble in water. Hence floats on water.	2.5	5.0	2.5	4831.0	483.0	1646.0	853.0	520.0	1309.0	136.0	450.0	245.0	135.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2884	O-METHOXYCINNAMALDEHYDE	BETA-(O-METHOXYPHENYL)ACROLEIN|CINNAMALDEHYDE, O-METHOXY-|2-METHOXYCINNAMALDEHYDE|3-(2-METHOXYPHENYL)-2-PROPENAL|O-METHOXY-CINNAMALDEHYDE|O-METHOXYCINNAMALDEHYDE|O-METHOXYCINNAMICALDEHYDE	1504-74-1	PHYSICAL DESCRIPTION: Yellow crystals. (NTP, 1992)	1.0	2.5	5.0	4831.0	483.0	1646.0	853.0	520.0	1309.0	136.0	450.0	245.0	135.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2885	O-NITROPHENYLACETONITRILE	ACETONITRILE, (O-NITROPHENYL)-|2-NITROBENZENEACETONITRILE|2-NITROBENZYL CYANIDE|2-NITROPHENYL ACETIC ACID, NITRILE|(2-NITROPHENYL)ACETONITRILE|2-NITROPHENYLACETONITRILE|O-NITROBENZACETONITRILE|O-NITROBENZYL CYANIDE|(O-NITROPHENYL)ACETONITRILE|O-NITROPHENYLACETONITRILE	610-66-2	PHYSICAL DESCRIPTION: Light brown solid. (NTP, 1992)	1.0	2.5	5.0	4831.0	483.0	1648.0	853.0	520.0	1309.0	136.0	451.0	245.0	135.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2886	O-PHENETIDINE	1-AMINO-2-ETHOXYBENZENE|2-AMINOETHOXYBENZENE|2-AMINOPHENETOLE|2-ETHOXYANILINE|2-ETHOXYBENZENAMINE|2-ETHOXYPHENYLAMINE|O-AMINOPHENETOLE|O-AMINOPHENOL, ETHYL ESTER|O-ETHOXYANILINE|O-PHENETIDINE	94-70-2	PHYSICAL DESCRIPTION: Reddish brown oily liquid. (NTP, 1992)	2.5	5.0	2.5	4833.0	483.0	1648.0	853.0	520.0	1310.0	136.0	451.0	245.0	135.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2887	ORYZALIN	4-(DIPROPYLAMINO)-3,5-DINITROBENZENESULFONAMIDE|ORYZALIN	19044-88-3	Yellow-orange crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	4835.0	483.0	1648.0	853.0	520.0	1311.0	136.0	451.0	245.0	135.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2883	O-ISOPROPYL PHENOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	POTASSIUM HYDROGEN FLUORIDE, SOLUTION is acidic. Neutralizes bases in exothermic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2884	O-METHOXYCINNAMALDEHYDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZ[A]ANTHRACENE may react vigorously with strong oxidizing agents. Can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			315 to 318
2885	O-NITROPHENYLACETONITRILE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	BENZENE reacts vigorously with allyl chloride or other alkyl halides even at -70Â° C in the presence of ethyl aluminum dichloride or ethyl aluminum sesquichloride. Explosions have been reported [NFPA 491M 1991]. Ignites in contact with powdered chromic anhydride [Mellor 11:235 1946-47]. Incompatible with oxidizing agents such as nitric acid. Mixtures with bromine trifluoride, bromine pentafluoride, iodine pentafluoride, iodine heptafluoride and other interhalogens can ignite upon heating [Bretherick 5th ed. 1995]. Benzene and cyanogen halides yield HCl as a byproduct (Hagedorn, F. H. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.). The reaction of benzene and trichloroacetonitrile evolves toxic chloroform and HCl gases. (Hagedorn, F., H.-P. Gelbke, and Federal Republic of Germany. 2002. Nitriles. In Ullmann's Encyclopedia of Industrial Chemistry. Wiley-VCH Verlag GmbH & Co. KGaA.).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		12		(NTP, 1992)		1.4		%	(NTP, 1992)		8		%	(USCG, 1999)		1097		(NTP, 1992)		41.9	
2886	O-PHENETIDINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	Salt.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2887	ORYZALIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Denser than water and will decompose vigorously in water. Hydrogen chloride fumes and phosphoric acid are produced upon decomposition.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. Strong halogenating agents force the addition of one or more halogen atoms to the compound with which they are reacting.	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2883	O-ISOPROPYL PHENOL																																								Corrosive|Poison	KHF2 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	6.0	0.0	10.0	2.0	2.0
2884	O-METHOXYCINNAMALDEHYDE																				(NTP, 1992)	(sublimes)	815		760		(NTP, 1992)		228.28						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C18H12		4.0	0.0	6.0	2.0	2.0
2885	O-NITROPHENYLACETONITRILE	(NTP, 1992)	; 76 mm Hg at 68Â° F	60		59		mm Hg	(NTP, 1992)		2.77				(USCG, 1999)		0.879		68		(NTP, 1992)		176.2		760		(NTP, 1992)		78.11		(NIOSH, 2003)	; A potential human carcinogen.	500	ppm	(NTP, 1992)	at 64Â° F		1 to 5	mg/mL	BNZ	Flammable Liquid	C6H6		7.0	0.0	9.0	2.0	2.0
2886	O-PHENETIDINE																																								Poison	K.O3V	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0
2887	ORYZALIN																																								Corrosive	C6H5Cl2PO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2888	O-SEC-BUTYLPHENOL	2-(2-BUTYL)PHENOL|2-(1-METHYLPROPYL)PHENOL|O-SEC-BUTYLPHENOL|PHENOL, O-SEC-BUTYL-|(+-)-2-SEC-BUTYLPHENOL|2-SEC-BUTYLPHENOL	89-72-5	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4837.0	483.0	1648.0	853.0	520.0	1312.0	136.0	451.0	245.0	135.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2889	OUABAIN	ACOCANTHERIN|ASTROBAIN|CARD-20(22)-ENOLIDE, 3-((6-DEOXY-ALPHA-L-MANNOPYRANOSYL)OXY)-1,5,11,14,19-PENTAHYDROXY-,(1BETA,3BETA,5BETA,11ALPHA)-|3-((6-DEOXY-ALPHA-L-MANNOPYRANOSYL)OXY)-1,5,11ALPHA,14,19-PENTAHYDROXYCARD-20(22)-ENOLIDE|G-STROPHANTHIN|G-STROPHICOR|GRATIBAIN|GRATUS STROPHANTHIN|KOMBETIN|OUABAGENIN L-RHAMNOSIDE|OUABAIN|OUABAINE|PUROSTROPHAN|RECTOBAINA|SOLUFANTINA|STRODIVAL|STROPHALEN|STROPHANTHIN G|STROPHANTHIN THOMS|STROPHOPERM|STROPHOSAN|UABAINA|UABAIN	630-60-4	Odorless, white crystals or crystalline powder as an octahydrate. Used to produce rapid digitalization in acute congestive heart failure. Also recommended in treatment of atrial or nodal paroxysmal tachycardia and atrial flutter. (EPA, 1998)	1.0	2.5	5.0	4839.0	483.0	1648.0	853.0	520.0	1313.0	136.0	451.0	245.0	135.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min; hold eyelids open if neccessary. Wash skin with soap and water. INGESTION: If victim is conscious, have victim drink milk or water and induce vomiting. If victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Behavior in Fire: Heat can induce polymerization with rapid release of energy. Sealed containers may rupture explosively. (USCG, 1999)	Fire Extinguishing Agents: Foam, CO 2 or dry chemical (USCG, 1999)
2890	OXETHAZAINE	ACETAMIDE, 2,2'-[(2-HYDROXYETHYL)IMINO]BIS[N-(ALPHA,ALPHA-DIMETHYLPHENETHYL)-N-METHYL-|BETALGIL|2-DI(N-METHYL-N-PHENYL-TERT-BUTYL-CARBAMOYLMETHYL)AMINOETHANOL|FH 099|2,2'-(2-HYDROXYETHYL)IMINO)BIS(N-(ALPHA,ALPHA-DIMETHYLPHENETHYL)-N-|METHYLACETAMIDE|MUCOXIN|MUTHESA|N,N-BIS(N-METHYL-N-PHENYL-TERT-BUTYLACETAMIDO)-BETA-HYDROXYETHYLAMINE|OXAINE|OXETACAINE|OXETHACAINE|OXETHAZAINE|STOROCAIN|STOROCAINE|WY 806	126-27-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4839.0	485.0	1648.0	853.0	520.0	1313.0	137.0	451.0	245.0	135.0	(BLOB)	Benzenearsonic acid emits poisonous fumes of arsenic when heated to decomposition. (EPA, 1998)	(Non-Specific -- Arsenical Compound, Solid, n.o.s.) Use water in flooding quantities as fog. Avoid breathing dusts and fumes; keep upwind; wear self-contained breathing apparatus. (Non-Specific -- Arsenical Compound, Solid, n.o.s.) This material does not burn or burns with difficulty. Extinguish fire using agent suitable for surrounding fire. (EPA, 1998)
2891	OZONE	OXYGEN, MOL|OXYGEN, MOL. (O3)|OZONE|OZONE (O3)|OZONE(1)(6O)16O(6O)|TRIATOMIC OXYGEN|TRIOXYGEN	10028-15-6	A colorless to bluish gas that condenses to a dark blue liquid, or blue-black crystals. Has a characteristic odor in concentrations less than 2 ppm. Used as a disinfectant for air and water; used for bleaching waxes, textiles and oils, ozonolysis of unsaturated fatty acids to pelargonic and other acids; manufacture of ink; catalyst; water treatment for taste and odor control; mold and bacteria inhibitor in cold storage; bleaching agent. (EPA, 1998)	5.0	1.0	1.0	4841.0	485.0	1648.0	853.0	520.0	1314.0	137.0	451.0	245.0	135.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
2892	PARAROSANILINE HYDROCHLORIDE	4-((4-AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYL)BENZENAMINE MONOHYDROCHLORIDE|BASIC PARAFUCHSINE|BASIC RED 9|BENZENAMINE, 4-((4-AMINOPHENYL)(4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYL),|C.I. 42500|C.I. BASIC RED 9|C.I. BASIC RED 9, MONOHYDROCHLORIDE|CALCOZINE MAGENTA N|FUCHSINE DR 001|FUCHSINE DR-001|FUCHSINE SP|FUCHSINE SPC|4,4'-((4-IMINO-2,5-CYCLOHEXADIEN-1-YLIDENE)METHYLENE)DIANILINE MONOHYDROCHLORIDE|NCI-C54739|ORIENT PARA MAGENTA BASE|P-FUCHSIN|P-FUCHSINE|P-ROSANILINE HCL|P-ROSANILINE HYDROCHLORIDE|PARA	569-61-9	PHYSICAL DESCRIPTION: Colorless to red crystals or green powder. (NTP, 1992)	1.0	2.5	5.0	4843.0	485.0	1650.0	853.0	520.0	1315.0	137.0	452.0	245.0	135.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2888	O-SEC-BUTYLPHENOL	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture of sodium nitrate and sodium hypophosphite constitute a powerful explosive [Mellor 8 Supp. 1:154 1964].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2889	OUABAIN		Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	DODECYL METHACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Tends to polymerize. Oxidizing and reducing agents may initiate polymerization. Reaction may also occur when heated (USCG, 1999).	Polymerizable						0		(USCG, 1999)			greater than 230																(USCG, 1999)		-8	
2890	OXETHAZAINE	(Non-Specific -- Arsenic Compound, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Benzenearsonic acid emits poisonous fumes of arsenic when heated to decomposition. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3280 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)	decomposes	320	
2891	OZONE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. The severity of the pyrophoric reaction depends a great deal on zirconium particle size, with the finely divided material reacting with the most vigor. The initiation of the explosion has been spark and by electrostatic ignition. Zirconium dusts have been known to explode, [NFPA 482M, 1974], covers all aspects of storage and handling of zirconium, there are 43 abstracts of unusual zirconium fire and explosion incidents. Water Insoluble (NIOSH, 1997).	When a mixture of alkali hydroxides and zirconium is heated, the liberated oxygen reacts explosively with zirconium [Mellor 7:116 1946-47]. Chromates, dichromates, sulfates, molybdates, and tungstates of lithium, sodium, potassium, rubdium, and cesium will react violently, even explosively, with an excess of zirconium powder [Eilern 1968. p. 249]. A mixture of hydrated borax and zirconium explodes when heated [Mellor 7:116. 1946-47]. An explosion occurred when zirconium sponge was placed in a beaker of carbon tetrachloride [Allison 1969]. Zirconium explodes violently with cupric oxide or lead oxide [Mellor 7::116. 1946-47]. A mixture of powdered zirconium and potassium nitrate explodes when heated above the melting point [Mellor 7:116. 1946-47].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		3375	
2892	PARAROSANILINE HYDROCHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in hot water.	Acidic organic/inorganic salts, such as DODINE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2888	O-SEC-BUTYLPHENOL																																									Oxidizer	NO3.KiNO3.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0
2889	OUABAIN														(USCG, 1999)		0.868		77								(USCG, 1999)		254.42												DDM		C16H30O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	6.0	2.0	2.0
2890	OXETHAZAINE														(EPA, 1998)		1.76										(EPA, 1998)		202.05												Poison	C6H7AsO3		8.0	0.0	10.0	2.0	2.0
2891	OZONE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(Metal)	6.51				(NIOSH, 2003)		6471		760		(NIOSH, 2003)		91.2		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NIOSH, 2003)	Insoluble					Spontaneously Combustible	Zr		7.0	0.0	7.0	2.0	2.0
2892	PARAROSANILINE HYDROCHLORIDE																																							Class 9	C15H33N3O2		7.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2893	P-BENZOQUINONE MONOXIME	1,4-BENZOQUINONE 4-OXIME|NITROSOPHENOL|4-NITROSOPHENOL|P-BENZOQUINONE 4-OXIME|P-BENZOQUINONE MONOXIME|P-BENZOQUINONE OXIME|P-BENZOQUINONE, MONOOXIME|P-NITROSOPHENOL|P-QUINONE MONOOXIME|P-QUINONE MONOXIME|PHENOL, P-NITROSO-|QUINONE 4-OXIME|QUINONE MONOOXIME|QUINONE MONOXIME|QUINONE OXIME	104-91-6	PHYSICAL DESCRIPTION: Black solid. (NTP, 1992)	1.0	2.5	5.0	4843.0	487.0	1650.0	853.0	522.0	1315.0	138.0	452.0	245.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2894	PENTACHLOROPHENOL	CHEM-TOL|CHLON|CHLOROPHEN|CHLOROPHENASIC ACID|CRYPTOGIL OIL|DOW PENTACHLOROPHENOL DP-2 ANTIMICROBIAL|DOWCIDE 7|DOWICIDE 6|DOWICIDE 7|DOWICIDE EC-7|DURA TREET II|DUROTOX|EP 30|EP 30 (PESTICIDE)|FUNGIFEN|GLAZD PENTA|GRUNDIER ARBEZOL|1-HYDROXY-2,3,4,5,6-PENTACHLOROBENZENE|1-HYDROXYPENTACHLOROBENZENE|LAUXTOL|LAUXTOL A|LIROPREM|NCI-C54933|NCI-C55378|NCI-C56655|PCP|PCP (PESTICIDE)|PENCHLOROL|PENTA|PENTA-KIL|PENTACHLOROFENOL|PENTACHLOROPHENATE|PENTACHLOROPHENOL|PENTACHLOROPHENOL, DP-2|2,3,4,5,6-PENTACHLOROPHENOL|PEN	87-86-5	A white crystalline solid. Slightly soluble in water. Noncombustible. Toxic by inhalation, ingestion, and skin absorption. Used as a fungicide and as a wood preservative.	1.0	2.5	5.0	4843.0	487.0	1652.0	853.0	522.0	1315.0	138.0	453.0	245.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2895	PENTAETHYLENEHEXAMINE	1,4,7,10,13,16-HEXAAZAHEXADECANE|LEVEPOX HARDENER T3|PEHA|PENTAETHYLENEHEXAMINE|3,6,9,12-TETRAAZATETRADECANE-1,14-DIAMINE	4067-16-7	Yellowish liquid with an odor of ammonia. (USCG, 1999)	2.5	5.0	2.5	4843.0	487.0	1652.0	853.0	522.0	1315.0	138.0	453.0	245.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2896	PENTAMIDINE ISETHIONATE	(BLOB)	140-64-7	PHYSICAL DESCRIPTION: Odorless white or almost white crystals or powder. Odor also reported as a slight butyric odor. Very bitter taste. pH (5% aqueous solution) 4.5-6.5. (NTP, 1992)	1.0	2.5	5.0	4843.0	487.0	1652.0	853.0	522.0	1315.0	138.0	453.0	245.0	136.0			
2897	PENTETRAZOL	1,2,3,3A-TETRAZACYCLOHEPTA-8A,2CYCLOPENTADIENE|ALPHA,BETA-CYCLOPENTAMETHYLENETETRAZOLE|ANGIAZOL|ANGIOTON|CARDIAZOL|CARDIAZOLE|CARDIOL|CARDOSAL|CENALENE M|CENAZOL|CEREBRO-NICIN|CORANORMAL|CORANORMOL|CORASOL|CORAZOL|CORAZOLE|CORAZOLE (ANALEPTIC)|CORISAN|CORSEDROL|CORTISCORVASOL|CORYVET|DEAMOCARD|DELZOL W|DEUMACARD|GEWAZOL|5H-TETRAZOLOAZEPINE,6,7,8,9-TETRAHYDRO-|KARDIAZOL|KORAZOL|KORAZOLE|LEPAZOL|LEPTAZOL|LEPTAZOLE|METRAZOL|METRAZOLE|NAURANZOL|NEOCARDOL|OPTICOR|PEMETESAN|PENETRASOL|PENTACARD|PENTACOR|PENTAMETHYLENETETRAZOL|PENTAMET	54-95-5	PHYSICAL DESCRIPTION: White crystalline powder or granular solid with a slightly pungent odor. Bitter taste. Aqueous solutions neutral to litmus. (NTP, 1992)	1.0	2.5	5.0	4845.0	487.0	1652.0	853.0	522.0	1316.0	138.0	453.0	245.0	136.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2898	PENTOBARBITAL SODIUM	PENTOBARBITAL SODIUM	57-33-0	Crystalline granules or white powder. Used as an anesthetic and sedative.	1.0	2.5	5.0	4845.0	487.0	1652.0	853.0	522.0	1316.0	138.0	453.0	245.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2893	P-BENZOQUINONE MONOXIME	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to light and air. Slightly soluble in water.	Acidic organic/inorganic salts, such as BENZIDINE DIHYDROCHLORIDE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.							0																							(NTP, 1992)			greater than 572
2894	PENTACHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																							(NTP, 1992)		324	
2895	PENTAETHYLENEHEXAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs you should dampen the solid spill material with water and transfer the dampened material to a suitable container Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	In the presence of moisture or in aqueous solution undergoes oxidation by atmospheric oxygen. Water soluble.	PROCARBAZINE HYDROCHLORIDE is very sensitive to light. Stability is highest in aqueous acid and decreases with increasing pH. Degrades rapidly in alcoholic media and more slowly in aqueous media (NTP, 1992).							0																							(NTP, 1992)	(decomposes)	433	
2896	PENTAMIDINE ISETHIONATE			Slightly soluble in water.	(BLOB)								0																									
2897	PENTETRAZOL	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. May react with water to produce a toxic vapor. Very slowly decomposed by water.	TERT-BUTYL ISOCYANATE can react exothermically with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizing agents, hydrides, phenols, and peroxides. May undergo polymerization with acids and bases. May react with water to form tert-butylamine and carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer 1969].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2484 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																													
2898	PENTOBARBITAL SODIUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ELLAGIC ACID reacts as a weak acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated. Heat is also generated by the acid-base reaction between phenols and bases. May be sulfonated exothermically very readily (for example, by concentrated sulfuric acid at room temperature). May be nitrated very rapidly, even by dilute nitric acid.							0																							(NTP, 1992)			greater than 680

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2893	P-BENZOQUINONE MONOXIME																										(NTP, 1992)		257.18						(NTP, 1992)	at 74.3Â° F		1 to 5	mg/mL			C12H12N2.2ClH		7.0	0.0	10.0	2.0	2.0
2894	PENTACHLOROPHENOL																										(NTP, 1992)		444.72						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C18H15Cl3N2O.HNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0
2895	PENTAETHYLENEHEXAMINE																										(NTP, 1992)		257.76						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL			C12H19N3O.ClH		8.0	0.0	9.0	2.0	2.0
2896	PENTAMIDINE ISETHIONATE														(USCG, 1999)		0.86		68								(USCG, 1999)		164											EDT		C10H16N2O8		5.0	0.0	6.0	2.0	2.0
2897	PENTETRAZOL																																								Poison Inhalation Hazard|Flammable Liquid	C5H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	6.0	2.0	2.0
2898	PENTOBARBITAL SODIUM														(NTP, 1992)		1.667		64								(NTP, 1992)		302.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C14H6O8		7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2899	PERFLUORO(METHYLVINYL ETHER)	C3F6O|PERFLUORO(METHYL VINYL ETHER)|PERFLUOROMETHYLVINYL ETHER	1187-93-5	A colorless gas. Heavier than air. Easily liquefied. Contact with the liquid may cause frost bite by evaporative cooling. May asphyxiate by displacing air. A flame may flash back from the source of ignition to the source of a leak. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	4847.0	487.0	1654.0	853.0	522.0	1317.0	138.0	454.0	245.0	136.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2900	PHENANTHRIDINE	5-AZAPHENANTHRENE|9-AZAPHENANTHRENE|BENZA(C)QUINOLINE|3,4-BENZOISOQUINOLINE|3,4-BENZOQUINALINE|3,4-BENZOQUINOLINE|BENZO[C]QUINOLINE|PHENANTHRIDINE|6-PHENANTHRIDINE	229-87-8	Crystalline needles. Mutagenic.	1.0	2.5	5.0	4849.0	487.0	1654.0	857.0	522.0	1318.0	138.0	454.0	247.0	136.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen bromide gas may be formed. Behavior in Fire: Forms vapor that is a powerful tear gas. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2901	PHENFORMIN HYDROCHLORIDE	ALPHA-PHENETHYLBIGUANIDE HYDROCHLORIDE|1-BETA-PHENYLETHYLBIGUANIDE HYDROCHLORIDE|BIGUANIDE, 1-PHENETHYL-, HYDROCHLORIDE|BIGUANIDE, 1-PHENETHYL-, MONOHYDROCHLORIDE|DBI-TD|DIPAR|MELTROL|N-BETA-PHENETHYLBIGUANIDE HYDROCHLORIDE|N'-BETA-PHENYLETHYLBIGUANIDE-HYDROCHLORIDE|N(SUP 1)-BETA-PHENETHYLBIGUANIDE HYDROCHLORIDE|N-BETA-PHENYLETHYL BIGUANIDE HYDROCHLORIDE|N-PHENETHYLBIGUANIDE HYDROCHLORIDE|PHENETHYLBIGUANIDE HYDROCHLORIDE|PHENETHYLBIGUANIDE MONOHYDROCHLORIDE|PHENFORMIN	834-28-6	PHYSICAL DESCRIPTION: White solid or powder. Formerly used as an anti-diabetic drug. Toxic (causes lactic acidosis.	1.0	2.5	5.0	4849.0	487.0	1654.0	857.0	522.0	1318.0	138.0	454.0	247.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
2902	PHENMEDIPHAM	BETANAL|CARBANILIC ACID, M-HYDROXY-, METHYL ESTER, M-METHYLCARBANILATE (ESTER)|CARBANILIC ACID, M-METHYL-, ESTER WITH METHYL M-HYDROXYCARBANILATE|3-(CARBOMETHOXYAMINO)PHENYL 3-METHYLCARBANILATE|EP-452|FENMEDIFAM|KEMIFAM|KEMIFAM FL|M-HYDROXYCARBANILIC ACID, METHYL ESTER, M-METHYLCARBANILATE|3-[(METHOXYCARBONYL)AMINO]PHENYL N-(3-METHYLPHENYL)CARBAMATE|3-METHOXYCARBONYLAMINOPHENYL N-3'-METHYLPHENYLCARBAMATE|METHYL 3-(M-TOYLCARBAMOYLOXY)PHENYLCARBAMATE|METHYL M-HYDROXYCARBANILATE M-METHYLCARBANILATE|MET	13684-63-4	PHYSICAL DESCRIPTION: Colorless crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4849.0	487.0	1654.0	857.0	522.0	1318.0	138.0	454.0	247.0	136.0	(BLOB)	Container may explode in heat of fire. Fire or run off from fire control water may release irritating or poisonous gases. Slowly oxidizes in air. Do not store at temperature below 20F. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)
2903	PHENOL ACETATE	ACETOXYBENZENE|(ACETYLOXY)BENZENE|PHENOL ACETATE|PHENYL ACETATE	122-79-2	A clear colorless liquid with a sweetish solvent odor. Difficult to ignite. Used as a laboratory reagent and in the production of some organic chemicals.	2.5	5.0	2.5	4851.0	487.0	1654.0	857.0	522.0	1319.0	138.0	454.0	247.0	136.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2899	PERFLUORO(METHYLVINYL ETHER)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Salts, basic, such as ZINC DITHIOPHOSPHATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
2900	PHENANTHRIDINE	(BLOB)	Self-contained breathing apparatus; goggles; rubber gloves; protective clothing. (USCG, 1999)	Sensitive to exposure to light and moisture. Slightly soluble in water.	BENZYL BROMIDE reacts with water, alcohols, common metals (except nickel and lead), bases, amines and oxidizing agents. (NTP, 1992). This material stored over activated 4A molecular sieve burst a bottle due to condensation-polymerization reaction with generation of HBr gas, [Chem. Eng. News, 1979, 57(12), 74].	Polymerizable	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		188																	(NTP, 1992)			27 to 30
2901	PHENFORMIN HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under refrigerated temperatures and protect it from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	EMODIN may be sensitive to prolonged exposure to light. Probably a weak acid due to the phenolic functional groups.					0																	(NTP, 1992)			493 to 495
2902	PHENMEDIPHAM	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Sightly soluble in water. Slowly hydrolyzes to form sulfur dioxide and a diol; hydrolyzes more rapidly under basic or acidic conditions.	ENDOSULFAN is an organochlorine, cyclodiene derivative. It is also a sulfite ester. Halogenated aliphatic or cyclic alkane compounds are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. As endosulfan is rather highly substituted it may be resistant to reaction. However, materials in this group are incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. As an ester, it will hydrolyze to form sulfur dioxide and diol; reaction is more rapid under basic conditions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																	(EPA, 1998)		Range of values given is for a mixture of isomers (a isomer 228.7Â° F; b isomer 415.9Â° F).		158 to 212
2903	PHENOL ACETATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water [Hawley].	PROPANE SULTONE reacts slowly with water to give 3-hydroxopropanesulfonic acid. This reaction may be accelerated by acid. May react with strong reducing agents to give toxic and flammable hydrogen sulfide.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		greater than 235													(NIOSH, 2003)			86	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2899	PERFLUORO(METHYLVINYL ETHER)																																																
2900	PHENANTHRIDINE	(NTP, 1992)		1		90		mm Hg	(NTP, 1992)		5.8				(USCG, 1999)		1.441		71.6		(NTP, 1992)			388 to 390	760		(NTP, 1992)		171.05						(NTP, 1992)	Reaction				BBR	Poison|Corrosive	C7H7Br	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2901	PHENFORMIN HYDROCHLORIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		270.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C15H10O5		5.0	0.0	9.0	2.0	2.0
2902	PHENMEDIPHAM	(EPA, 1998)		1.00E-05		77		mm Hg							(EPA, 1998)		1.745		68		(NIOSH, 2003)	Decomposes					(EPA, 1998)		406.95						(NTP, 1992)	at 73Â° F		less than 1	mg/mL	ESF	Poison	C9H6Cl6O3S	Dirt/Earth	6.0	0.0	10.0	2.0	2.0
2903	PHENOL ACETATE														(NIOSH, 2003)		1.39										(NIOSH, 2003)		122.2		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)		10		%		Poison	C3H6O3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2904	PHENYL GLYCIDYL ETHER	BENZENE, (2,3-EPOXYPROPOXY)-|2,3-EPOXY-1-PHENOXYPROPANE|1,2-EPOXY-3-PHENOXY PROPANE|(+-)-1,2-EPOXY-3-PHENOXYPROPANE|1,2-EPOXY-3-PHENOXYPROPANE|2,3-EPOXYPROPOXYBENZENE|2,3-EPOXYPROPYL PHENYL ETHER|ETHER, 2,3-EPOXYPROPYL PHENYL|ETHER, PHENYLGLYCIDYL|GAMMA-PHENOXYPROPYLENE OXIDE|GLYCIDOL PHENYL ETHER|GLYCIDYL PHENYL ETHER|(+-)-GLYCIDYL PHENYL ETHER|OXIRANE, (PHENOXYMETHYL)-|OXIRANYLMETHYL PHENYL ETHER|PGE|PHENOL GLYCIDYL ETHER|3-PHENOXY-1,2-EPOXYPROPANE|3-PHENOXY-1,2-PROPYLENE OXIDE|3-PHENOXY-1-	122-60-1	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4851.0	487.0	1656.0	857.0	522.0	1319.0	138.0	455.0	247.0	136.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2905	PHENYL UREA PESTICIDE, LIQUID, POISONOUS	PHENYL UREA PESTICIDE, LIQUID, POISONOUS|PHENYL UREA PESTICIDE, LIQUID, TOXIC|PHENYLUREA PESTICIDE, [LIQUID, POISON B LABEL]	64-10-8	A liquid dissolved or suspended in a liquid carrier. Contains any of several related compounds (Diuron, Fenuron, Linuron, Neburon, Siduron, Monuron) formally derived from urea. Carrier is water emulsifiable. Toxic by inhalation, skin absorption, or ingestion. Obtain the technical name of the specific pesticide and carrier from the shipping papers and contact CHEMTREC, 800-424-9300 for response information.	2.5	5.0	2.5	4851.0	487.0	1656.0	857.0	522.0	1319.0	138.0	455.0	247.0	136.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2906	PHENYLMERCURIC ACETATE	(BLOB)	62-38-4	Small lustrous prisms. Toxic by ingestion, inhalation and skin absorption. May severely irritate skin and eyes. Used as an herbicide and fungicide. as such, is mixed with organic solvent for the purpose of application.	1.0	2.5	5.0	4853.0	487.0	1658.0	857.0	522.0	1320.0	138.0	456.0	247.0	136.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2907	PHENYLTHIOUREA	ALPHA-PHENYLTHIOUREA|N-PHENYLTHIOUREA|NCI-C02017|1-PHENYL-2-THIOUREA|PHENYLTHIOCARBAMIDE|PHENYLTHIOUREA|1-PHENYLTHIOUREA|PTC|PTU|THIOUREA, PHENYL-|U6324|U6324|UREA, 1-PHENYL-2-THIO-|USAF EK-1569	103-85-5	Needle-like crystals. Used in the manufacture of rodenticides and in medical genetics. (EPA, 1998)	1.0	2.5	5.0	4855.0	487.0	1658.0	857.0	522.0	1321.0	138.0	456.0	247.0	136.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2908	PHENYLTRICHLOROSILANE	KA 103|PHENYL TRICHLOROSILANE|PHENYLSILICON TRICHLORIDE|PHENYLSILYL TRICHLORIDE|PHENYLTRICHLOROSILANE|PHENYLTRICHLOROSILICANE|SILANE, PHENYLTRICHLORO-|SILANE, TRICHLOROPHENYL-|SILICON PHENYL TRICHLORIDE|TRICHLOROPHENYLSILANE|[TRICHLOROSILYL]BENZENE|TSL 8063	98-13-5	A colorless liquid with a pungent odor. Flash point 91Â°F. Decomposed by moisture or water to hydrochloric acid with evolution of heat. Corrosive to metals and tissue.	2.5	5.0	2.5	4855.0	487.0	1658.0	857.0	522.0	1321.0	138.0	456.0	247.0	136.0	(BLOB)	Toxic gas (hydrogen chloride) is released when the compound is heated above 266F. When heated to decomposition, it emits very toxic fumes of chlorine-containing compounds and nitrogen oxides. Avoid heat. (EPA, 1998)	(Non-Specific -- Propionitrile) Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Alcohol foam is recommended, but water spray can be used because the material can be cooled below its flash point. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2904	PHENYL GLYCIDYL ETHER	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	3	6		(NFPA, 2010)		97																			
2905	PHENYL UREA PESTICIDE, LIQUID, POISONOUS	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air-supplied mask for high vapor concentrations; plastic gloves; goggles. (USCG, 1999)	Highly flammable. Soluble in water.	PROPIONALDEHYDE may form explosive peroxides. Reacts vigorously with oxidizing agents. Explosive in the form of vapor when exposed to heat or flame [Lewis]. Incompatible with strong bases and strong reducing agents. Vigorous polymerization reaction with methyl methacrylate. Polymerization may also occur in the presence of acids or caustics (NTP, 1992).	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		15		(NTP, 1992)		2.9		%	(NTP, 1992)		17		%	(USCG, 1999)		405			(NTP, 1992)		-114	
2906	PHENYLMERCURIC ACETATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-DECANETHIOL is incompatible with oxidizing agents, strong acids and bases, alkali metals, and nitric acid. May react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with strong oxidizing agents such as calcium hypochlorite(Ca(OCl)2) forming toxic fumes of SOx. Will react with hydrides to form flammable H2 gas. May react with halogenated hydrocarbons to yield hydrogen halides. Reacts exothermically with aldehydes. May mit highly toxic fumes of SO when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		209																(NIOSH, 2003)		-15	
2907	PHENYLTHIOUREA	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Generally soluble in water.	BERYLLIUM COMPOUND may be incompatible with the following: Acids, caustics, chlorinated hydrocarbons, oxidizers, nitrides(sulfur nitrides, tetrasulfur tetranitride), molten lithium (NIOSH, 1997). When inhaled, Beryllium and its compounds cause serious and irreversible damage to lungs.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																						
2908	PHENYLTRICHLOROSILANE	(Non-Specific -- Propionitrile) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Absorb small spills with sand or other noncombustible absorbent material. Dike far ahead of spill for later disposal. Isolate hazard area and deny entry. Stay upwind. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Toxic gas (hydrogen chloride) is released when the compound is heated above 266 F. When heated to decomposition, it emits very toxic fumes of chlorine- containing compounds and nitrogen oxides. Avoid heat. [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(EPA, 1998)		168																(EPA, 1998)		-60	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2904	PHENYL GLYCIDYL ETHER																																								Flammable Liquid|Corrosive	C3H4O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0
2905	PHENYL UREA PESTICIDE, LIQUID, POISONOUS	(NTP, 1992)	: 687 mm Hg at 113Â° F	235		68		mm Hg	(NTP, 1992)		2				(USCG, 1999)		0.805		68		(NTP, 1992)		120		760		(NTP, 1992)		58.08						(NTP, 1992)	at 64Â° F		50 to 100	mg/mL	PAD	Flammable Liquid	C3H6O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2906	PHENYLMERCURIC ACETATE														(NIOSH, 2003)		0.84				(NIOSH, 2003)		465		760		(NIOSH, 2003)		174.4						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	CH3(CH2)9SH		4.0	0.0	9.0	2.0	2.0
2907	PHENYLTHIOUREA																														(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3							Poison			6.0	0.0	10.0	2.0	2.0
2908	PHENYLTRICHLOROSILANE	(EPA, 1998)		5		114.8		mm Hg	(EPA, 1998)		3				(EPA, 1998)		1.1573		68		(EPA, 1998)			347 to 349	760		(EPA, 1998)		89.53												Poison	C3H4ClN		1.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2909	PHOSMET	APPA|DECEMTHION|DECEMTHION EK 20|DECEMTHION P-6|DECEMTION|ENT 25,705|FOSMET|FTALOPHOS|IMIDAN|IMIDATHION|N-(MERCAPTOMETHYL)PHTHALIMIDE S-(O,O-DIMETHYL PHOSPHORODITHIOATE)|O,O-DIMETHYL S-(N-PHTHALIMIDOMETHYL) DITHIOPHOSPHATE|O,O-DIMETHYL S-(PHTHALIMIDOMETHYL) DITHIOPHOSPHATE|O,O-DIMETHYL S-PHTHALIMIDOMETHYL PHOSPHORODITHIOATE|(O,O-DIMETHYL-PHTHALIMIDIOMETHYLDITHIOPHOSPHATE)|ORBISECT|ORDATOX|PERCOLATE|PHOSMET|PHOSPHORODITHIOIC ACID, O,O-DIMETHYL ESTER, S-ESTER WITH N-(MERCAPTOMETHYL)PHTHALIMIDE|PHOSPHORODITHIOIC ACID, O,O-DIMETHYL S-PHTHALIMIDOMETHYL ESTER|PHOSPHORODITHIOI	732-11-6	Off-white crystalline solid with an offensive odor. Used as an insecticide and acaricide. (EPA, 1998)	1.0	2.5	5.0	4855.0	487.0	1658.0	857.0	522.0	1321.0	138.0	456.0	247.0	136.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2910	PHOSPHORUS OXYBROMIDE	PHOSPHONYL TRIBROMIDE|PHOSPHORUS BROMIDE OXIDE (PBR3O)|PHOSPHORUS OXYBROMIDE|PHOSPHORUS OXYBROMIDE, SOLID|PHOSPHORUS OXYTRIBROMIDE|PHOSPHORYL BROMIDE|PHOSPHORYL TRIBROMIDE|TRIBROMOPHOSPHORUS OXIDE	7789-59-5	A colorless crystalline solid or liquid if heated above 133Â° F with a pungent odor. It is commonly heated and shipped in a molten state. Soluble in water, but, decomposed by water to hydrobromic and phosphoric acid with evolution of heat. Reacts with organic materials to cause fire. Evolves highly toxic and corrosive gases when exposed to fire. Corrosive to metals and tissue. Used to make other chemicals.	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	522.0	1322.0	138.0	456.0	247.0	136.0	(BLOB)	Flash point data for this material are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2911	PHOSPHORUS PENTAFLUORIDE	PENTAFLUOROPHOSPHORANE|PENTAFLUOROPHOSPHORUS|PHOSPHORUS FLUORIDE (PF5)|PHOSPHORUS PENTAFLUORIDE|PHOSPHORUS PENTAFLUORIDE, COMPRESSED	7647-19-0	Phosphorus pentafluoride is a colorless, poisonous, nonflammable, compressed gas with a pungent odor. It is extremely irritating to skin, eyes and mucus membranes. It is very toxic by inhalation and can cause pulmonary edema. Toxic and corrosive fumes are generated when this material is exposed to water or steam. Prolonged exposure of the containers to fire or heat may result in their violent rupturing and rocketing. It is used as a polymerization catalyst.	5.0	1.0	1.0	4857.0	487.0	1658.0	857.0	522.0	1322.0	138.0	456.0	247.0	136.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2912	PHTHALAMIDE	1,2-BENZENEDICARBOXAMIDE|NCI-C03612|O-CARBAMOYLBENZAMIDE|O-PHTHALIC ACID DIAMIDE|P-D|PHTHALAMIDE|PHTHALDIAMIDE|PHTHALIC ACID DIAMIDE	88-96-0	PHYSICAL DESCRIPTION: Colorless crystals or off-white powder. (NTP, 1992)	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Protect from light and heat (EPA, 1998)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2913	PHYSOSTIGMINE	CALABARINE|CARBAMIC ACID, METHYL-, ESTER WITH ESEROLINE|ERSERINE|ESERINE|ESERINE|(-)-ESERINE|ESEROLEIN, METHYLCARBAMATE(ESTER)|ESROMIOTIN|EZERIN|MCV 4484|NIH 10421|PHYSOSTIGMINE|(-)-PHYSOSTIGMINE|PHYSOSTOL|PYRROLO(2,3-B)INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-, METHYLCARBAMATE(ESTER),(3AS-CIS)-|PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYL-, METHYLCARBAMATE (ESTER), (3AS-CIS)-	57-47-6	White, odorless, microcrystalline powder. Used as a cholinergic (anticholinesterase) agent and as a veterinary medication. (EPA, 1998)	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2914	PICLORAM	AMDON|AMDON GRAZON|4-AMINO-3,5,6-TRICHLORO-2-PICOLINIC ACID|4-AMINO-3,5,6-TRICHLORO-2-PYRIDINECARBOXYLIC ACID|4-AMINO-3,5,6-TRICHLOROPICOLINIC ACID|4-AMINOTRICHLOROPICOLINIC ACID|ATCP|BOROLIN|GRAZON PC|K-PIN|NCI-C00237|PICLORAM|PICOLINIC ACID, 4-AMINO-3,5,6-TRICHLORO-|TORDON|TORDON 101 MIXTURE|TORDON 10K|TORDON 22K|TORDONÂ®|3,5,6-TRICHLORO-4-AMINOPICOLINIC ACID	1918-02-1	PHYSICAL DESCRIPTION: Fine beige crystals or white powder. Odor of chlorine. (NTP, 1992)	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2909	PHOSMET	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	Aqueous solution are slightly acidic. This chemical is incompatible with strong oxidizers. (NTP, 1992)			0																								(NTP, 1992)	(decomposes)		473 to 478
2910	PHOSPHORUS OXYBROMIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. All handling of this compound should be under an inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is extremely unstable when exposed to air. Decomposes in water (NTP, 1992).	ZIRCONOCENE DICHLORIDE is incompatible with water, acids, bases, alcohols and halogens. (NTP, 1992)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			468 to 473
2911	PHOSPHORUS PENTAFLUORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TRINITROCHLOROBENZENE is a chlorinated nitroaryl derivative. It is sensitive to heat. Nitroaryls range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																											
2912	PHTHALAMIDE	(Non-Specific -- Alkaloid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Use water vapor to reduce vapors. Absorb spills with sand or other noncombustible absorbent material. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	ERGOTAMINE TARTRATE is sensitive to prolonged exposure to heat and light. (NTP, 1992). When heated to decomposition, it emits toxic fumes of nitrogen oxides. Protect from light and heat [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)	decomposes	397	
2913	PHYSOSTIGMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]			0																								(NTP, 1992)	(freeze dried)		104 to 149
2914	PICLORAM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Forms azeotropic mixtures with water. (NTP, 1992). Insoluble in water.	ESTRAGOLE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases.			0						(NTP, 1992)		178																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2909	PHOSMET																									(NTP, 1992)		428.54							(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C10H15NO.1	2H2C4S	Cellulose-Based Absorbents	6.0	0.0	7.0	2.0	2.0
2910	PHOSPHORUS OXYBROMIDE																									(NTP, 1992)		292.32		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NTP, 1992)	Decomposes					Corrosive	C10H10Cl2Zr		6.0	0.0	9.0	2.0	2.0
2911	PHOSPHORUS PENTAFLUORIDE																																							Explosive 1.1D	C6H2ClN3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	6.0	2.0	2.0
2912	PHTHALAMIDE																									(EPA, 1998)		1313.56						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C33H35N5O5.1|2C4H6O6	Cellulose-Based Absorbents	6.0	0.0	7.0	2.0	2.0
2913	PHYSOSTIGMINE																									(NTP, 1992)		788.74						(NTP, 1992)	Insoluble						C42H50Cl4N2O4	Mineral-Based & Clay-Based Absorbents	5.0	0.0	6.0	2.0	2.0
2914	PICLORAM															(NTP, 1992)		0.9645		70		(NTP, 1992)		421		764		(NTP, 1992)		148.22						(NTP, 1992)	Insoluble (<1 mg/ml)						C10H12O	Dirt/Earth	4.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2915	PICOLINES	GAMMA-PICOLINE|METHYLPYRIDINE|4-METHYLPYRIDINE|P-PICOLINE|PICOLINE|PICOLIN E, [COMBUSTIBLE LIQUID LABEL]|4-PICOLINE|PICOLINES	1333-41-1	Clear colorless liquids with a strong unpleasant odor. Flash point 79 - 97Â°F. Less dense than water. Vapors heavier than air. Toxic oxides of nitrogen produced during the combustion of. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	Call for medical aid. INHALATION: Remove to fresh air. SKIN OR EYES: Immediately flush with plenty of water. (USCG, 1999)	Special Hazards of Combustion Products: Carbon dioxide and carbon monoxide may be produced in a fire. (USCG, 1999)	Fire Extinguishing Agents: Alcohol foam, water spray, dry chemical or carbon dioxide. (USCG, 1999)
2916	PIPERAZINE DIHYDROCHLORIDE	ASCAREX D|DIETHYLENEDIAMINE DIHYDROCHLORIDE|DIHYDRO PIP WORMER|DOWZENE DHC|HEXAHYDROPYRAZINE DIHYDROCHLORIDE|PIPERAZIDINE DIHYDROCHLORIDE|PIPERAZINE DIHYDROCHLORIDE|PIPERAZINE HYDROCHLORIDE|PIPERAZINE WORMER PREMIX|PIPERAZINIUM DICHLORIDE	142-64-3	White to cream-colored needles or powder. Mp: 318-20Â°C (with decomposition).	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)		
2917	PIRIMIPHOS METHYL	O-(2-(DIETHYLAMINO)-6-METHYL-4-PYRIMIDINYL)-O,O-DIMETHYL PHOSPHOROTHIOATE|PIRIMIPHOS METHYL	29232-93-7	Yellow liquid. Corrosive to tin and mild steel. Used as an insecticide.	2.5	5.0	2.5	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2918	P-NITROACETOPHENONE	ACETOPHENONE, 4'-NITRO-|1-ACETYL-4-NITROBENZENE|4-ACETYLNITROBENZENE|METHYL 4-NITROPHENYL KETONE|METHYL P-NITROPHENYL KETONE|4'-NITROACETOPHENONE|4-NITROPHENYL METHYL KETONE|1-(4-NITROPHENYL)ETHANONE|PACETYLNITROBENZENE|P-NITROACETOPHENONE|P-NITROPHENYL METHYL KETONE|PARA-NITROACETOPHENONE	100-19-6	PHYSICAL DESCRIPTION: Yellow prisms or bright yellow powder. (NTP, 1992)	1.0	2.5	5.0	4857.0	487.0	1658.0	857.0	524.0	1322.0	138.0	456.0	247.0	137.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2919	P-NITROBENZOTRIFLUORIDE	ALPHA,ALPHA,ALPHA-TRIFLUORO-P-NITROTOLUENE|1-NITRO-4-(TRIFLUOROMETHYL)BENZENE|NITROBENZOTRIFLUORIDE|4-NITROBENZOTRIFLUORIDE|P-(TRIFLUOROMETHYL)NITROBENZENE|P-NITRO(TRIFLUOROMETHYL)BENZENE|P-NITROBENZOTRIFLUORIDE|TOLUENE, ALPHA,ALPHA,ALPHA-TRIFLUORO-P-NITRO-|4-(TRIFLUOROMETHYL)-1-NITROBENZENE|4-(TRIFLUOROMETHYL)NITROBENZENE	402-54-0	A thin, oily straw colored liquid with a fishlike odor. May be toxic by ingestion, inhalation and skin absorption. Insoluble in water and denser than water. Used to make other chemicals.	2.5	5.0	2.5	4859.0	487.0	1658.0	857.0	524.0	1323.0	138.0	456.0	247.0	137.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic and flammable vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2920	P-NITROPHENETHYL ALCOHOL	BENZENEETHANOL, 4-NITRO-|1-(2-HYDROXYETHYL)-4-NITROBENZENE|4-NITROBENZENEETHANOL|4-NITROPHENETHANOL|4-NITROPHENETHYL ALCOHOL|2-(4-NITROPHENYL)ETHANOL|P-NITROPHENETHYL ALCOHOL|2-(P-NITROPHENYL)ETHANOL|P-NITROPHENYLETHYL ALCOHOL|PHENETHYL ALCOHOL, P-NITRO-	100-27-6	PHYSICAL DESCRIPTION: Yellow needles (from aqueous methanol) or orange solid. (NTP, 1992)	1.0	2.5	5.0	4859.0	487.0	1658.0	857.0	526.0	1323.0	138.0	456.0	247.0	138.0	(BLOB)	Combustible. Emits toxic fumes under fire conditions. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2915	PICOLINES	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator; rubber gloves; goggles; clothing to prevent body contact with liquid. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164].	PROPYLENE GLYCOL ETHYL ETHER may react violently with strong oxidizing agents. May generate flammable and/or toxic gases with alkali metals, nitrides, and other strong reducing agents. May initiate the polymerization of isocyanates and epoxides.	Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2916	PIPERAZINE DIHYDROCHLORIDE		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]						0																								
2917	PIRIMIPHOS METHYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Insoluble in water.	P-TERT-BUTYLPHENYL GLYCIDYL ETHER, an ether, can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound						0		(NTP, 1992)		215																				
2918	P-NITROACETOPHENONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. Keep it away from oxidizing materials and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor and high efficiency particulate filter cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	BETA-NITROSTYRENE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992).						0																		(NTP, 1992)		136	
2919	P-NITROBENZOTRIFLUORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Very slightly soluble in water.	P-TOLUIDINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Can react vigorously with oxidizing reagents. Emits very toxic fumes of oxides of nitrogen when heated to decomposition. Hypergolic reaction with red fuming nitric acid [Kit and Evered, 1960, p. 239, 242].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		188		(USCG, 1999)		1.1		%	(USCG, 1999)		6.6		%	(USCG, 1999)		899		(USCG, 1999)		112.1	
2920	P-NITROPHENETHYL ALCOHOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Insoluble in water.	BIPHENYL is incompatible with oxidizers. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		235		(USCG, 1999)	at 232Â° F	0.6		%	(USCG, 1999)	at 331Â° F.	5.8		%	(USCG, 1999)		1004		(NTP, 1992)		156 to 160	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2915	PICOLINES																									(USCG, 1999)		104.15												PGY	Flammable Liquid	C5H12O2	Cellulose-Based Absorbents	4.0	0.0	9.0	2.0	2.0
2916	PIPERAZINE DIHYDROCHLORIDE																																									C10H13N5O3S.H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	9.0	2.0	2.0
2917	PIRIMIPHOS METHYL														(NTP, 1992)		1.038		68		(NTP, 1992)			329 to 338	14		(NTP, 1992)		206.29						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C13H18O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2918	P-NITROACETOPHENONE														(NTP, 1992)		1.1552		90		(NTP, 1992)			482 to 500	760		(NTP, 1992)		149.15						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C8H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	5.0	0.0	7.0	2.0	2.0
2919	P-NITROBENZOTRIFLUORIDE	(NIOSH, 2003)		1		108		mm Hg							(USCG, 1999)		1		68		(USCG, 1999)			393		760	(USCG, 1999)		107.2		(NIOSH, 2003)	; A potential human carcinogen.			(NIOSH, 2003)		0.7		%	TOD	Poison	C7H9N		5.0	0.0	9.0	2.0	2.0
2920	P-NITROPHENETHYL ALCOHOL	(NIOSH, 2003)		0.005				mm Hg	(USCG, 1999)		5.31				(USCG, 1999)		0.992		68		(NTP, 1992)			489 to 491	760		(NTP, 1992)		154.22		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	Insoluble				DIL	Class 9	C12H10		5.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2921	P-N-OCTYLOXYBENZOIC ACID	BENZOIC ACID, P-(OCTYLOXY)-[4-N-OCTYLOXYBENZOIC ACID][4-(OCTYLOXY)BENZOIC ACID][OCTYLOXYBENZOIC ACID][4-OCTYLOXYBENZOIC ACID][P-(N-OCTOXY)BENZOIC ACID][P-(N-OCTYLOXY)BENZOIC ACID][P-(OCTYLOXY)BENZOIC ACID][P-N-OCTYLOXYBENZOIC ACID][P-OCTOXYBENZOIC ACID	2493-84-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4859.0	487.0	1658.0	857.0	526.0	1323.0	138.0	456.0	247.0	138.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2922	POLYMERIC DIPHENYLMETHANE DIISOCYANATE	PAPI|POLYMERIC DIPHENYLMETHANE DIISOCYANATE|POLYMETHYLENE POLYPHENYL ISOCYANATE	9016-87-9	Dark-brown liquid with a weak odor. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	4859.0	487.0	1660.0	857.0	526.0	1323.0	138.0	457.0	247.0	138.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2923	PONCEAU SX	(BLOB)	4548-53-2	PHYSICAL DESCRIPTION: Red crystals. Aqueous solution is yellowish-red. (NTP, 1992)	1.0	2.5	5.0	4859.0	487.0	1660.0	857.0	526.0	1323.0	138.0	457.0	247.0	138.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a foam, dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2924	POTASSIUM BISULFITE SOLUTION	POTASSIUM ACID SULFITE|POTASSIUM BISULFITE|POTASSIUM BISULFITE SOLUTION|POTASSIUM BISULPHITE SOLUTION|POTASSIUM HYDROGEN SULFITE|POTASSIUM SULFITE (KHSO3)	7773-03-7	Colorless aqueous with a slight sulfur dioxide odor. Used as a reducing agent and chemical preservative.	2.5	5.0	2.5	4861.0	487.0	1660.0	857.0	526.0	1324.0	138.0	457.0	247.0	138.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2925	POTASSIUM SELENATE	POTASSIUM SELENATE|POTASSIUM SELENATE (K2SE2O7)	7790-59-2		1.0	2.5	5.0	4863.0	487.0	1660.0	857.0	526.0	1325.0	138.0	457.0	247.0	138.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2921	P-N-OCTYLOXYBENZOIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. All handling of this compound should be done under an inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is extremely air and moisture sensitive. Decomposes in water (NTP, 1992)	BIS(1,5-CYCLOOCTADIENE)NICKEL is extremely air and moisture sensitive. It is sensitive to exposure to light. This compound is incompatible with oxidizing agents, acids and acid fumes. (NTP, 1992)	Strong Reducing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		284 to 288
2922	POLYMERIC DIPHENYLMETHANE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light (NTP, 1992). Insoluble in water.	PYRANTEL PAMOATE may react with acids to liberate heat. May react exothermically enough with strong oxidizing acids to ignite the reaction products. Heat is also generated with caustic solutions. Generates flammable or toxic gases with alkali metals and hydrides and other reducing agents.						0																						(NTP, 1992)	(decomposes)		511 to 513
2923	PONCEAU SX	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIS(2-ETHYLHEXYL) ISOPHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)			greater than 200																		
2924	POTASSIUM BISULFITE SOLUTION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-HEPTANETHIOL is combustible (flash point at or above 100Â°F and below 140Â°F). Incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite (Ca(OCl)2) to generate SOx. Reacts with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield HX. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0		(NIOSH, 2003)		115																			(NIOSH, 2003)		-46	
2925	POTASSIUM SELENATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-IODO-3-NITROBENZENE is incompatible with strong bases and strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0		(NTP, 1992)		161																			(NTP, 1992)			97 to 100

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2921	P-N-OCTYLOXYBENZOIC ACID																				(NTP, 1992)	Decomposes					(NTP, 1992)		275.08		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	Decomposes					Flammable Solid	C16H24Ni	Dirt/Earth	4.0	0.0	7.0	2.0	2.0
2922	POLYMERIC DIPHENYLMETHANE DIISOCYANATE																									(NTP, 1992)		594.72						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C23H16O6.C11H14N2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	8.0	2.0	2.0
2923	PONCEAU SX																									(NTP, 1992)		390.62						(NTP, 1992)	at 61Â° F		less than 1	mg/mL			C24H38O4		4.0	0.0	8.0	2.0	2.0
2924	POTASSIUM BISULFITE SOLUTION														(NIOSH, 2003)		0.84				(NIOSH, 2003)		351		760		(NIOSH, 2003)		132.3						(NIOSH, 2003)	Insoluble					Flammable Liquid|Poison	CH3[CH2]6SH		7.0	0.0	7.0	2.0	2.0
2925	POTASSIUM SELENATE														(NTP, 1992)		1.9477		122		(NTP, 1992)		536		760		(NTP, 1992)		249.01						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Solid	C6H4INO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2926	POTASSIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF CRYSTALLIZATION	DIPOTASSIUM MONOSULFIDE|DIPOTASSIUM MONOSULFIDE (K2S)|DIPOTASSIUM SULFIDE|POTASSIUM MONOSULFIDE|POTASSIUM SULFIDE|POTASSIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF CRYSTALLIZATION|POTASSIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF HYDRATION|POTASSIUM SULFIDE, [HYDRATED, WITH >= 30% WATER OF HYDRATION]|POTASSIUM SULPHIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF CRYSTALLIZATION|POTASSIUM SULPHIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF HYDRATION	1312-73-8	A red crystalline solid. Denser than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	4863.0	487.0	1662.0	857.0	526.0	1325.0	138.0	458.0	247.0	138.0	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2927	POTASSIUM SUPEROXIDE	POTASSIUM DIOXIDE|POTASSIUM OXIDE (KO2)|POTASSIUM SUPEROXIDE	12030-88-5	A yellowish to white solid. Mixtures with combustible material readily ignite by friction, heat, or contact with moisture. Prolonged exposure to fire or heat may cause vigorous decomposition of the material and rupturing of the container.	1.0	2.5	5.0	4865.0	487.0	1662.0	857.0	526.0	1326.0	138.0	458.0	247.0	138.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2928	PROCARBAZINE HYDROCHLORIDE	(BLOB)	366-70-1	PHYSICAL DESCRIPTION: White to pale yellow crystalline powder with a slight odor. Acid to litmus. (NTP, 1992)	1.0	2.5	5.0	4867.0	487.0	1664.0	857.0	526.0	1327.0	138.0	459.0	247.0	138.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2929	PROPADIENE, INHIBITED	ALLENE|BIS(METHYLENE)METHANE|DIMETHYLENEMETHANE|PROPADIENE|PROPADIENE, INHIBITED|PROPADIENE, [INHIBITED]|1,2-PROPADIENE|SYM-ALLYLENE	463-49-0	A colorless flammable gas. May become unstable. Not toxic but asphyxiation may occur because of displacement of oxygen. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4867.0	487.0	1664.0	857.0	526.0	1327.0	138.0	459.0	247.0	138.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
2930	PROPANTHELINE BROMIDE	AMMONIUM, (2-HYDROXYETHYL)DIISOPROPYLMETHYL-, BROMIDE, XANTHENE-9-CARBOXYLATE|BETA-DIISOPROPYLAMINOETHYL 9-XANTHENECARBOXYLATE METHOBROMIDE|BETA-DIISOPROPYLAMINOETHYL XANTHENE-9-CARBOXYLATE METHOBROMIDE|ERCORAX|ERCOTINA|2-HYDROXYETHYL)DIISOPROPYLMETHYLAMMONIUM BROMIDE XANTHENE-9-CARBOXYLATE|KETAMAN|KIVATIN|NCI-C56257|NEOMETANTYL|NEOPEPULSAN|PANTAS|PANTHELINE|PERVAGAL|PRO-BANTHINE|PRO-BANTHINE BROMIDE|PRO-GASTRON|PRODIXAMON|PROPANTEL|PROPANTHELINE BROMIDE|PROPANTHLINE|SC 3171|XANTHENE-9-CARBOXYLIC ACID, ESTER	50-34-0	PHYSICAL DESCRIPTION: White crystals or white powder. Melting point 159-161Â°C .Used therapeutically as an anticholinergic.	1.0	2.5	5.0	4869.0	487.0	1666.0	857.0	526.0	1328.0	138.0	460.0	247.0	138.0	INHALATION: move victim to fresh air and call a physician; give artificial respiration if necessary. INGESTION: induce vomiting and call a physician. EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode in fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2926	POTASSIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF CRYSTALLIZATION	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	ETHYL ACETYLENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic polymerization.	Highly Flammable; Polymerizable	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							
2927	POTASSIUM SUPEROXIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Most are water soluble.	When heated to decomposition or on contact with mineral acids it emits highly toxic fumes of sulfur dioxide gas [Sax, 9th ed., 1996, p. 2949].	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2928	PROCARBAZINE HYDROCHLORIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water and denser than water. Turns yellow on exposure to air and light.	ETHYL BROMIDE will react with steam to produce toxic and corrosive fumes. It can react vigorously with oxidizers. It reacts with strong bases. It also reacts with chemically active metals such as sodium, potassium, calcium, powdered aluminum, zinc and magnesium. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		-10		(NTP, 1992)		6.75		%	(NTP, 1992)		11.25		%	(NTP, 1992)		952		(NTP, 1992)		-182	
2929	PROPADIENE, INHIBITED	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	"Trinitrochlorobenzene (picryl chloride), wetted, with not less than 10% water by mass" is a desensitized high explosive. Burns but may be difficult to ignite. Emits toxic fumes of NOx and explodes when heated to decomposition. Forms unstable salts with concrete, ammonia, bases and metals, particularly copper, lead and zinc. Incompatible with reducing agents and bases, and can explode upon immediate contact with such materials. Incompatible with oxidizing agents such as chlorates and nitrates.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2930	PROPANTHELINE BROMIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	All-purpose canister mask or chemical cartridge respirator; glass or face shield; rubber gloves (USCG, 1999)	Highly flammable. Insoluble in water.	ETHYL BUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. May attack some forms of plastics (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		75							(USCG, 1999)		865		(USCG, 1999)		-135	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2926	POTASSIUM SULFIDE, HYDRATED, WITH NOT LESS THAN 30% WATER OF CRYSTALLIZATION																																								Flammable Gas	C4H6	Mineral-Based & Clay-Based Absorbents	Dirt/Earth	4.0	0.0	8.0	2.0	2.0
2927	POTASSIUM SUPEROXIDE																																									Corrosive			5.0	0.0	7.0	2.0	2.0
2928	PROCARBAZINE HYDROCHLORIDE	(NTP, 1992)	; 400 mm Hg at 70Â° F	375		68		mm Hg	(NTP, 1992)		3.76				(NTP, 1992)		1.46		68		(NTP, 1992)		101.1		760		(NTP, 1992)		108.98		(NIOSH, 2003)		2000	ppm	(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C2H5Br		5.0	0.0	7.0	2.0	2.0
2929	PROPADIENE, INHIBITED																																								Flammable Solid	C6H2ClN3O6	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	3.0	0.0	6.0	2.0	2.0
2930	PROPANTHELINE BROMIDE														(USCG, 1999)		0.879		68		(USCG, 1999)		250		760		(USCG, 1999)		116.16										EBR	Flammable Liquid	C6H12O2		7.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2931	PROPYL MERCAPTAN	1-MERCAPTOPROPANE|3-MERCAPTOPROPANE|N-PROPANETHIOL|N-PROPYL MERCAPTAN|N-PROPYLTHIOL|PROPANE-1-THIOL|1-PROPANETHIOL|PROPYL MERCAPTAN|1-PROPYL MERCAPTAN|PROPYLTHIOL|1-PROPYLTHIOL	107-03-9	A colorless liquid with a strong, offensive odor. Moderately toxic. Flash point below 0Â°F. Less dense than water and slightly soluble in water. Hence floats on water. Used as a chemical intermediate and a herbicide.	2.5	5.0	2.5	4869.0	487.0	1666.0	859.0	526.0	1328.0	138.0	460.0	248.0	138.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2932	PROPYLENE TETRAMER	DODECENE|DODECENE (NON-LINEAR)|PROPENE, TETRAMER|PROPYLENE TETRAMER|TETRAPROPYLENE	6842-15-5	A colorless liquid. Less dense than water and insoluble in water. Vapors are heavier than air. May irritate skin and eyes, and may be narcotic in high concentrations. Used to make other chemicals.	2.5	5.0	2.5	4869.0	487.0	1666.0	859.0	526.0	1328.0	138.0	460.0	248.0	138.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2933	PROPYLENEIMINE, INHIBITED	AZIRIDINE, 2-METHYL|AZIRIDINE, 2-METHYL-|DL-2-METHYLAZIRIDINE|2-METHYLAZACYCLOPROPANE|2-METHYLAZIRIDINE|2-METHYLETHYLENEIMINE|METHYLETHYLENIMINE|2-METHYLETHYLENIMINE|PROPYLENE IMINE|PROPYLENE IMINE (INHIBITED)|PROPYLENE IMINE, INHIBITED|PROPYLENEIMINE|PROPYLENEIMINE, INHIBITED|PROPYLENEIMINE, [INHIBITED]|1,2-PROPYLENEIMINE|PROPYLENIMINE|1,2-PROPYLENIMINE	75-55-8	A clear colorless liquid with an ammonia-like odor. Flash point 25Â°F. Toxic by ingestion, inhalation and through skin absorption. Less dense than water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Used as an organic intermediate.	2.5	5.0	2.5	4869.0	487.0	1668.0	859.0	526.0	1328.0	138.0	461.0	248.0	138.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
2934	P-TERT-BUTYLPHENYL GLYCIDYL ETHER	DENACOL EX 146|[4-(1,1-DIMETHYLETHYL)PHENOXY]METHYL] OXIRANE|EPICLON 520|GLYCIDYL 4-TERT-BUTYLPHENYL ETHER|GLYCIDYL P-TERT-BUTYLPHENYL ETHER|HELOXY WC 65|OXIRANE, [[4-(1,1-DIMETHYLETHYL)PHENOXY]METHYL]-|P-T-BUTYLPHENYL GLYCIDYL ETHER|P-TERT-BUTYLPHENOL GLYCIDYL ETHER|1-(P-TERT-BUTYLPHENOXY)-2,3-EPOXYPROPANE|P-TERT-BUTYLPHENYL GLYCIDYL ETHER|P-TERT-BUTYLPHENYL, 2,3-EPOXYPROPYL ETHER|PROPANE, 1-(P-TERT-BUTYLPHENOXY)-2,3-EPOXY-|R 1007|3-(4-TERT-BUTYLPHENOXY)-1,2-EPOXYPROPANE|(4-TERT-BUTYLPHENOXY)METHYLOXIRANE|4-TERT-	3101-60-8	PHYSICAL DESCRIPTION: Clear light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4869.0	487.0	1670.0	859.0	526.0	1328.0	138.0	462.0	248.0	138.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2935	P-TOLYLUREA	1-(4-METHYLPHENYL)UREA|4-METHYLPHENYLUREA|N-(4-METHYLPHENYL)UREA|N-P-TOLYLUREA|NCI-C02153|P-METHYLPHENYLUREA|P-TOLYLCARBAMIDE|P-TOLYLUREA|1(4-TOLYL)UREA|4-TOLYLUREA|UREA, P-TOLYL-	622-51-5	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	4869.0	487.0	1672.0	859.0	526.0	1328.0	138.0	463.0	248.0	138.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2931	PROPYL MERCAPTAN	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)			331 to 336
2932	PROPYLENE TETRAMER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)	Decomposes at approximately 581Â° F		
2933	PROPYLENEIMINE, INHIBITED	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure [Chem. Eng. News 39(27):44. 1961].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2934	P-TERT-BUTYLPHENYL GLYCIDYL ETHER	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	The liquefied gases, used as refrigerants, are chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																								
2935	P-TOLYLUREA	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Fuming liquid, immediately hydrolyzed by moisture in air to form hydrogen fluoride [Merck 11th ed. 1989].	BORON TRIFLUORIDE DIETHYL ETHERATE is a flammable, corrosive, moisture-sensitive liquid. When heated to decomposition it emits toxic and corrosive fluoride fumes. Reduction with lithium aluminum hydride in the attempt to prepare diborane caused an explosion [Chem. Eng. News, 1967, 45 (28), p. 7; 45 (21), p. 51].	Highly Flammable; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2931	PROPYL MERCAPTAN																										(NTP, 1992)		324.43						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C20H24N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2932	PROPYLENE TETRAMER																										(NTP, 1992)		626.56						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C22H18N2O11S3.2Na		4.0	0.0	7.0	2.0	2.0
2933	PROPYLENEIMINE, INHIBITED																																								Non-Flammable Gas	CF4		5.0	0.0	7.0	2.0	2.0
2934	P-TERT-BUTYLPHENYL GLYCIDYL ETHER																																								Flammable Gas			6.0	0.0	9.0	2.0	2.0
2935	P-TOLYLUREA																																								Corrosive/Flammable Liquid	C4H10BF3O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	5.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2936	PYRETHRINS, [LIQUID] CAS Corrected	CINERIN I OR II|DALMATION INSECT POWDER|JASMOLIN I OR II|PERSIAN-INSECT POWDER|PYRETHRIN I OR II|PYRETHRINS|PYRETHRINS, [LIQUID]|PYRETHRUM|PYRETHRUM FLOWERS|PYRETHRUM I OR II	8003-34-7	Viscous yellow to brown liquid with the characteristic odor of the carrier. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	4869.0	487.0	1672.0	859.0	526.0	1328.0	138.0	463.0	248.0	138.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2937	PYRETHRINS, [SOLID]	PYRETHRINS, [SOLID]	8003-34-7	Colorless to white liquids (or tan dusts). Primarily a threat to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrate the soil, contaminate groundwater or nearby waterways. Toxic by inhalation, skin absorption and/or ingestion. Used as pesticide. Practically insoluble in water.	2.5	5.0	2.5	4871.0	487.0	1674.0	859.0	526.0	1329.0	138.0	464.0	248.0	138.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2938	PYRIDINE, 2-METHYL-5-VINYL-	2-METHYL- 5-ETHENYLPYRIDINE|2-METHYL-5-VINYLPYRIDINE|2-PICOLINE, 5-VINYL- |PYRIDINE, 2-METHYL-5-VINYL-|PYRIDINE, 5-ETHENYL-2-METHYL-|5-VINYL-2-PICOLINE	140-76-1	Clear to faintly opalescent liquid. Used as a monomer for resins, as an oil additive, ore flotation agent; and dye acceptor. (EPA, 1998)	2.5	5.0	2.5	4871.0	487.0	1674.0	859.0	526.0	1329.0	138.0	464.0	248.0	138.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2939	QUINIDINE	ALPHA-(6-METHOXY-4-QUINOLYL)-5-VINYL-2-QUINUCLIDINEMETHANOL|BETA-QUINIDINE|BETA-QUININE|CHINIDIN|CIN-QUIN|CONCHININ|CONCHININE|CONQUININE|6'-METHOXY-ALPHA-(5-VINYL-2-QUINUCLIDINYL)-4-QUINOLINEMETHONOL|NCI-C56426|PITAYINE|QUINICARDINE|QUINIDEX|QUINIDINE|(+)-QUINIDINE|(8R,9S)-QUINIDINE|(9S)-6'-METHOXYCINCHONAN-9-OL	56-54-2	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4871.0	487.0	1674.0	859.0	526.0	1329.0	138.0	464.0	248.0	138.0			
2940	QUINTOZENE	AVICOL|AVICOL (PESTICIDE)|BATRILEX|BOTRILEX|BRASSICOL|BRASSICOL 75|BRASSICOL SUPER|CHINOZAN|FARTOX|FOLOSAN|FOMAC 2|FUNGICLOR|GC 2944-3-4|KOBU|KOBUTOL|KP 2|MARISAN FORTE|NCI-C00419|NITROPENTACHLOROBENZENE|OLPISAN|PCNB|PENTACHLORONITROBENZENE|2,3,4,5,6-PENTACHLORONITROBENZENE|PENTAGEN|PHOMASAN|PKHNB|QUINOSAN|QUINTOCENE|QUINTOZEN|QUINTOZENE|RTU 1010|SANICLOR 30|TERRACHLOR|TERRACLOR|TERRACLOR 30G|TERRAFUN|TERRAZAN|TERRAZAN F|TILCAREX|TRI-PCNB|TRITISAN	82-68-8	PHYSICAL DESCRIPTION: Crystalline pale yellow to white solid or powder with a musty moth ball odor. Insoluble in water and denser than water. Hence sinks in water.	1.0	2.5	5.0	4871.0	487.0	1674.0	859.0	526.0	1329.0	138.0	464.0	248.0	138.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2941	QUIZALOFOP-ETHYL	2-(4-((6-CHLORO-2-QUINOXALINYL)OXY)PHENOXY) PROPANOIC ACID ETHYL ESTER|QUIZALOFOP-ETHYL	76578-14-8	White crystals. Insoluble in water. Used as an herbicide.	1.0	2.5	5.0	4873.0	487.0	1674.0	859.0	526.0	1330.0	138.0	464.0	248.0	138.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic and irritating fumes of hydrogen fluoride and bromine may form in fires. Behavior in Fire: Containers may burst when exposed to heat of fire. (USCG, 1999)	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash or lime. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2936	PYRETHRINS, [LIQUID] CAS Corrected	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water. Reacts slowly with air and water. Darkens slowly on exposure to light.	RESERPINE is a weak base and can form salts with strong acids. Incompatible with oxidizing agents and reducing agents.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)		507 to 509
2937	PYRETHRINS, [SOLID]	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Less dense than water and soluble in water.	Ketones, such as ACETONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		-4																				
2938	PYRIDINE, 2-METHYL-5-VINYL-	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																							
2939	QUINIDINE			Insoluble in water.	ETHYL HEXYL TALLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(USCG, 1999)		395																			
2940	QUINTOZENE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-3,5,5-TRIMETHYL HEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
2941	QUIZALOFOP-ETHYL	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Produces corrosive fumes in moist air. Reacts explosively upon contact with water. Very reactive, usually with conflagration [Merck, 11th ed. 1989]. Reaction with water is violent, oxygen being evolved, [Mellor 2 Supp. 1:172 1956]. Explodes on contact with water. Products of this rapid reaction include HF and possibly Br2 (Lewis 2000). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	(BLOB)	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 144 [Oxidizers (Water-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1745 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	3	3	No Water; Oxidizer																					(USCG, 1999)		-76	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2936	PYRETHRINS, [LIQUID] CAS Corrected																										(NTP, 1992)		608.7						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Class 9	C33H40N2O9		3.0	0.0	6.0	2.0	2.0
2937	PYRETHRINS, [SOLID]																																								Flammable Liquid	C3H6O		3.0	0.0	6.0	2.0	2.0
2938	PYRIDINE, 2-METHYL-5-VINYL-																										(NTP, 1992)		429						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)						C24H15NO7 and C24H16N2O6		4.0	0.0	7.0	2.0	2.0
2939	QUINIDINE	(USCG, 1999)			less than 51.70			mm Hg							(USCG, 1999)	(est.)	0.95		68		(USCG, 1999)	Very high																		EHT			8.0	0.0	10.0	2.0	2.0
2940	QUINTOZENE																																								Organic Peroxide	C13H26O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	6.0	2.0	2.0
2941	QUIZALOFOP-ETHYL	(NIOSH, 2003)		328				mm Hg							(USCG, 1999)		2.48		68		(USCG, 1999)		106		760		(USCG, 1999)		174.9						(NIOSH, 2003)	Reacts with water violently					BPF	Oxidizer|Poison Inhalation Hazard|Corrosive	BrF5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Sand|Dirt/Earth	5.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2942	REFRIGERATING MACHINES, (error pyrethins) CONTAINING FLAMMABLE, LIQUEFIED GAS	REFRIGERANTS, [LIQUID]|REFRIGERATING MACHINES, CONTAINING FLAMMABLE, LIQUEFIED GAS	8003-34-7	Colorless gases shipped as liquefied gases under their own vapor pressure. Contact with the unconfined liquid may cause frostbite by evaporative cooling. Easily ignited. Vapors are denser than air and a flame can flash back to the source of a leak very easily. The leak may be a liquid or a vapor leak. Vapors can asphyxiate by the displacement of air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	4873.0	487.0	1674.0	859.0	526.0	1330.0	138.0	464.0	248.0	138.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2943	RUBIDIUM	RUBIDIUM|RUBIDIUM METAL	7440-17-7	A soft silvery metal. Shipped in very limited quantities sealed in a copper tube and over packed in a wooden box. Used in electronics.	1.0	2.5	5.0	4875.0	487.0	1676.0	859.0	526.0	1331.0	138.0	465.0	248.0	138.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2944	SAFROLE	4-ALLYL-1,2-(METHYLENEDIOXY)BENZENE|5-ALLYL-1,3-BENZODIOXOLE|1-ALLYL-3,4-METHYLENEDIOXYBENZENE|ALLYLCATECHOL METHYLENE ETHER|ALLYLDIOXYBENZENE METHYLENE ETHER|4-ALLYLPYROCATECHOL FORMALDEHYDE ACETAL|ALLYLPYROCATECHOL METHYLENE ETHER|BENZENE, 4-ALLYL-1,2-(METHYLENEDIOXY)-|1,3-BENZODIOXOLE, 5-ALLYL-|M-ALLYLPYROCATECHIN METHYLENE ETHER|1,2-METHYLENEDIOXY-4-ALLYLBENZENE|3,4-METHYLENEDIOXY-ALLYLBENZENE|3-(3,4-METHYLENEDIOXYPHENYL)PROP-1-ENE|NCI-C00362|5-(2-PROPENYL)-1,3-BENZODIOXOLE|RHYUNO OIL|SAFRENE|SAFROL|SAFROLE|SAFROLE	94-59-7	PHYSICAL DESCRIPTION: Clear colorless or slightly yellow liquid with the odor of sassafras. Denser than water (density 1.09 g / cm3) and insoluble in water. Hence sinks in water. Obtained from oil of sassafras or oil of camphor.	2.5	5.0	2.5	4877.0	487.0	1676.0	859.0	526.0	1332.0	138.0	465.0	248.0	138.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2945	SEC-BUTYL CHLOROFORMATE	BUT-2-YL CHLOROFORMATE|CHLOROFORMIC ACID SEC-BUTYL ESTER|FORMIC ACID, CHLORO-, SEC-BUTYL ESTER|SEC-BUTYL CHLOROFORMATE	17462-58-7	A colorless liquid. Insoluble in water and more dense than water. Contact may severely irritate skin, eyes, and mucous membranes. Very toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	4877.0	487.0	1676.0	859.0	526.0	1332.0	138.0	465.0	248.0	138.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2946	SEC-BUTYLAMINE	2-AB|2-AMINOBUTANE BASE|(+)-2-AMINOBUTANE|(.+-.)-2-AMINOBUTANE|2-AMINOBUTANE|BUTAFUME|(.+-.)-2-BUTANAMINE|2-BUTANAMINE, (S)-|2-BUTANAMINE|(+)-2-BUTYLAMINE|(.+-.)-2-BUTYLAMINE|2-BUTYLAMINE|DECCOTANE|DL-2-BUTYLAMINE|DL-SEC-BUTYLAMINE|FRUCOTE|1-METHYLPROPANAMINE|1-METHYLPROPYLAMINE|(RS)-SEC-BUTYLAMINE|(S)-(+)-2-AMINOBUTANE|(S)-(+)-SEC-BUTYLAMINE|(S)-1-METHYLPROPYLAMINE|(S)-2-AMINOBUTANE|(S)-2-BUTANAMINE|(S)-2-BUTYLAMINE|(S)-SEC-BUTYLAMINE|(+)-(S)-SEC-BUTYLAMINE|SEC-BUTYLAMINE|(+)-SEC-BUTYLAMINE|(.+-.)-SEC-BUTYLAMINE|SEC-BUTYLAMINE, (S)-|TUTANE	13952-84-6	White liquid with an odor of ammonia. (USCG, 1999)	2.5	5.0	2.5	4877.0	487.0	1676.0	859.0	526.0	1332.0	138.0	465.0	248.0	138.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2942	REFRIGERATING MACHINES, (error pyrethins) CONTAINING FLAMMABLE, LIQUEFIED GAS	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. The solid spontaneously heats in the presence of air and moisture. This heat may be sufficient to ignites surrounding combustible materials. Insoluble in water.	Inorganic reducing agents, such as ZINC RESINATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2943	RUBIDIUM	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Slightly water soluble (NTP, 1992).	Nitroalkanes, such as 1-NITROBUTANE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2944	SAFROLE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Tarnishes rapidly upon exposure to air. Reacts violently with water to form corrosive rubidium hydroxide and hydrogen, a flammable gas. The heat of the reaction usually ignites the hydrogen.	RUBIDIUM METAL is a strong reducing agent. Burns spontaneously in dry oxygen [Mellor 2:468 1946-47]. Readily catches fire in air when molten or with a sulfur vapor [Mellor 2: 469 1946-47]. Causes explosive decomposition of maleic anhydride. [Chem Safety Data Sheet SD-88 1962; Chem. Haz. Info. Series C-71 1960] Burns in chlorine [Mellor 2, Supp. 1:380 1956]. Interaction with mercury is exothermic and may be violent, [Mellor, 1941, Vol. 2, 469].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2945	SEC-BUTYL CHLOROFORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	SAFROLE, an acetal, is readily hydrolyzed in acidic solution to give 4-allylpyrocatechol and formaldehyde (or formaldehyde polymers).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		208													(NTP, 1992)		52.2	
2946	SEC-BUTYLAMINE		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	SALCOMINE may increase the rate of oxidation reactions such as the conversion of amines to nitro compounds by peroxides or hydroperoxides.	Known Catalytic Activity							0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2942	REFRIGERATING MACHINES, (error pyrethins) CONTAINING FLAMMABLE, LIQUEFIED GAS																																								Flammable Solid	C40H58O4Zn		3.0	0.0	6.0	2.0	2.0
2943	RUBIDIUM														(NTP, 1992)		0.971				(NTP, 1992)		307		760		(NTP, 1992)		103.12						(NTP, 1992)	Slightly soluble					Combustible Liquid	C4H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0
2944	SAFROLE																																								Dangerous When Wet	Rb		4.0	0.0	6.0	2.0	2.0
2945	SEC-BUTYL CHLOROFORMATE	(NTP, 1992)		1		146.8		mm Hg							(NTP, 1992)		1.1		68		(NTP, 1992)		450 to 453	760		(NTP, 1992)		162.19						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Class 9	C10H10O2	Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2946	SEC-BUTYLAMINE																										(EPA, 1998)		325.25													C16H14CoN2O2.H2O	Mineral-Based & Clay-Based Absorbents	7.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2947	SELENOUREA	SELENOUREA	630-10-4	Solid.	1.0	2.5	5.0	4879.0	487.0	1676.0	859.0	526.0	1333.0	138.0	465.0	248.0	138.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2948	SETHOXYDIM	2-(1-(ETHOXYIMINO)SETHOXYDIM|SETHOXYDIME	74051-80-2	Oily odorless liquid. Non corrosive. Used as an herbicide.	2.5	5.0	2.5	4879.0	487.0	1676.0	859.0	526.0	1333.0	138.0	465.0	248.0	138.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2949	SILVER IODATE	SILVER IODATE	7783-97-3	Odorless white solid. Sinks in water. Interaction with Tellurium is violent.	1.0	2.5	5.0	4879.0	487.0	1676.0	859.0	526.0	1333.0	138.0	465.0	248.0	138.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2950	SODIUM ALKYL SULFATES	SODIUM ALKYL SULFATES|SODIUM HYDROGEN ALKYL SULFATE	68955-19-1	Pale yellow solid or thick liquid with a faint odor of detergent. Mixes with water. Soap bubbles may be produced. (USCG, 1999)	1.0	2.5	5.0	4879.0	487.0	1676.0	859.0	526.0	1333.0	138.0	465.0	248.0	138.0	(BLOB)	Flash point data on this compound are not available; it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
2951	SODIUM ALUMINUM SULPHATE	ALUM|ALUMINUM SODIUM SULFATE|SODA ALUM|SODIUM ALUMINUM SULFATE|SODIUM ALUMINUM SULPHATE	10102-71-3	A colorless crystalline solid. Used in textiles, paper making, water purification, food processing.	1.0	2.5	5.0	4879.0	487.0	1678.0	863.0	526.0	1333.0	138.0	466.0	250.0	138.0	INHALATION: Remove to fresh air, give artificial respiration and oxygen if needed; call a doctor. INGESTION: Do NOT induce vomiting; call a doctor. EYES: Flush with water for at least 15 min. SKIN: Wipe off, wash with soap and water. (USCG, 1999)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2952	SODIUM ARSENITE, AQUEOUS SOLUTION	ARSENENOUS ACID, SODIUM SALT|ARSENIC SODIUM OXIDE (ASNAO2)|ARSENIOUS ACID, MONOSODIUM SALT|ARSENIOUS ACID, SODIUM SALT|ARSENITE SODIUM|ATLAS "A"|CHEMPELS C|CHEM-SEN 56|KILL-ALL|PENITE|PRODALUMNOL|PRODALUMNOL DOUBLE|SODANIT|SODIUM ARSENIC OXIDE (NAASO2)|SODIUM ARSENITE|SODIUM ARSENITE (NAASO2)|SODIUM ARSENITE SOLUTION|SODIUM ARSENITE, AQUEOUS SOLUTION|SODIUM METAARSENITE	7784-46-5	An aqueous solution of a solid. Toxic by ingestion, inhalation or skin absorption. Used as an antiseptic, in insecticides and herbicides, to preserve hides and in making dyes.	1.0	2.5	5.0	4879.0	487.0	1678.0	863.0	526.0	1333.0	138.0	466.0	250.0	138.0	INHALATION: remove victim to fresh air and apply resuscitation. Call a doctor. EYES AND SKIN: flush with water for at least 15 minutes. (USCG, 1999)	Behavior in Fire: Containers may explode in fire. Vapor is heavier than air and may travel long distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2947	SELENOUREA	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BROMOXYNIL OCTANOATE, [SOLID] is an ester. Readily hydrolyzed to bromoxynil and octanoate at pH's exceeding 9.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2948	SETHOXYDIM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Light sensitive and may be sensitive to prolonged exposure to air. Dust can be explosive when suspended in air at specific concentrations. Insoluble in water.	[[Details on specifics of reactivity not yet available.]]	Explosive						0																				(NTP, 1992)	(decomposes)		464 to 473
2949	SILVER IODATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water. This compound will hydrolyze under high or low pH conditions. (NTP, 1992).	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)		greater than 200																			
2950	SODIUM ALKYL SULFATES	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	THIOACETAMIDE reacts with aqueous acid to generate hydrogen sulfide. Forms addition compounds and sulfides with salts of heavy metals. Hydrolyzed by acids or bases (NTP, 1992).			1	1	0	1																			(NTP, 1992)			234 to 237
2951	SODIUM ALUMINUM SULPHATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air-supplied mask; goggles or face shield; plastic gloves. (USCG, 1999)	Flammable. Insoluble in water.	ETHYL TOLUENE undergoes vigorous reactions, sometimes amounting to explosions, with strong oxidizing agents. Can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	0	0		(USCG, 1999)		103											(USCG, 1999)		824		(USCG, 1999)		-113.4	
2952	SODIUM ARSENITE, AQUEOUS SOLUTION	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Chemical goggles, gloves, self-contained breathing apparatus or organic canister. (USCG, 1999)	Highly flammable. Insoluble in water.	BUTYLENE may react vigorously with strong oxidizing agents. Easily ignited and burns well in air. Reacts exothermically with reducing agents to release gaseous hydrogen.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)			3	0	0	0					(USCG, 1999)		1.6		%	(USCG, 1999)		10		%	(USCG, 1999)		725		(USCG, 1999)		-297	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chem_codes	dot_labels	formulas	incompatible_abbr	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2947	SELENOUREA																																								Poison	C15H17BC2NO2		6.0	0.0	10.0	2.0	2.0
2948	SETHOXYDIM																											(NTP, 1992)		398.39						(NTP, 1992)		at 77Å° F	less than 1	mg/mL			C13H14NO3S		4.0	0.0	9.0	2.0	2.0
2949	SILVER IODATE														(NTP, 1992)		1.078										(NTP, 1992)		304.39						(NTP, 1992)		Insoluble (<1 mg/ml at 68Å° F)					C18H24O4		5.0	0.0	10.0	2.0	2.0
2950	SODIUM ALKYL SULFATES																											(NTP, 1992)		75.14						(NTP, 1992)		at 68Å° F	5 to 10	mg/mL			C2H5NS		5.0	0.0	7.0	2.0	2.0
2951	SODIUM ALUMINUM SULPHATE			10.34				mm Hg							(USCG, 1999)		0.8807		68		(USCG, 1999)		329.4		760		(USCG, 1999)		120.19												Flammable Liquid	C9H12		5.0	0.0	9.0	2.0	2.0
2952	SODIUM ARSENITE, AQUEOUS SOLUTION	(USCG, 1999)		3231.25				mm Hg							(USCG, 1999)		0.595		68		(USCG, 1999)		20.7		760		(USCG, 1999)		56.1										ETE BTN	Flammable Gas	C4H8	Dirt/Earth	6.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2953	SODIUM ARSENITE, SOLID	ARSENENOUS ACID, SODIUM SALT|ARSENIC SODIUM OXIDE (ASNAO2)|ARSENIOUS ACID, MONOSODIUM SALT|ARSENIOUS ACID, SODIUM SALT|ARSENITE SODIUM|ATLAS A)|CHEMPELS C)|CHEM-SEN 56)|KILL-ALL|PENITE|PRODALUMNOL|PRODALUMNOL DOUBLE|SODIUM ARSENIC OXIDE (NAASO2)|SODIUM ARSENITE|SODIUM ARSENITE (NAASO2)|SODIUM ARSENITE, SOLID|SODIUM ARSENITE, [SOLID]|SODIUM META ARSENITE|SODIUM METAARSENITE|SODIUM ORTHO ARSENITE	7784-46-5	A white or grayish-white powder. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	1.0	2.5	5.0	4881.0	487.0	1678.0	863.0	526.0	1334.0	138.0	466.0	250.0	138.0	INHALATION: move to fresh air; begin artificial respiration if breathing has ceased. INGESTION: force milk or water and then immediately induce vomiting; treat symtomatically. EYES: immediately flush eyes with plenty of water for at least 15 min., get medical attention promptly. SKIN: flush with plenty of water; remove grossly contaminated clothing. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2954	SODIUM CACODYLATE	ALKARSODYL|ANSAR 160|ANSAR 560|ARSECODILE|ARSICODILE|ARSINE OXIDE, DIMETHYLHYDROXY-, SODIUM SALT|ARSINE OXIDE, HYDROXYDIMETHYL-, SODIUM SALT|ARSINIC ACID, DIMETHYL-, SODIUM SALT|ARSYCODILE|ARSYSODILA|CACODYLATE SODIUM|CACODYLIC ACID SODIUM SALT|CACODYLIC ACID SODIUM SALT (1:1)|CACODYLIC ACID, SODIUM SALT|CHEMAID|(DIMETHYLARSINO)OXY|SODIUM AS-OXIDE|HYDROXYDIMETHYLARSINE OXIDE SODIUM SALT|HYDROXYDIMETHYLARSINE OXIDE, SODIUM SALT|PHYTAR|RAD-E-CATE|SILVISAR|SODIUM CACODYLATE|SODIUM DIMETHYLARSENATE|SODIUM DIMETHYLARSINATE|SODIU	124-65-2	A white crystalline or granular solid with a slight odor. Toxic by ingestion, inhalation, and skin absorption. Used as a herbicide.	1.0	2.5	5.0	4883.0	487.0	1680.0	863.0	526.0	1335.0	138.0	467.0	250.0	138.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Combustible Material. (NOAA, 2008)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2955	SODIUM O-PHENYLPHENOXIDE	BAC-TROL|2-BIPHENYLOL, SODIUM SALT|2-BIPHENYLYLOXY)SODIUM|[1,1'-BIPHENYL]-2-OL, SODIUM SALT|D.C.S.|DECCOSOL|DORVICIDE A|DOWICIDE|DOWICIDE A|DOWICIDE A FLAKES|DOWIZID|2-HYDROXYBIPHENYL SODIUM SALT|2-HYDROXYDIPHENYL SODIUM SALT|2-HYDROXYDIPHENYL SODIUM|MIL-DU-RID|MYSTOX WFA|NATRIPHENE|O-HYDROXYBIPHENYL SODIUM SALT|O-PHENYLPHENOL SODIUM SALT|O-PHENYLPHENOL, SODIUM DERIV.|O-PHENYLPHENOL, SODIUM SALT|OPP-NA|ORPHENOL|PHENOL, O-PHENYL-, SODIUM DERIV.|2-PHENYLPHENOL SODIUM SALT|PREVENTOL	132-27-4	PHYSICAL DESCRIPTION: Beige flaky solid. pH of saturated solution in water: 12.0-13.5. (NTP, 1992)	1.0	2.5	5.0	4883.0	487.0	1680.0	863.0	526.0	1335.0	138.0	467.0	250.0	138.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2956	SODIUM PERMANGANATE	SODIUM MANGANATE|SODIUM PERMANGANATE|SODIUM PERMANGANATE (NAMNO4)	10101-50-5	A purplish colored crystalline solid. Noncombustible but accelerates the burning of combustible material. If the combustible material is finely divided the mixture may be explosive. May spontaneously ignite in contact with liquid combustible materials. Contact with sulfuric acid may cause fires or explosions. Used in medicine, as a disinfectant, and for many other uses.	1.0	2.5	5.0	4885.0	487.0	1680.0	863.0	526.0	1336.0	138.0	467.0	250.0	138.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2957	SODIUM PHENOBARBITAL	BARBITURIC ACID, 5-ETHYL-5-PHENYL, SODIUM SALT|BARBITURIC ACID, 5-ETHYL-5-PHENYL-, SODIUM SALT|5-ETHYL-5-PHENYL-2,4,6-(1H,3H,5H)PYRIMIDINETRIONE MONOSODIUM SALT|5-ETHYL-5-PHENYLBARBITURIC ACID SODIUM SALT|5-ETHYL-5-PHENYLBARBITURIC ACID SODIUM|GARDENAL SODIUM|2,4,6(1H,3H,5H)-PYRIMIDINETRIONE, 5-ETHYL-5-PHENYL-, MONOSODIUM SALT|LINASEN|LUMINAL SODIUM|PBS|PHENEMALUM|PHENOBAL|PHENOBAL SODIUM|PHENOBARBITAL ELIXIR|PHENOBARBITAL NA|PHENOBARBITAL SODIUM|PHENOBARBITAL SODIUM SALT|PHENOBARBITONE SODIUM|PHENOBARBITONE SODIUM SALT|PHENYLETHYLBARBI	57-30-7	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Aqueous solutions are alkaline to litmus and phenolphthalein (pH approximately 9.3). Bitter taste. A narcotic.	1.0	2.5	5.0	4887.0	487.0	1680.0	863.0	526.0	1337.0	138.0	467.0	250.0	138.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases, such as carbon monoxide, may be produced in fire. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2953	SODIUM ARSENITE, SOLID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Chemical workers' goggles; clean, body-protecting clothing (USCG, 1999)	Insoluble in water.	Phenols, such as BUTYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	0	0		(USCG, 1999)		235															(USCG, 1999)		210	
2954	SODIUM CACODYLATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	ETHYLBENZYL CHLORIDE is moderately reactive. Incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2	1	0	1																								
2955	SODIUM O-PHENYLPHENOXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water.	Organonitrates range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures.						0																		(NTP, 1992)			399 to 403
2956	SODIUM PERMANGANATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIAZINE PESTICIDE, [SOLID] neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
2957	SODIUM PHENOBARBITAL	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Water soluble.	ETHYLENE GLYCOL MONOMETHYL ETHER may react with oxidizing materials, i.e. hydrogen peroxide, to form peroxides. It dissolves many oils, resins and waxes. (NTP, 1992)	Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		105		(NTP, 1992)		1.8		%	(NTP, 1992)		14		%	(USCG, 1999)		455		(NTP, 1992)		-94	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2953	SODIUM ARSENITE, SOLID														(USCG, 1999)		1037		77		(USCG, 1999)		463.1		760		(USCG, 1999)		150											BTP	Corrosive	C10H14O		6.0	0.0	9.0	2.0	2.0
2954	SODIUM CACODYLATE																																							Combustible Liquid	(C2H5)C6H4CH2Cl		5.0	0.0	8.0	2.0	2.0
2955	SODIUM O-PHENYLPHENOXIDE																										(NTP, 1992)		453.41						(NTP, 1992)	at 77Â° F		1 to 10	mg/mL			C18H14N4O7S.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	8.0	2.0	2.0
2956	SODIUM PERMANGANATE																																							Poison	C9-H5-Cl3-N4		6.0	0.0	9.0	2.0	2.0
2957	SODIUM PHENOBARBITAL	(NTP, 1992)		3.8		68		mm Hg	(NTP, 1992)		3.1				(USCG, 1999)		0.931		68		(NTP, 1992)		275		760		(NTP, 1992)		90.14		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL	EEO	Flammable Liquid	C4H10O2	Cellulose-Based Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2958	SODIUM PHENOLATE, SOLID	PHENOL SODIUM|SODIUM CARBOLATE|SODIUM PHENATE|SODIUM PHENOLATE|SODIUM PHENOLATE, SOLID|SODIUM PHENOLATE, [SOLID]|SODIUM PHENOXIDE|SODIUM PHENYLATE	139-02-6	A white to reddish colored solid in the form of crystalline rods. Used as an antiseptic and in organic synthesis.	1.0	2.5	5.0	4887.0	487.0	1680.0	863.0	526.0	1337.0	138.0	467.0	250.0	138.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2959	SODIUM TELLURITE	DISODIUM TELLURATE (NA2TEO3)|DISODIUM TELLURITE|SODIUM TELLURATE (NA2TEO3)|SODIUM TELLURATE(IV)|SODIUM TELLURATE(IV) (NA2TEO3)|SODIUM TELLURITE|SODIUM TELLURITE (NA2TEO3)|SODIUM TELLURIUM OXIDE (NA2TEO3)|TELLURIC ACID, DISODIUM SALT|TELLUROUS ACID, DISODIUM SALT	10102-20-2	White crystals. Used in bacteriology and medicine. (EPA, 1998)	1.0	2.5	5.0	4887.0	487.0	1680.0	863.0	526.0	1337.0	138.0	467.0	250.0	138.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2960	STANNANE, ACETOXYTRIPHENYL-	ACETATOTRIPHENYLSTANNANE|ACETOXY-TRIPHENYLSTANNANE|ACETOXYTRIPHENYLSTANNANE|ACETOXYTRIPHENYLTIN|(ACETYLOXY)TRIPHENYLSTANNANE|ACETYLOXYTRIPHENYLSTANNANE|BATASAN|BRESTAN 60|ENT 25208|FENOLOVO ACETATE|FENTIN ACETATE|GC 6936|HOE-2824|LIROMATIN|LIROSTANOL|PHENTIN ACETATE|PHENTINOACETATE|STANNANE, ACETOXYTRIPHENYL-|STANNANE,(ACETYLOXY)TRIPHENYL-|SUNTRON A|SUZU|TIN TRIPHENYL ACETATE|TIN, ACETOXYTRIPHENYL-|TINESTAN|TINESTAN 60 WP|TPTA|TPZA|TRIPHENYLACETO STANNANE|TRIPHENYLTIN ACETATE|TUBOTIN|VP 19-40|VP 1940	900-95-8	A white crystalline solid. Melting point 123-131Â°C (253-268Â°F). Used as a fungicide, algaecide and molluscicide. Controls early and late blight on potatoes.	1.0	2.5	5.0	4889.0	487.0	1682.0	863.0	526.0	1338.0	138.0	468.0	250.0	138.0	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2961	STYRAX BALSAM	BALSAMS, STORAX|LIQUIDAMBAR|STORAX|STORAX (BALSAM)|STYRAX|STYRAX BALSAM|STYROX|SWEET ORIENTAL GUM	8046-19-3	PHYSICAL DESCRIPTION: Very viscous, dark amber to brown liquid with an agreeable balsamic odor and taste. (NTP, 1992)	2.5	5.0	2.5	4891.0	489.0	1682.0	863.0	528.0	1339.0	139.0	468.0	250.0	139.0	(BLOB)	When this material is heated to decomposition, or in contact with acids or acid fumes, highly toxic chloride and selenium fumes are evolved. Hydrochloric acid and selenious acid are produced by reaction with water. Decomposed by water. Reacts violently with powdered antimony, red and white phosphorus, disilver oxide, lead oxides, and potassium. Avoid water, moist air. (EPA, 1998)	Cool containers that are exposed to flames with water until well after the fire is out. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Use dry chemical, carbon dioxide, water spray, or foam for small fires; use water spray, fog, or foam for large fires. (EPA, 1998)
2962	SULFAMETHIZOLE	4-AMINO-N-(5-METHYL-1,3,4-THIADIAZOL-2-YL)BENZENESULFONIMIDE|AYERLUCIL|FAMET|LUCOSIL|METHAZOL|5-METHYL-2-SULFANILAMIDO-1,3,4-THIADIAZOLE|2-METHYL-5-SULFANILAMIDO-1,3,4-THIADIAZOLE|MICROSUL|N(SUP1)-(5-METHYL-1,3,4-THIADIAZOL-2-YL)|SULFANILIMIDE|N1-(5-METHYL-1,3,4-THIADIAZOL-2-YL)|SULFANILAMIDE|2-(P-AMINOBENZENESULFONAMIDO)-5-METHYLTHIADIAZOLE|RENASUL|RUFOL|SALIMOL|SULFA GRAM|SULFAMETHIAZOLE|SULFAMETHIZOL|SULFAMETHIZOLE|SULFAMETHYLTHIADIAZOLE|SULFANILAMIDE, N1-(5-METHYL-1,3,4-THIADIAZOL-2-YL)-|2-SULFANILAMIDO-5-METHYL-1,3,4-THIADIAZOLE|SULFAPYELON|SULFSTAT|SULFURINE|SU	144-82-1	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4891.0	489.0	1682.0	863.0	528.0	1339.0	139.0	468.0	250.0	139.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2958	SODIUM PHENOLATE, SOLID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Slightly soluble in water.	Mixing ETHYLENE GLYCOL MONOETHYL ETHER ACETATE in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, oleum, and vinyl acetate, NFPA 1991.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		135		(NTP, 1992)		1.7		%	(NTP, 1992)		6.7		%	(USCG, 1999)		715		(NTP, 1992)		-79.1	
2959	SODIUM TELLURITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Man be explosive when suspended in air under specific concentrations. Soluble in water.	C.I. DIRECT BLUE 10 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive				0																										
2960	STANNANE, ACETOXYTRIPHENYL-	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	During manufacture of ethanolamine, an excess of ammonia during a period of high pressure resulted in an ammonia-ethylene oxide explosion, [MCA Case History 792(1962)]. Alkali metal hydroxides, acids, anhydrous chlorides of iron, tin, and aluminum, pure oxides of iron and aluminum, and metallic potassium are some of the catalysts that may cause ethylene oxide to rearrange and polymerize, liberating heat, [J. Soc. Chem. Ind. 68:179(1949)]. Explosions occur , although infrequently, from the combination of ethylene oxide and alcohols or mercaptans, [Chem. Eng. News 20:1318(1942)]. Drying ethylene oxide with magnesium perchlorate resulted in an explosion, [NSC Newsletter, Chem. Soc. (1959)].	Highly Flammable; Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethylene oxide, CAS number 75-21-8.	3	4	3	7																								
2961	STYRAX BALSAM	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Fumes in air. Insoluble in water and denser than water. Decomposed in water or moist air to form hydrochloric acid and selenious acid [Merck 11th ed. 1989].	Red phosphorus reacts in the cold with SELENIUM OXYCHLORIDE evolving light and heat; white phosphorus reacts explosively [Mellor 10:906 1946-47]. When potassium is brought into contact with selenium oxychloride in the cold, an explosion occurs [Mellor 10:908 1946-47]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Powdered antimony ignites on contact with the chloride, [Mellor, 1947, Vol. 10, 906]. With metal oxides, i.e. silver oxide, light is evolved and heat sufficient to decompose the mixture, [Mellor, 1947, Vol. 10, 909].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(EPA, 1998)		47.3	
2962	SULFAMETHIZOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture Dust suspensions in air can be explosive at certain concentrations. Insoluble in water.	C.I. PIGMENT RED 3 may form toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May form flammable gases with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive				0																						(NTP, 1992)		518 to 522	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2958	SODIUM PHENOLATE, SOLID	(NTP, 1992)	; 3.8 mm Hg at 86Â° F	1.2		68		mm Hg	(NTP, 1992)		4.72				(USCG, 1999)		0.974		68		(NTP, 1992)		313		760		(NTP, 1992)		132.16		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	EGA	Flammable Liquid	C6H12O3		6.0	0.0	8.0	2.0	2.0
2959	SODIUM TELLURITE																										(NTP, 1992)		993.79						(NTP, 1992)	at 63Â° F		50 to 100	mg/mL			C34H26N4O18S4.4Na		3.0	0.0	7.0	2.0	2.0
2960	STANNANE, ACETOXYTRIPHENYL-																																								Flammable Liquid|Poison	C2H4O (ethylene oxide)|C3H6O (propylene oxide)	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	9.0	2.0	2.0
2961	STYRAX BALSAM	(EPA, 1998)		1		94.6		mm Hg							(EPA, 1998)		2.44		60.8		(EPA, 1998)		356		760		(EPA, 1998)		165.87											Corrosive|Poison	Cl2OSe	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	8.0	2.0	2.0
2962	SULFAMETHIZOLE																										(NTP, 1992)		307.33						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C17H13N3O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2963	SULFUR TETRAFLUORIDE	SULFUR FLUORIDE (SF4)|SULFUR FLUORIDE (SF4), (T-4)-|SULFUR FLUORIDE(SF4),(T-4)-|SULFUR TETRAFLUORIDE|SULPHUR TETRAFLUORIDE|TETRAFLUOROSULFURANE	7783-60-0	Sulfur tetrafluoride is a colorless gas with a distinct sulfur odor. It is highly toxic by inhalation and a strong irritant to skin, eyes and mucous membranes. It reacts vigorously with water and acids to yield toxic fluoride and sulfur oxide fumes and an acidic solution. Sulfur tetrafluoride is heavier than air. Under prolonged exposure to fire or intense heat the containers may violently rupture or rocket. It is used as a fluoridizing agent and as an oil repellent.	5.0	1.0	1.0	4891.0	489.0	1682.0	863.0	528.0	1339.0	139.0	468.0	250.0	139.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2964	SUXAMETHONIUM DICHLORIDE	(BLOB)	71-27-2	PHYSICAL DESCRIPTION: Fine white powder. (NTP, 1992)	1.0	2.5	5.0	4891.0	489.0	1682.0	863.0	528.0	1339.0	139.0	468.0	250.0	139.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2965	TALLOW	EDIBLE TALLOW|INEDIBLE TALLOW|TALLOW|TALLOW OIL	61789-97-7	Dark yellow oily liquid with a waxy odor. Insoluble in water and less dense than water. Hence floats on water. Freezing point 35-45Â°F. An animal fat containing principally glycerides of oleic and stearic acids. Exact composition depends on the species and the diet of the animal from which the fat is rendered.	2.5	5.0	2.5	4893.0	489.0	1682.0	863.0	528.0	1340.0	139.0	468.0	250.0	139.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
2966	TARA GUM	GUM TARA|GUMS, TARA|NCI-C54364|SNG 200|TARA GUM|VIS TOP D 1108	39300-88-4	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	4893.0	489.0	1682.0	863.0	528.0	1340.0	139.0	468.0	250.0	139.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2967	TERBUFOS	AC 92100|COUNTER|COUNTER 15 G SOIL INSECTICIDE|COUNTER 15G|COUNTER 15G SOIL INSECTICIDE|CYANATE|METHANETHIOL, (TERT-BUTYLTHIO)-, S-ESTER WITH O,O-DIETHYL PHOSPHORODITHIOATE|O,O-DIETHYL S-(TERT-BUTYLTHIO)METHYL PHOSPHORODITHIOATE|O,O-DIETHYL S-[[(1,1-DIMETHYLETHYL)THIO]METHYL] PHOSPHORODITHIOATE|O,O-DIETHYL-S-(((1,1-DIMETHYLETHYL)THIO)METHYL)PHOSPHORODITHOIC ACID|PHOSPHORODITHOIC ACID S-(((1,1-DIMETHYLETHYL)THIO)METHYL) O,O-DIETHYL ESTER|PHOSPHORODITHIOIC ACID S-(TERT-BUTYLTHIO)METHYL) O,O-DIETHYL ESTER|PHOSPHORODITHIOI	13071-79-9	Technical product is a clear, colorless to pale yellow liquid. Used as a soil insecticide. (EPA, 1998)	2.5	5.0	2.5	4895.0	489.0	1682.0	863.0	528.0	1341.0	139.0	468.0	250.0	139.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2968	TERT-AMYL PEROXYNEODECANOATE	ESPEROX 545M|LUPERSOL 546|LUPERSOL 546M75|LUPERSOL TA 46|TERT-AMYL PERNEODECANOATE|TERT-AMYL PEROXYNEODECANOATE|TERT-AMYLPEROXYNEODECANOATE|TRIGONOX 123C75	68299-16-1	Colorless to pale yellow liquid. May explode if exposed to heat , shock, or friction. Material must be stored and transported in temperature controlled container. Insoluble in water.	2.5	5.0	2.5	4897.0	489.0	1682.0	863.0	528.0	1342.0	139.0	468.0	250.0	139.0	EYES: flush with water. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Behavior in Fire: Decomposes into metallic silver and oxygen. If large quantities are involved, the oxygen might increase the intensity of the fire. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2963	SULFUR TETRAFLUORIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	TRIPELENAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.							0																							
2964	SUXAMETHONIUM DICHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	C.I. PIGMENT YELLOW 100 is an azo dye complex. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																	(NTP, 1992)		greater than 572
2965	TALLOW	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water. A significant dust explosion hazard.	SILICON POWDER, AMORPHOUS is a reducing agent. Ignites in fluorine gas at ordinary temperatures [Mellor 2:11-13 1946-47]. Burns spontaneously in gaseous chlorine. A mixture of silicon, aluminum, and lead oxide explodes when heated [Mellor 7:657 1946-47]. When heated with an alkali carbonate, a vigorous reaction attended by incandescence occurs [Mellor 6:164 1946-47]. Reacts violently with silver fluoride [Mellor 3:389 1946-47]. Reacts with sodium-potassium alloy to form sodium silicide, which is spontaneously flammable in air [Mellor 2 Supp. 2:564 1961].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(NIOSH, 2003)		2570	
2966	TARA GUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																	(NTP, 1992)		greater than 356
2967	TERBUFOS	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	SILVER ARSENITE has weak oxidizing or reducing powers. Redox reactions can however still occur.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
2968	TERT-AMYL PEROXYNEODECANOATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Hydrogen sulfide is rapidly oxidized and may ignite in contact with SILVER OXIDE [Bretherick 1979 p. 977]; Mixtures of metal sulfides, gold(III) sulfide, antimony sulfide or mercury (II) sulfide, phosphorus, sulfur, selenium, and selenium disulfide ignite on grinding with the oxide. Ammonia or hydrazine slowly react with silver oxide forming silver nitride or in the presence of alcohol, silver fulminate may also be produced [Bretherick 1979 p. 203]. Oxidation of magnesium is explosive when warmed with silver oxide.		Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2963	SULFUR TETRAFLUORIDE																				(NTP, 1992)			365 to 374	1.7		(NTP, 1992)		255.4						(NTP, 1992)	Very soluble						C16H21N3	Mineral-Based & Clay-Based Absorbents	2.0	0.0	6.0	2.0	2.0
2964	SUXAMETHONIUM DICHLORIDE																										(NTP, 1992)		428.25						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C16H9AlN4O9		6.0	0.0	9.0	2.0	2.0
2965	TALLOW	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.33		77		(NIOSH, 2003)		4271		760		(NIOSH, 2003)		28.1						(NIOSH, 2003)	Insoluble					Flammable Solid	Si		8.0	0.0	10.0	2.0	2.0
2966	TARA GUM																										(NTP, 1992)								(NTP, 1992)	at 70Â° F		less than 1	mg/mL					5.0	0.0	7.0	2.0	2.0
2967	TERBUFOS																																								Poison	Ag3AsO3		4.0	0.0	7.0	2.0	2.0
2968	TERT-AMYL PEROXYNEODECANOATE														(USCG, 1999)		7.14		68								(USCG, 1999)		231.8											SVO	Oxidizer| Corrosive	Ag2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2969	TERT-BUTYL PEROXYDIETHYLACETATE	TERT-BUTYL PEROXYDIETHYLACETATE| TERT-BUTYL PEROXYDIETHYLACETATE, [TECHNICALLY PURE]	2550-33-6	This peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide with an inert solid.	1.0	2.5	5.0	4899.0	491.0	1682.0	863.0	530.0	1343.0	140.0	468.0	250.0	140.0	INHALATION: remove victim to fresh air; seek medical attention. INGESTION: induce vomiting; allay gastrointestinal irritation by swallowing milk or egg whites at frequent intervals; perform gastric lavage; seek medical attention. EYES: flush with water for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Toxic cadmium oxide fumes may form in fires. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2970	TERT-BUTYL PEROXYDIETHYLACETATE, WITH TERT-BUTYL PEROXYBENZOATE	TERT-BUTYL PEROXYDIETHYLACETATE, WITH TERT-BUTYL PEROXYBENZOATE|TERT-BUTYL PEROXYDIETHYLACETATE, [33% WITH TERT-BUTYL PEROXYBENZOATE, 33%, AND SOLVENT]	2550-33-6		1.0	2.5	5.0	4901.0	491.0	1682.0	863.0	530.0	1344.0	140.0	468.0	250.0	140.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
2971	TERT-BUTYLPHENYL DIPHENYL PHOSPHATE	(1,1-DIMETHYLETHYL)PHENYL DIPHENYL ESTER PHOSPHORIC ACID|DIPHENYL MONO(P-TERT-BUTYLPHENYL)PHOSPHATE |DIPHENYL TERT-BUTYLPHENYL PHOSPHATE|TERT-BUTYLPHENYL DIPHENYL PHOSPHATE	56803-37-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4903.0	493.0	1682.0	863.0	530.0	1345.0	141.0	468.0	250.0	140.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
2972	TERT-DODECYLMERCAPTAN	2,3,3,4,4,5-HEXAMETHYL-2-HEXANETHIOL|SULFOLE 120|T-DDM|T-DODECANETHIOL|T-DODECYLMERCAPTAN|TERT-DODECANETHIOL|TERT-DODECYL MERCAPTAN|TERT-DODECYL THIOL|TERT-DODECYLMERCAPTAN|TERT-DODECYLTHIOL|TERT-LAURYL MERCAPTAN	25103-58-6	PHYSICAL DESCRIPTION: Clear white to pale yellow liquid with a repulsive odor. (NTP, 1992)	2.5	5.0	2.5	4905.0	493.0	1682.0	863.0	530.0	1346.0	141.0	468.0	250.0	140.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2973	TETRAETHYLAMMONIUM PERCHLORATE, [DRY]	AMMONIUM, TETRAETHYL-, PERCHLORATE|TETRAETHYLAMMONIUM PERCHLORATE|TETRAETHYLAMMONIUM PERCHLORATE, [DRY]	2567-83-1	White crystalline solid. May explode from heat, shock, or friction.	1.0	2.5	5.0	4907.0	493.0	1682.0	863.0	530.0	1347.0	141.0	468.0	250.0	140.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2969	TERT-BUTYL PEROXYDIETHYLACETATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Slowly oxidized by moist air to form cadmium oxide [Merck 11th ed. 1989]. Water soluble.	Salts, basic, such as CADMIUM ACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Special Hazards of Combustion Products: Toxic cadmium oxide fumes may form in fires (USCG, 1999).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2970	TERT-BUTYL PEROXYDIETHYLACETATE, WITH TERT-BUTYL PEROXYBENZOATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. PEROXIDE FORMING WHICH LEADS TO EXPLOSIONS	1-PROPYNE is highly flammable. The liquid material in cylinders contains about 30% propadiene. Detonation may occur at 95Â° C [MCA Case History No. 632]. Reacts exothermically with many oxidizing agents and with some reducing agents as well. May react with silver, copper, and mercury salts in aqueous solution to give explosive acetylides. Incompatible with brass that contains more than 65% copper, with other copper-containing alloys, with Monel metal, with neoprene, polyethylene, and, to a lesser extent, with Teflon. May enflame in air in the presence of Co, Hg, Hg salts, K, Ag, Ag salts, RbH, CsH, halogens, HNO3, NaH. Can decompose explosively when compressed to 4.5 to 5.6 atmospheres. Moderate explosion hazard when exposed to heat or flame or by spontaneous chemical reaction. Has been known to decompose explosively at high pressures and moderate temperatures in the absence of air.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	3	7					(NIOSH, 2003)		1.7		%								(NIOSH, 2003)		-153	
2971	TERT-BUTYLPHENYL DIPHENYL PHOSPHATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water Insoluble in water	SODIUM ALUMINUM FLUORIDE is non-combustible. Emits toxic fumes when heated to decomposition. Incompatible with strong oxidizing agents and strong acids. Decomposed by bases, which can generate soluble fluorides. Soluble in concentrated sulfuric acid.						0																						(NIOSH, 2003)		1832	
2972	TERT-DODECYLMERCAPTAN	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Does not react in dry air at room temperature. Very sensitive to moisture. Ignites or explodes on contact with water or moist air [NSC Nat. Safety News 77(2):37-40 1958]. Reacts with water to form sodium hydroxide, a corrosive material and hydrogen, a flammable gas. The heat of reaction may be sufficient to ignite the hydrogen.	SODIUM ALUMINUM HYDRIDE is a strong reducing agent. Similar in reactivity to lithium aluminum hydride. May react violently with oxidizing agents. An explosion occurred during its preparation from sodium and aluminum in a medium of tetrahydrofuran [Chem. Eng. News 39(40):57 1961]. At elevated temperatures, the hydride reduces carbon dioxide or sodium hydrogen carbonate to methane and ethane. These gases are the explosive products formed when CO2 extinguishers have been used during hydride fires. 1:1 complexes with ether or dimethylamine and various tetrazoles are explosive. Tetrazoles include, 2-methyl, 2-ethyl, 5-ethyl, 2-methyl-5-vinyl, 5-amino-2-ethyl, etc. [US Pat. 3 396 170, 1968].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
2973	TETRAETHYLAMMONIUM PERCHLORATE, [DRY]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	FENBUTATIN OXIDE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2969	TERT-BUTYL PEROXYDIETHYLACETATE														(USCG, 1999)		2.34		68								(USCG, 1999)		266.52													CAT	Poison	Cd(C2H3O2)2		8.0	0.0	9.0	2.0	2.0
2970	TERT-BUTYL PEROXYDIETHYLACETATE, WITH TERT-BUTYL PEROXYBENZOATE	(NIOSH, 2003)		5.2				atm												(NIOSH, 2003)		-10		760		(NIOSH, 2003)		40.1		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1700	ppm	(NIOSH, 2003)	Insoluble						Flammable Gas	C3H4	Dirt/Earth	8.0	0.0	9.0	2.0	2.0
2971	TERT-BUTYLPHENYL DIPHENYL PHOSPHATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.9				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		209.9		(NIOSH, 2003)	(as F)	250	mg/m3	(NIOSH, 2003)		0.04		%				Na3AlF6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	6.0	0.0	7.0	2.0	2.0
2972	TERT-DODECYLMERCAPTAN																																								Dangerous When Wet	NaAlH4		6.0	0.0	8.0	2.0	2.0
2973	TETRAETHYLAMMONIUM PERCHLORATE, [DRY]																																								Poison	C60H78OSn2		4.0	0.0	8.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2974	TETRAETHYLENE GLYCOL DIACRYLATE	ACRYLIC ACID, DIESTER WITH TETRAETHYLENE GLYCOL|ACRYLIC ACID, OXYBIS(ETHYLENEOXYETHYLENE) ESTER|ARONIX M 240|2-PROPENOIC ACID, OXYBIS(2,1-ETHANEDIYLOXY-2,1-ETHANEDIYL) ESTER|SR 268|TEGDA|TETRAETHYLENE GLYCOL DIACRYLATE|VISCOAT 335HP	17831-71-9	PHYSICAL DESCRIPTION: Pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4907.0	493.0	1682.0	863.0	530.0	1347.0	141.0	468.0	250.0	140.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2975	TETRAETHYLTIN	STANNANE, TETRAETHYL-|TET|TETRAETHYLSTANNANE|TETRAETHYLTIN|TIN, TETRAETHYL	597-64-8	Colorless liquid. Used as biocides, bactericides, fungicides and insecticides; preservatives for wood, textile, paper, and leather. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	4907.0	495.0	1682.0	865.0	530.0	1347.0	142.0	468.0	251.0	140.0	(BLOB)	Literature sources indicate that this chemical is noncombustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2976	TETRAHYDRONAPHTHALENE	BENZOCYCLOHEXANE|TETRAHYDRONAPHTHALENE|1,2,3,4-TETRAHYDRONAPHTHALENE|TETRALIN|TETRAMP|TETRANAP	119-64-2	A light colored liquid. May be irritating to skin, eyes and mucous membranes. Flash point 100-141Â°F.	2.5	5.0	2.5	4909.0	495.0	1682.0	865.0	530.0	1348.0	142.0	468.0	251.0	140.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2977	TETRAHYDROPHTHALIC ANHYDRIDE	1-CYCLOHEXENE-1,2-DICARBOXYLIC ACID ANHYDRIDE|4-CYCLOHEXENE-1,2-DICARBOXYLIC ACID ANHYDRIDE|1-CYCLOHEXENE-1,2-DICARBOXYLIC ACID, CYCLIC ANHYDRIDE|1-CYCLOHEXENE-1,2-DICARBOXYLIC ANHYDRIDE|4-CYCLOHEXENE-1,2-DICARBOXYLIC ANHYDRIDE|DELTA1-TETRAHYDROPHTHALIC ANHYDRIDE|DELTA4-TETRAHYDROPHTHALIC ANHYDRIDE|MALEIC ANHYDRIDE-BUTADIENE ADDUCT|RIKACID TH|TETRAHYDROPHTHALIC ACID ANHYDRIDE|1,2,3,6-TETRAHYDROPHTHALIC ACID ANHYDRIDE|3,4,5,6-TETRAHYDROPHTHALIC ACID ANHYDRIDE|TETRAHYDROPHTHALIC	85-43-8	A white crystalline solid. Insoluble in water and denser than water. Hence sinks in waters. Very irritating to skin and eyes. Used to make plastics and adhesives. Mixed isomers.	1.0	2.5	5.0	4909.0	495.0	1682.0	865.0	530.0	1348.0	142.0	468.0	251.0	140.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of oxides of nitrogen, phosphorus and sulfur. Decomposition at 212-284F produces a mixture of organophosphorus polymers. Unstable in alkaline media. Stable for 2 years if stored at 68-77F. Do not store above 104F. (EPA, 1998)	(Non-Specific -- Organophosphate Pesticide n.o.s.) Move containers from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. This compound is an organophosphate insecticide. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog or foam. (EPA, 1998)
2978	TETRAMETHRIN	2,2-DIMETHYL-3-(2-METHYL-1-PROPENYL)CYCLOPROPANE CARBOXYLIC ACID (1,3,4,5,6,7-HEXAHYDRO-1,3-DIOXO-2H-ISOINDOL-2-YL)METHYL ESTER|TETRAMETHRIN	7696-12-0	Colorless crystals with slight odor. Non corrosive. Used as an insecticide.	1.0	2.5	5.0	4909.0	495.0	1682.0	865.0	530.0	1348.0	142.0	468.0	251.0	140.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2974	TETRAETHYLENE GLYCOL DIACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Aqueous solutions are subject to quick air oxidation at pH greater than 6.0.	A weak base. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																							(NTP, 1992)	(decomposes)	424	
2975	TETRAETHYLTIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Stable in dry air, but slowly decomposes in moist air. Moderately water soluble. Decomposes slowly in water (accelerated by agitation) (NTP, 1992).	SODIUM BICARBONATE reacts exothermically with acids to generate non-toxic carbon dioxide gas. Decomposes when heated. Incompatible with acids, acidic salts (dopamine hydrochloride, pentazocine lactate, many alkaloidal salts) aspirin and bismuth salicylate.						0																							(NTP, 1992)	Decomposes at 228Â° F		
2976	TETRAHYDRONAPHTHALENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dissolves in water to give strongly acidic solutions.	Acidic salts, such as various BISULFATES, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. The combination of calcium hypochlorite, sodium hydrogen sulfate, starch, and sodium carbonate, when compressed, caused the materials to incandescence, followed by explosion, [Ind. Eng. Chem., 1937, 15, 282].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2977	TETRAHYDROPHTHALIC ANHYDRIDE	(Non-Specific -- Organophosphate Pesticide n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as FENITROTHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2978	TETRAMETHRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and moisture. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Efflorescent in air. Water soluble.	CAFFEINE may be hygroscopic. Aqueous solutions (1.12 mg/mL) are stable for three weeks at 41Â° F if protected from light. In normal room lighting and at room temperature, solutions are stable for 3 days. Solutions of this chemical in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions. REACTIVITY: This compound may react with strong oxidizing agents. It is also incompatible with iodine, silver salts and tannins. This compound is a very weak base. It is decomposed by strong solutions of caustic alkalis. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		460	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2974	TETRAETHYLENE GLYCOL DIACRYLATE																										(NTP, 1992)		198.12						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL			C6H7O6Na	Cellulose-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2975	TETRAETHYLTIN														(NTP, 1992)		2.159										(NTP, 1992)		84.01						(NTP, 1992)	at 77Â° F		1 in 10				NaHCO3		4.0	0.0	7.0	2.0	2.0
2976	TETRAHYDRONAPHTHALENE																																									Corrosive	HNaSO4 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	9.0	0.0	10.0	2.0	2.0
2977	TETRAHYDROPHTHALIC ANHYDRIDE	(EPA, 1998)		6.00E-06		68		mm Hg							(EPA, 1998)		1.32		77		(EPA, 1998)		244		0.05		(EPA, 1998)		277.25												Poison|Flammable Liquid	C9H12NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	9.0	2.0	2.0
2978	TETRAMETHRIN														(NTP, 1992)		1.23		64		(NTP, 1992)	(sublimes)	352		760		(NTP, 1992)		194.19						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL		Poison	C8H10N4O2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2979	TETRAMETHYLMETHYLENEDIAMINE	N,N,N',N'-TETRAMETHYLMETHYLENEDIAMINE|TETRAMETHYLMETHYLENEDIAMINE	51-80-9	A solid or solution. Moderately toxic by ingestion and may irritate skin and eyes. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment.	1.0	2.5	5.0	4909.0	495.0	1682.0	865.0	530.0	1348.0	142.0	468.0	251.0	140.0	Flush with water (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2980	TETRA-N-PROPYL ZIRCONATE (FLAMMABLE LIQUIDS, N.O.S.)	TETRA-N-PROPYL ZIRCONATE (FLAMMABLE LIQUIDS, N.O.S.)	23519-77-9	A yellow-colored liquid with an alcohol-like odor. Has about the same density as water and is insoluble in water. Vapors are heavier than air. May be irritating to skin, eyes, and mucous membranes.	2.5	5.0	2.5	4911.0	495.0	1682.0	865.0	530.0	1349.0	142.0	468.0	251.0	140.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2981	TETRAPROPYL ORTHOTITANATE	PROPYL ALCOHOL, TITANIUM(4+) SALT|PROPYL TITANATE|PROPYL TITANATE(IV) (TI(OPR)4)|TETRA-N-PROPYL TITANATE|TETRAKIS(PROPOXY)TITANIUM|TETRAPROPOXYTITANIUM|TETRAPROPYL ORTHOTITANATE|TETRAPROPYL TITANATE|TETRAPROPYL-O-TITANATE|TITANIUM PROPOXIDE (TI(OPR)4)|TITANIUM PROPYLATE|TITANIUM TETRAPROPOXIDE|TITANIUM TETRAPROPOXIDE (TI(OPR)4)|TITANIUM TETRAPROPYLATE|TITANIUM(4+) PROPOXIDE|TITANIUM(IV) PROPOXIDE|TITANIUM, TETRAPROPOXY-	3087-37-4	A clear yellow liquid with a mild fruity odor. Slightly denser than water and dissolves in water. May irritate skin, eyes, and mucous membranes.	2.5	5.0	2.5	4913.0	495.0	1682.0	865.0	530.0	1350.0	142.0	468.0	251.0	140.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2982	TETRAZOL-1-ACETIC ACID	TETRAZOL-1-ACETIC ACID	21732-17-2	A solid or liquid. May be liable to extremely rapid burning or a minor blast effect. Explosive effects largely confined to the package. No projection of fragments of appreciable size or range expected.	1.0	2.5	5.0	4915.0	495.0	1682.0	865.0	530.0	1351.0	142.0	468.0	251.0	140.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2983	THALLIC OXIDE	THALLIC OXIDE|THALLIUM SESQUIOXIDE	1314-32-5	Brown powder. Insoluble in water.	1.0	2.5	5.0	4917.0	495.0	1682.0	865.0	530.0	1352.0	142.0	468.0	251.0	140.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2979	TETRAMETHYLMETHYLENEDIAMINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Goggles and rubber gloves. (USCG, 1999)	Pyrophoric ignites in air when finely divided, then burns with crimson flame [Merck 11th ed. 1989]. Calcium rapidly decomposes in water, the heat of reaction is sufficient that hydrolysis released hydrogen may ignite [Lab. Gov. Chemist 1966].	Boron trifluoride reacts with incandescence when heated with alkali metals or alkaline earth metals except magnesium [Merck 11th ed. 1989]. Calcium reacts violently with acids [Lab. Govt. Chemist 1965]. Finely divided calcium burns spontaneously in chlorine at elevated temperatures [Mellor 3:637, 638, 651 1946-47]. Finely divided or massive calcium burns spontaneously in fluorine at ordinary temperatures. It is incompatible with metal oxides, alkali metal hydroxides, chlorine fluorides, dinitrogen tetraoxide, and sulfur(with sulfur reacts explosively when ignited) [Bretherick, 5th Ed., 1995].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3	No Water																										
2980	TETRA-N-PROPYL ZIRCONATE (FLAMMABLE LIQUIDS, N.O.S.)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	SODIUM CHLORITE is self-reactive. The trihydrate crystals of sodium chlorite explode on percussion. Sodium chlorite reacts with acids to form spontaneously explosive chlorine dioxide gas (ClO2). If heated above 347Â°F, the reaction yields enough heat to become self-sustaining, [Mellor 2 Supp. 1:573 1956]. Ammonia with chlorites produces ammonium chlorite, which is a shock-sensitive compound. Finely divided metallic or organic substances, if mixed with chlorites, are highly flammable and may be ignited on friction [Lab. Gov. Chemist 1965]. A mixture of organic matter and sodium chlorite can be extremely sensitive to heat, impact, or friction (Diox Process 1949). Sodium chlorite reacts very violently with organic materials containing divalent sulfur or with free sulfur (may ignite).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	1	1	Oxidizer																										
2981	TETRAPROPYL ORTHOTITANATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	SODIUM CHLORITE SOLUTION is an oxidizing agent. Can react with acids to form spontaneously explosive chlorine dioxide gas (ClO2). Reacts with ammonia to produce ammonium chlorite, which is shock-sensitive. Finely divided metallic or organic substances in dry mixture with chlorites are highly flammable and may be ignited on friction (Lab. Gov. Chemist 1965). A mixture of organic matter and solid sodium chlorite can be extremely sensitive to heat, impact, or friction (Diox Process 1949). Sodium chlorite reacts very violently with organic materials containing divalent sulfur or with free sulfur (may ignite).	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	0	1	1	Oxidizer																										
2982	TETRAZOL-1-ACETIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Decomposes exothermically in water yielding fumes of toxic hydrogen chloride.	THIOPHENE-2-ACETYL CHLORIDE is incompatible with water, bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2983	THALLIC OXIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Has only weak oxidizing or reducing power but redox reactions can still occur. Soluble in dilute acids. [Hawley]. Produces toxic fumes of arsenic when heated to decomposition [NIOSH. 1997]. Reacts with acids to produce toxic arsine gas [International Chemical Safety Card 0765].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2979	TETRAMETHYLMETHYLENEDIAMINE														(USCG, 1999)		1.55		68		(USCG, 1999)		2714		760		(USCG, 1999)		40.1											CAM	Dangerous When Wet	Ca		5.0	0.0	6.0	2.0	2.0
2980	TETRA-N-PROPYL ZIRCONATE (FLAMMABLE LIQUIDS, N.O.S.)																																									Oxidizer	NaClO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	6.0	2.0	2.0
2981	TETRAPROPYL ORTHOTITANATE																																								Corrosive	NaClO2 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	10.0	2.0	2.0
2982	TETRAZOL-1-ACETIC ACID																																								Corrosive	C6H5ClO3S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	10.0	2.0	2.0
2983	THALLIC OXIDE																																(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3							Poison	Ca3(AsO4)2|CaAsO3H	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2984	THALLIUM ACETATE	ACETIC ACID, THALLIUM (I) SALT|ACETIC ACID, THALLOUS SALT|THALLIUM (1+) ACETATE|THALLIUM (I) ACETATE|THALLIUM ACETATE|THALLIUM ACETATE (TLOAC)|THALLIUM MONOACETATE|THALLIUM(1+) ACETATE|THALLIUM(I) ACETATE|THALLOUS ACETATE	563-68-8	White odorless crystalline solid. Density 3.68 g / cm3. A dangerous poison.	1.0	2.5	5.0	4919.0	495.0	1684.0	865.0	530.0	1353.0	142.0	469.0	251.0	140.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be cntrolled with a dry chemical. carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
2985	THALLIUM NITRATE	NITRIC ACID, THALLIUM (1+) SALT|NITRIC ACID, THALLIUM (I) SALT|NITRIC ACID, THALLOUS SALT|THALLIUM (I) NITRATE|THALLIUM MONONITRATE|THALLIUM NITRATE|THALLIUM NITRATE (TL(NO3))|THALLIUM(1+) NITRATE|THALLIUM(I) NITRATE|THALLOUS NITRATE	10102-45-1	A colorless crystalline solid melting at 206Â°C. Toxic by ingestion and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	4919.0	495.0	1684.0	865.0	530.0	1353.0	142.0	469.0	251.0	140.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2986	THALLIUM SULFATE	BONIDE ANTZIX ANT KILLER(TRADEMARK)|C.F.S.|CSF-GIFTWEIZEN|DITHALLIUM (1+) SULFATE|DITHALLIUM SULFATE|DITHALLIUM(1+) SULFATE|DITHALLIUM(I) SULFATE|GTA ANT BANE(TRADEMARK)|GTA BAIT(TRADEMARK)|LIQUID MISSION BRAND ANT-ROACH KILLER(TRADEMARK)|M 7-GIFTKOERNER|M7-GIFTKOERNER|MAGIKIL JELLY ANT BAIT(TRADEMARK)|MARTIN'S RAT-STOP(TRADEMARK)|RATOX|RATTENGIFTKONSERVE|REX ANT BAIT(TRADEMARK)|SULFURIC ACID THALLIUM(1+) SALT (1:2)|SULFURIC ACID, DITHALLIUM (1+) SALT|SULFURIC ACID, DITHALLIUM(1+) SALT|SULFURIC ACID, THALLIUM (1+)	7446-18-6	Odorless white rhomboid prisms or a dense white powder. Density 6.77 g / cm3. Melting point 1170Â°F (632Â°C). Extremely toxic by ingestion. Very toxic by skin absorption and ingestion. A slow acting cumulative poison. Used as a rat poison, and an ant bait. Also used for analysis (testing for iodine in the presence of chlorine) and ozonometry. Not registered as a pesticide in the U.S.	1.0	2.5	5.0	4921.0	495.0	1684.0	867.0	530.0	1354.0	142.0	469.0	252.0	140.0	Call a physician. INHALATION: Take victim to clean area. EYES: Flush with water. SKIN: Flush thoroughly with water. INGESTION: Induce vomiting, gastric lavage, catharsis. BAL given promptly. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2987	THALLOUS CARBONATE	CARBONIC ACID, DITHALLIUM (1+) SALT|CARBONIC ACID, DITHALLIUM(1+) SALT|CARBONIC ACID, THALLIUM (1+) SALT|DITHALLIUM CARBONATE|THALLIUM CARBONATE|THALLIUM CARBONATE (TL2CO3)|THALLIUM CARBONATE(TL2CO3)|THALLIUM(1+) CARBONATE|THALLIUM(I) CARBONATE|THALLIUM(I) CARBONATE(2:1)|THALLOUS CARBONATE	6533-73-9	Heavy, shiny, colorless or white crystals. Used in the manufacture of imitation diamonds. Also used in analysis to test for carbon disulfide and as a fungicide. (EPA, 1998)	1.0	2.5	5.0	4921.0	495.0	1684.0	867.0	530.0	1354.0	142.0	469.0	252.0	140.0	INHALATION OF DUST: remove from further exposure and call a doctor. SKIN: wash with plenty of water. EYES: flush with clean running water at an eye wash fountain for at least 15 min. and get medical attention. (USCG, 1999)	Behavior in Fire: If wet by water, highly flammable acetylene gas is formed. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2988	THALLOUS CHLORIDE	THALLIUM (1+) CHLORIDE|THALLIUM CHLORIDE|THALLIUM CHLORIDE TLCL|THALLIUM CHLORIDE(TLCL)|THALLIUM MONOCHLORIDE|THALLIUM(1+) CHLORIDE|THALLIUM(I) CHLORIDE|THALLOUS CHLORIDE	7791-12-0	White, crystalline powder, becomes violet on exposure to light. Used as a catalyst in chlorinations and in suntan lamps. (EPA, 1998)	1.0	2.5	5.0	4923.0	495.0	1684.0	867.0	530.0	1355.0	142.0	469.0	252.0	140.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2984	THALLIUM ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	FENTHION may react with strong reducing agents such as hydrides to generate highly toxic and flammable phosphine gas. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NIOSH, 2003)		43	
2985	THALLIUM NITRATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	FENYRAMIDOL is an amine and an alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																						(NTP, 1992)		180 to 185	
2986	THALLIUM SULFATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Hand and arm protection, protective clothing, waterproof boots, respiratory protective equipment, and eye protection. (USCG, 1999)	Insoluble in water.	Has only weak oxidizing or reducing power but redox reactions can still occur. Soluble in dilute acids. [Hawley]. Produces toxic fumes of arsenic when heated to decomposition (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(USCG, 1999)	Not flammable						
2987	THALLOUS CARBONATE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Chemical safety goggles and (for those exposed to unusually dusty operations) a respirator such as those approved by the U.S. Bureau of Mines for ''nuisance dusts." (USCG, 1999)	Reacts rapidly with water to generate the flammable gas acetylene and the base calcium hydroxide. Enough heat may be generated to ignite the gas [Jones, G.W. BM Report Invest. 3755 1944].	(BLOB)	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water																		(USCG, 1999)	Not flammable						
2988	THALLOUS CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	FERBAM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NIOSH, 2003)	(Decomposes)		greater than 356

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2984	THALLIUM ACETATE	(NTP, 1992)		3.00E-05		68		mm Hg							(NTP, 1992)		1.25		68		(NTP, 1992)		189		0.01		(NTP, 1992)		278.34						(NTP, 1992)	Insoluble (<1 mg/ml at 72.5Â°F)					Poison	C10H15O3PS2		3.0	0.0	6.0	2.0	2.0
2985	THALLIUM NITRATE																									(NTP, 1992)		214.29														C13H14N2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	7.0	2.0	2.0
2986	THALLIUM SULFATE																									(USCG, 1999)		164		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						CAS	Poison	CaAsO3H		4.0	0.0	8.0	2.0	2.0
2987	THALLOUS CARBONATE														(USCG, 1999)		2.22		64.4								(USCG, 1999)		64.1												CCB	Dangerous When Wet	C2Ca		4.0	0.0	6.0	2.0	2.0
2988	THALLOUS CHLORIDE	(NIOSH, 2003)	(approx)	0				mm Hg													(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		416.5		(NIOSH, 2003)		800	mg/m3	(NIOSH, 2003)		0.01		%		Class 9	C9H18FeN3S6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2989	THIOBENCARB	CARBAMIC ACID, DIETHYLTHIO-, S-(P-CHLOROBENZYL)/THIOBENCARB	28249-77-6	Pale yellow to brownish yellow liquid. Non corrosive. Used as an herbicide.	2.5	5.0	2.5	4925.0	495.0	1684.0	867.0	530.0	1356.0	142.0	469.0	252.0	140.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
2990	THIODICARB	THIODICARB	59669-26-0	Colorless to pale tan crystals. Non corrosive. Used as an insecticide.	1.0	2.5	5.0	4927.0	495.0	1684.0	867.0	530.0	1357.0	142.0	469.0	252.0	140.0	(BLOB)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
2991	THIOUREA, (2-CHLOROPHENYL)-	1-(2 CHLOROPHENYL)-2-THIOUREA|1-(2-CHLOROPHENYL)-2-THIOUREA|1-(2-CHLOROPHENYL)THIOUREA|2-CHLOROPHENYLTHIOUREA|N-(2-CHLOROPHENYL)THIOUREA|1-(O-CHLOROPHENYL)-THIOUREA|O-CHLOROPHENYL)THIOUREA|1-(O-CHLOROPHENYL)THIOUREA|THIOUREA, (2-CHLOROPHENYL)-|THIOUREA,(2-CHLOROPHENYL)-|UREA, 1-(O-CHLOROPHENYL)-2-THIO-	5344-82-1	Needles or plates. Used as an herbicide. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	4929.0	495.0	1684.0	867.0	530.0	1358.0	142.0	469.0	252.0	140.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2992	THORIUM NITRATE, SOLID	PROLABO|THORIUM NITRATE|THORIUM NITRATE ((TH(NO3)4))|THORIUM NITRATE TETRAHYDRATE|THORIUM NITRATE, SOLID|THORIUM TETRANITRATE|THORIUM(4+) NITRATE|THORIUM(IV) NITRATE	13823-29-5	A white crystalline mass. Mildly toxic. Not combustible but accelerates burning of combustible materials. May explode in a fire if in large quantities or if the combustible material is finely divided. Toxic oxides of nitrogen are produced in fires. Mildly radioactive. Radioactive materials emit certain rays detectable only by instruments. Minimal radiation hazard in transport. No protective shielding for packages is required.	1.0	2.5	5.0	4929.0	495.0	1684.0	867.0	530.0	1358.0	142.0	469.0	252.0	140.0	Usually no treatment needed (USCG, 1999)		
2993	TITANIUM HYDRIDE	TITANIUM DIHYDRIDE|TITANIUM DIHYDRIDE (TIH2)|TITANIUM HYDRIDE|TITANIUM HYDRIDE (TIH2.0)|VENTRON 89183	7704-98-5	A white to light colored solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May ignite and burn with an intense flame if exposed to high temperatures or flame.	1.0	2.5	5.0	4931.0	495.0	1684.0	867.0	530.0	1359.0	142.0	469.0	252.0	140.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
2994	TITANIUM TRICHLORIDE MIXTURE	LYNX 900|TAC 121|TAC 132|TAC 140|TAC 144|TAS 101|TEN 12|TGY 24|TITANIUM CHLORIDE|TITANIUM TRICHLORIDE|TITANIUM TRICHLORIDE MIXTURE|TITANIUM(III) CHLORIDE|TITANOUS CHLORIDE|TOS 17|TRICHLOROTITANIUM	7705-07-9	Dark red-violet crystals. Causes burns on skin or mucous membranes. Corrodes many metals if moisture is present. The crystals decompose in air and water with the release of heat and hydrogen chloride, an irritating and corrosive gas apparent as white fumes. Soluble in ethanol. If in solution or suspension, the carrier may be flammable. Used as a laundry stripping agent and in organic synthesis.	1.0	2.5	5.0	4931.0	495.0	1684.0	867.0	530.0	1359.0	142.0	469.0	252.0	140.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2989	THIOBENCARB	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	SODIUM CHROMATE is a strong oxidizer. This chemical absorbs moisture from the atmosphere. Incompatible with strong acids (NTP, 1992). In contact with combustible materials may cause fire. Toxic chromium oxide fumes may form in fire (USCG, 1999).	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3287 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2990	THIODICARB	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Depending on the calcium carbide content, the cyanamide reacts with water (moisture from air or soil) to produce acetylene and hydrated calcium oxide or calcium hydroxide. Absorption of water during handling or storage of technical calcium cyanamide may cause explosion [Pieri, M. Chem. Abs. 46, 8335 1952].	When hydrated CALCIUM CARBIDE generates salts of calcium that are basic and are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			3	1	4	No Water																					(NTP, 1992)		2372	
2991	THIOUREA, (2-CHLOROPHENYL)-	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	(BLOB)	Water soluble. Hydrolyzes slowly in water.	1-VINYL-3-CYCLOHEXENE DIOXIDE reacts with active hydrogen compounds (such as alcohols and amines). (NTP, 1992). Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		230																	(NTP, 1992)		less than -67	
2992	THORIUM NITRATE, SOLID		For dust only (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	CALCIUM FLUORIDE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.						0																			(USCG, 1999)	Not flammable					
2993	TITANIUM HYDRIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CALCIUM HYDROGEN SULFITE SOLUTION is a reducing agent. Reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. These reactions may be violent. The reactivity of the salt is moderated by dissolution in water. Generates gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids. Noncombustible but may decompose upon heating to produce corrosive and/or toxic fumes.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
2994	TITANIUM TRICHLORIDE MIXTURE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIS(2-ETHYLHEXYL) PHOSPHITE is a reducing agent. They slowly generate flammable or noxious gases in contact with water. Phosphides react quickly upon contact with moisture or acids to give the very toxic gas phosphine; phosphides also can react vigorously with oxidizing materials. In general, materials in this group are incompatible with oxidizers such as atmospheric oxygen. They are violently incompatible with acids, particularly oxidizing acids.	Strong Reducing Agent					0		(NTP, 1992)		340																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2989	THIOBENCARB																													(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3							Poison	Na2CrO4 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0
2990	THIODICARB	(NIOSH, 2003)	(approx)	0				mm Hg							(NTP, 1992)		2.29		68		(NTP, 1992)	Sublimes >210ÂºF					(NTP, 1992)		80.1						(NTP, 1992)	Decomposes					Dangerous When Wet	CaCN2		7.0	0.0	10.0	2.0	2.0
2991	THIOUREA, (2-CHLOROPHENYL)-	(NTP, 1992)		0.1		68		mm Hg	(NTP, 1992)		4.07				(NTP, 1992)		1.0986		68		(NTP, 1992)		441		760		(NTP, 1992)		140.2		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 72Â° F		50 to 100	mg/mL		Poison	C8H12O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	6.0	2.0	2.0
2992	THORIUM NITRATE, SOLID														(USCG, 1999)		3.18		68								(USCG, 1999)		78.08											CAF		CaF2		4.0	0.0	6.0	2.0	2.0
2993	TITANIUM HYDRIDE																																								Corrosive	Ca(HSO3)2 (aqueous)		4.0	0.0	10.0	2.0	2.0
2994	TITANIUM TRICHLORIDE MIXTURE	(NTP, 1992)	; 9.0 mm Hg at 108Â° F; 11.2 mm Hg at 149Â° F	8.3		77		mm Hg							(NTP, 1992)		0.902				(NTP, 1992)		325 to 327	0.3			(NTP, 1992)		418						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C24H51O3P		3.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
2995	TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC	LYNX 900|TAC 121|TAC 132|TAC 140|TAC 144|TAS 101|TEN 12|TGY 24|TITANIUM CHLORIDE|TITANIUM TRICHLORIDE|TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC|TITANIUM TRICHLORIDE, PYROPHORIC|TITANIUM TRICHLORIDE, [PYROPHORIC]|TITANIUM(III) CHLORIDE|TITANOUS CHLORIDE|TOS 17|TRICHLOROTITANIUM	7705-07-9	A dark violet crystalline solid. Denser than water. Contact may burn skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	4933.0	495.0	1684.0	867.0	530.0	1360.0	142.0	469.0	252.0	140.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting if large amounts have been swallowed. EYES: flush with water; get medical attention if irritation persists. SKIN: flush with water. (USCG, 1999)		
2996	TNT, WETTED WITH NOT LESS THAN 30% WATER	TNT, WETTED WITH NOT LESS THAN 30% WATER|TRINITROTOLUENE, WETTED WITH NOT LESS THAN 30% WATER|TRINITROTOLUENE, [WET, WITH >= 10% WATER]	118-96-7	A slurry of a yellow water-insoluble crystalline solid. Can burn, although difficult to ignite. When water has been driven off or evaporated the residue is easily ignited, burns vigorously, and is highly explosive . Produces toxic oxides of nitrogen during combustion. May explode under exposure to intense heat. Primary hazard is blast of an explosion, not flying projectiles or fragments.	1.0	2.5	5.0	4935.0	495.0	1684.0	867.0	532.0	1361.0	142.0	469.0	252.0	141.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2997	TOLUENE	ANTISAL 1A|BENZENE, METHYL-|CP 25|CP 25 (SOLVENT)|METHACIDE|METHANE, PHENYL-|METHYL BENZENE|METHYL BENZOL|METHYLBENZENE|1-METHYLBENZENE|METHYL BENZOL|NCI-C07272|PHENYL METHANE|PHENYLMETHANE|TOLU-SOL|TOLUENE|TOLUOL	108-88-3	A clear colorless liquid with a characteristic aromatic odor. Flash point 40Â°F. Less dense than water (7.2 lb / gal) and insoluble in water. Hence floats on water. Vapors heavier than air. May be toxic by inhalation, ingestion or skin contact. Used in aviation and automotive fuels, as a solvent, and to make other chemicals.	2.5	5.0	2.5	4935.0	495.0	1684.0	867.0	532.0	1361.0	142.0	469.0	252.0	141.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
2998	TOLUENE DIISOCYANATE	BENZENE, 1,3-DIISOCYANATOMETHYL-|DESMODUR T100|DIISOCYANATOMETHYLBENZENE|1,3-DIISOCYANATOMETHYLBENZENE|DIISOCYANATOTOLUENE|HYLENE-T|ISOCYANIC ACID, METHYL PHENYLENE ESTER|ISOCYANIC ACID, METHYL-M-PHENYLENE ESTER|METHYL-M-PHENYLENE ISOCYANATE|METHYL-META-PHENYLENE DIISOCYANATE|METHYLPHENYLENE ISOCYANATE|MONDUR-TD|MONDUR-TD-80|NACCONATE-100|NIAX ISOCYANATE TDI|RUBINATE TDI|RUBINATE TDI 80/20|T 100|TDI|TDI 80/20|TDI-80|TDI-80-20|TOLUENE DIISOCYANATE|TOLUENE DIISOCYANATE (UNSPECIFIED ISOMER)|TOLUENEDIISOCY	26471-62-5	A clear colorless to pale yellow liquid with a pungent odor. Denser than water. Burns, but may be difficult to ignite. Vapors are heavier than air. Vapors irritate the respiratory system. Toxic under prolonged exposure to vapor in low concentrations or short exposure to high concentrations of vapor. Carcinogenic. Produces toxic oxides of nitrogen during combustion. Used to make polyurethane foams and paints.	2.5	5.0	2.5	4935.0	495.0	1684.0	867.0	532.0	1361.0	142.0	469.0	252.0	141.0	(BLOB)	Flash point data for this compound are not available. It is probably not flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
2999	TRANS-1,4-DICHLOROBUTENE	2-BUTENE, 1,4-DICHLORO-,(E)-|2-BUTENE, 1,4-DICHLORO-, TRANS-|2-BUTENE, 1,4-DICHLORO-,(E)-|2-BUTYLENE DICHLORIDE|1,4-DICHLORO-2-BUTENE|1,4-DICHLORO-TRANS-2-BUTENE|1,4-DICHLOROBUTENE-2(TRANS)|1,4-DICHLOROBUTENE(E)-1,4-DICHLORO-2-BUTENE|TRANS-1,4-DICHLORO-2-BUTENE|TRANS-1,4-DICHLOROBUTEN-2-ENE|TRANS-1,4-DICHLOROBUTENE	110-57-6	Colorless liquid with a distinct odor. An intermediate for hexamethylenediamine and chloroprene. (EPA, 1998)	2.5	5.0	2.5	4935.0	495.0	1684.0	867.0	532.0	1361.0	142.0	469.0	252.0	141.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3000	TRANS-2,3-DIBROMO-2-BUTENE-1,4-DIOL	2,3-DIBROMO-2-BUTENE-1,4-DIOL|2,3-DIBROMOBUTENE-1,4-DIOL|TRANS-2,3-DIBROMO-1,4-DIHYDROXY-2-BUTENE|TRANS-2,3-DIBROMO-2-BUTENE-1,4-DIOL	3234-02-4	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4935.0	495.0	1684.0	867.0	532.0	1361.0	142.0	469.0	252.0	141.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Do not use water. Dangerous when wet. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
2995	TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water. Hygroscopic in air. Forms acidic aqueous solutions.	FERRIC SULFATE is acidic. Corrosive to copper, copper alloys, mild steel, and galvanized steel (USCG, 1999).								0																						
		SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Sensitive to prolonged exposure to air and may be sensitive to light. Insoluble in water.			Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																												
2996	TNT, WETTED WITH NOT LESS THAN 30% WATER				FERROCENE reacts violently with tetranitromethane. (NTP, 1992). Contact of tetranitromethane with ferrocene under various conditions leads to violent explosion, [Trans. Met. Chem., 1979, 4, 207-208].								0																					(NTP, 1992)	(sublimes)		343 to 345
2997	TOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	SODIUM DIETHYLDITHIOCARBAMATE is not compatible with strong oxidizing agents. Aqueous solutions slowly decompose to form carbon disulfide and an amine. Such decompositions are accelerated by acids. Addition of acid to the aqueous solution produces a white turbidity (NTP, 1992).								0																					(NTP, 1992)		203	
2998	TOLUENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly decomposes in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	Flammable gases are generated by the combination with aldehydes, nitrides, and hydrides. Incompatible with acids, peroxides, and acid halides.								0																								
2999	TRANS-1,4-DICHLOROBUTENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	It is soluble in water.	SODIUM FLUORIDE reacts with acids to form corrosive and toxic HF [Handling Chemicals Safely 1980 p. 842].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																			(USCG, 1999)	Not flammable			(NTP, 1992)		1819	
3000	TRANS-2,3-DIBROMO-2-BUTENE-1,4-DIOL	(BLOB)	Wear protective clothing to prevent contact with dust. Use approved respirator to protect against dust. (USCG, 1999)	Flammable. Reacts with water or moisture in the air to form flammable hydrogen gas. The heat created by the reaction may be sufficient to ignite the hydrogen generated.	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
2995	TITANIUM TRICHLORIDE MIXTURE, PYROPHORIC														(USCG, 1999)		3.1		68								(USCG, 1999)		399.88											FSF		Fe2(SO4)3		3.0	0.0	9.0	2.0	2.0
2996	TNT, WETTED WITH NOT LESS THAN 30% WATER																				(NTP, 1992)		480		760		(NTP, 1992)		186.04						(NTP, 1992)		less than 0.1	mg/mL		Flammable Solid	C10H10Fe			9.0	0.0	10.0	2.0	2.0
2997	TOLUENE								(NTP, 1992)		5.9				(NTP, 1992)		1.1		68								(NTP, 1992)		171.27						(NTP, 1992)		greater than or equal to 100	mg/mL			C5H11NS2.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	6.0	2.0	2.0
2998	TOLUENE DIISOCYANATE																										(NTP, 1992)		143.21												C3H7NS2.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
2999	TRANS-1,4-DICHLOROBUTENE	(NTP, 1992)	; 5 mm Hg at 216.7Â° F	1		1971		mm Hg							(USCG, 1999)		2.79		68		(NTP, 1992)		3083		760		(NTP, 1992)		41.99		(NIOSH, 2003)	(as F)	250	mg/m3	(NTP, 1992)	at 73Â° F		10 to 50	mg/mL	SDF	Poison	NaF	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	8.0	0.0	10.0	2.0	2.0
3000	TRANS-2,3-DIBROMO-2-BUTENE-1,4-DIOL														(USCG, 1999)		5.4																						FSN	Dangerous When Wet|Poison	Fe, Si, alloy		4.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3001	TRANS-CINNAMALDEHYDE	CINNAMALDEHYDE, (E)-|(E)-3-PHENYLPROP-2-ENAL|(E)-3-PHENYLPROPENAL|(E)-CINNAMALDEHYDE|E-CINNAMYL ALDEHYDE|3-PHENYL-2-PROPENAL|2-PROPENAL, 3-PHENYL-, (E)-|2-PROPENAL,3-PHENYL-,-(E)-|TRANS-3-PHENYL-2-PROPENAL|TRANS-CINNAMALDEHYDE|TRANS-CINNAMIC ALDEHYDE|TRANS-CINNAMYLALDEHYDE	14371-10-9	PHYSICAL DESCRIPTION: Clear yellow liquid with an odor of cinnamon and a sweet taste. (NTP, 1992)	2.5	5.0	2.5	4937.0	495.0	1684.0	867.0	532.0	1362.0	142.0	469.0	252.0	141.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3002	TRIALLYLAMINE	TRI-2-PROPENYLAMINE|TRIALLYLAMINE|TRIS(2-PROPENYL)AMINE	102-70-5	A colorless liquid with a fishlike odor. Density 0.800 g / cm3 and insoluble in water. Hence floats on water. Flash point 103Â°F. Vapors heavier than air. May irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	4937.0	495.0	1684.0	867.0	532.0	1362.0	142.0	469.0	252.0	141.0	INGESTION: do NOT induce vomiting; neutralize alkali in stomach by drinking dilute vinegar, lemon juice, or orange juice; call a physician. SKIN CONTACT: brush off all particles at once and flood the affected area with water. (USCG, 1999)	FLAMMABLE. MAY EXPLODE ON CONTACT WITH WATER. Accidental contact with water used to extinguish surrounding fire will result in the release of hydrogen gas and possible explosion. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
3003	TRICHLORO(CHLOROMETHYL)SILANE	(CHLOROMETHYL)TRICHLOROSILANE|SILANE, TRICHLORO(CHLOROMETHYL)-|TRICHLORO(CHLOROMETHYL)SILANE|TRICHLORO(CHLOROMETHYL)SILANE	1558-25-4	Liquid. (EPA, 1998)	2.5	5.0	2.5	4939.0	495.0	1684.0	871.0	532.0	1363.0	142.0	469.0	254.0	141.0	INHALATION: Sips of milk or other demulcent. EYES: Flush with plenty of water for 15 minutes. SKIN: Wash contaminated area with soap and water. INGESTION: Induce vomiting, give water. (USCG, 1999)	Special Hazards of Combustion Products: Store in a cool, dark place, away from combustible materials. Emits chlorine gas when burned. Behavior in Fire: May decompose, generating irritating chlorine gas. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Amines and oxidizable material such as oxalic acid. May produce explosive chloroamines with amines. Fire Extinguishing Agents: Chemical, CO 2 , foam, or water in flooding quantities. (USCG, 1999)
3004	TRICHLOROFLUOROMETHANE	AIGOFRENE TYPE 1|ALGOFRENE TYPE 1|ARCTON 11|ARCTON 9|ASAHIFRON 11|CFC 11|CFC-11|CHLADONE 11|DAIFLON 11|DAIFLON S 1|DYMEL 11|ELECTRO CF 11|ELECTRO-CF 11|ESKIMON 11|F 11|F 11 (HALOCARBON)|F-11|FC 11|FC 11 (HALOCARBON)|FKW 11|FLUON 11|FLUOROCARBON 11|FLUOROCARBON NO.11|FLUOROCHLOROFORM|FLUOROTRICHLOROMETHANE|FREON 11|FREON 11A|FREON MF|FREONÂ® 11|FRIGEN 11|FRIGEN 11A|FRIGEN S 11|FRON 11|GENETRON 11|GENETRON 11SBA|HALON 11|SCEON 11|SCEON 131|ISOTRON 11|KALTRON 11|KHLADON 11|LEDON 11|MONOFLUOROTRICHLOROMETHANE|NCI-C04637|PROPELLANT 11|R 11|R 11 (REFRIGERANT)|R	75-69-4	A clear light colored liquid. Nearly odorless. Denser than water. Poses low acute health hazard to humans. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates the soil to contaminate groundwater and nearby waterways.	2.5	5.0	2.5	4939.0	495.0	1686.0	871.0	532.0	1363.0	142.0	470.0	254.0	141.0	See a physician. EYES: Rinse with water. SKIN: Wash with water for 15 minutes. INGESTION: Drink water, milk, or activated charcoal; then induce vomiting or gastric lavage followed by catharsis. (USCG, 1999)	Special Hazards of Combustion Products: Yields toxic gaseous oxides of nitrogen when involved in fire. Behavior in Fire: Explodes when heated to over 1000Â°C. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3005	TRIDECANE	N-TRIDECANE|TRIDECANE	629-50-5	An oily straw yellow clear liquid with a hydrocarbon odor. Flash point 190-196Â°F. Specific gravity 0.76. Boiling point 456Â°F. Repeated or prolonged skin contact may irritate or redden skin, progressing to dermatitis. Exposure to high concentrations of vapor may result in headache and stupor.	2.5	5.0	2.5	4941.0	497.0	1686.0	871.0	532.0	1364.0	143.0	470.0	254.0	141.0	Act promptly] INHALATION: move to fresh air; if exposure to dust is severe, get medical attention. INGESTION: give dilute calcium lactate, lime water, or milk; administer gastric lavage; consult physician; watch for edema of the glottis and delayed constriction of esophagus. EYES or SKIN: flush with water. (USCG, 1999)		
3006	TRIETHOXYSILANE	SILANE, TRIETHOXY-|TRIES|TRIETHOXYSILANE	998-30-1	Liquid. Used as a reducing agent.	2.5	5.0	2.5	4943.0	497.0	1686.0	871.0	532.0	1365.0	143.0	470.0	254.0	141.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3001	TRANS-CINNAMALDEHYDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Reactivity substantially that of water. Mixing with a concentrated nonvolatile acid (sulfuric acid) can produce toxic gaseous hydrogen fluoride.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																								
3002	TRIALLYLAMINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Wear rubber overclothing (including gloves). (USCG, 1999)	Highly flammable. Ignites or explodes in contact with air of high humidity [Bretherick 1979 p. 107]. Reacts violently with water producing a caustic solution (NaOH) and hydrogen (H2). Heat of reaction may ignite the hydrogen.	SODIUM HYDRIDE is a powerful reducing agent. Attacks SiO2 in glass. Ignites on contact with gaseous F2, Cl2, Br2, and I2 (the last at temperatures exceeding 100Â°C), especially in the presence of moisture, to form HF, HCl, HBr, and HI [Mellor 2:483 1946-47]. Reacts with sulfur to give Na2S and H2S [Bretherick 1979 p, 107]. Can react explosively with dimethyl sulfoxide [Chem. Eng. News 44(24):7 1966]. Reacts vigorously with acetylene, even at -60Â°C [Mellor 2:483 1946-47]. Spontaneously flammable in fluorine. Reaction with dimethylformamide, when heated, runs away [Chem. Eng. News, 1982, 60(28), 5]. Initiates a polymerization reaction in ethyl-2,2,3-trifluoropropionate such that the ester decomposed violently [Bretherick 5th ed. 1995]. Presence in the reaction of diethyl succinate and ethyl trifluoroacetate, has twice caused explosions [Chem. Brit., 1983, 19, 645].	Highly Flammable; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(USCG, 1999)	Not Applicable. Oil is flammable.																				
3003	TRICHLORO(CHLOROMETHYL)SILANE	Neutralizing Agents for Acids and Caustics: Sodium disulfite; hypo isulfite. (USCG, 1999)	Rubber gloves, goggles, self-contained breathing apparatus, plastic coveralls and boots. (USCG, 1999)	Water soluble. Decomposes into chlorine and oxygen gases in hot water.	Salts of hypochlorous acid, HClO. Generally toxic, irritants and powerful oxidizers, particularly in the presence of water or at higher temperature as they decompose to release oxygen and chlorine gases. On contact with urea they form the highly explosive NCl3 . When heated or on contact with acids, they produce highly toxic fumes of chlorine gas [Sax, 9th ed., 1996, p. 1905]. Can react with sulfuric acid to produce heat and chlorine gas.	Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3004	TRICHLOROFLUOROMETHANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Rubber gloves, goggles, laboratory coat. (USCG, 1999)	Soluble in water.	A mixture of SODIUM NITRATE and sodium hypophosphite constitute a powerful explosive [Mellor 8, Supp. 1:154 1964]. Sodium nitrate and aluminum powder mixtures have been reported to be explosive,[Fire, 1935, 28, 30]. The nitrate appears to be incompatible with barium thiocyanate, antimony, arsenic trioxide/iron(II) sulfate, boron phosphide, calcium-sodium alloy, magnesium, metal amidosulfates, metal cyanides, powdered charcoal, peroxyformic acid, phenol/trifluoroacetic acid, sodium, sodium nitrite/sodium sulfide, sodium phosphinate, sodium thiosulfate, tris(cyclopentadienyl)cerium, and even wood [Bretherick 5th ed., 1995].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		584.2	
3005	TRIDECANE		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	SODIUM OXALATE gives basic aqueous solutions. Neutralizes acids in exothermic reactions. Can serve as a reducing agent in reactions that generate carbon dioxide.	Explosive						0																						
3006	TRIETHOXYSILANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Acetic acid or acetic anhydride can explode with permanganates if not kept cold [Von Schwartz 1918 p. 34]. Explosions can occur when permanganates that have been treated with sulfuric acid come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3001	TRANS-CINNAMALDEHYDE																													(NIOSH, 2003)	(as F)	250	mg/m3							Poison	NaF (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	7.0	2.0	2.0
3002	TRIALLYLAMINE																				(USCG, 1999)	Very high.																	SDH	Dangerous When Wet	HNa		5.0	0.0	10.0	2.0	2.0
3003	TRICHLORO(CHLOROMETHYL)SILANE														(USCG, 1999)	for 5% solution	1.093										(USCG, 1999)		74.44											SHP|SHC	Corrosive	NaClO (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	9.0	2.0	2.0
3004	TRICHLOROFLUOROMETHANE														(USCG, 1999)		2.26		68		(USCG, 1999)	Decomposes 716Â°F					(USCG, 1999)		84.99									SDN	Oxidizer	HNO3.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	7.0	0.0	9.0	2.0	2.0
3005	TRIDECANE														(USCG, 1999)		2.27		68								(USCG, 1999)		134									SOX		Na2C2O4		7.0	0.0	9.0	2.0	2.0
3006	TRIETHOXYSILANE																																						Oxidizer	NaMnO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3007	TRIFLUOROCHLOROETHYLENE	2-CHLORO-1,1,2-TRIFLUOROETHENE|2-CHLORO-1,1,2-TRIFLUOROETHYLENE|1-CHLORO-1,2,2-TRIFLUOROETHENE|1-CHLORO-1,2,2-TRIFLUOROETHYLENE|CHLOROTRIFLUOROETHENE|CHLOROTRIFLUOROETHYLENE|CTFE|ETHENE, CHLOROTRIFLUORO-|ETHYLENE, CHLOROTRIFLUORO-|FLUOROMONOMER|MONOCHLOROTRIFLUOROETHYLENE|R 1113|TRIFLUOROCHLOROETHENE|TRIFLUOROCHLOROETHYLENE|TRIFLUOROCHLOROETHYLENE, INHIBITED|TRIFLUOROMONOCHLOROETHYLENE|TRIFLUOROVINYL CHLORIDE|TRITHENE	79-38-9	Trifluorochloroethylene is a colorless gas with a faint ethereal odor. It is shipped as a liquefied gas under its vapor pressure. It is very toxic by inhalation and is easily ignited. The vapors are heavier than air and a flame can flash back to the source of leak very easily. This leak can either be a liquid or vapor leak. The vapors can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Under prolonged exposure to intense heat or fire the containers may violently rupture and rocket, or the material may polymerize with possible container rupture.	5.0	1.0	1.0	4943.0	499.0	1686.0	873.0	534.0	1365.0	144.0	470.0	255.0	142.0	(BLOB)	This chemical is combustible. This compound may form explosive dust-air mixtures. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3008	TRIMETHYLTIN CHLORIDE	CHLOROTRIMETHYLSTANNANE|CHLOROTRIMETHYLTIN|M&T CHEMICALS 1222-45|STANNANE, CHLOROTRIMETHYL-|TRIMETHYLCHLOROSTANNANE|TRIMETHYLCHLOROTIN|TRIMETHYLSTANNYL CHLORIDE|TRIMETHYLTIN CHLORIDE|TRIMETHYLTIN MONOCHLORIDE	1066-45-1	Solid. (EPA, 1998)	1.0	2.5	5.0	4945.0	499.0	1686.0	877.0	534.0	1366.0	144.0	470.0	257.0	142.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3009	TRI-N-AMYLAMINE	N,N-DIPENTYL-1-PENTANAMINE|TRI-N-AMYLAMINE|TRI-N-PENTYLAMINE|TRIAMYLAMINE|TRIPENTYLAMINE	621-77-2	PHYSICAL DESCRIPTION: Clear colorless to yellow liquid with an amine odor. Flash point 215Â°F. Density 0.80 g / cm3.	2.5	5.0	2.5	4947.0	499.0	1688.0	877.0	534.0	1367.0	144.0	471.0	257.0	142.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3010	TRIPHENYLTIN CHLORIDE	AQUATIN|BRESTANOL|CHLOROTRIPHENYLSTANNANE|CHLOROTRIPHENYLTIN|FENTIN CHLORIDE|GC 8993|GENERAL CHEMICALS 8993|HOE 2872|LS 4442|STANNANE, CHLOROTRIPHENYL-|TINMATE|TPTC|TRIPHENYLCHLOROSTANNANE|TRIPHENYLCHLOROTIN|TRIPHENYLSTANNYL CHLORIDE|TRIPHENYLTIN CHLORIDE|TRIPHENYLTIN MONOCHLORIDE	639-58-7	White crystalline solid. Used as a rodent repellent, molluscicide, fungicide and insecticide. (EPA, 1998)	1.0	2.5	5.0	4947.0	499.0	1688.0	877.0	534.0	1367.0	144.0	471.0	257.0	142.0	(BLOB)	Emits very toxic fumes of fluorine containing compounds and nitrogen oxides when heated to decomposition. Avoid decomposing heat. (EPA, 1998)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3011	TRIPHENYLTIN HYDROXIDE	BRESTANID|DOWCO 186|DU-TER|DU-TER W-50|DUTER|ENT 28009|ERITHANE|FENOLOVO|FENTIN HYDROXIDE|HAITIN|HYDROXYTRIPHENYLSTANNANE|HYDROXYTRIPHENYLTIN|K 19|NCI-C00260|OMS 1017|SUNITRON H|SUZU H|TENHIDE|TPTH|TPTOH|TRIPHENYL(HYDROXO)STANNANE|TRIPHENYLHYDROXYTIN|TRIPHENYLSTANNANOL| TRIPHENYLSTANNIUM HYDROXIDE|TRIPHENYLSTANNYL HYDROXIDE|TRIPHENYLTIN HYDROXIDE|TRIPHENYLTIN OXIDE|TUBOTIN|VANCIDE KS	76-87-9	PHYSICAL DESCRIPTION: Odorless white powder. Stable at room temperature. Melting point 121-123Â°C. Moderately soluble in most organic solvents (Farm Chemical Handbook). Insoluble in water. Non corrosive. Used as a fungicide.	1.0	2.5	5.0	4949.0	499.0	1688.0	877.0	534.0	1368.0	144.0	471.0	257.0	142.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3007	TRIFLUOROCHLOROETHYLENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient conditions, and keep it away from all oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids. Insoluble in water.	ZIRAM is a dithiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides. ZIRAM is corrosive to iron and copper. It is incompatible with strong oxidizing agents and acids. It is also incompatible with mercury. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		200															(NTP, 1992)		482	
3008	TRIMETHYLTIN CHLORIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Reacts vigorously with water to form HCl and caprylic acid. Insoluble in water.	CAPRYLYL CHLORIDE is incompatible with bases (including amines), water, alcohols, and with oxidizing agents (NTP, 1992). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NTP, 1992)		177													(NTP, 1992)		-30.1	
3009	TRI-N-AMYLAMINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Ethanol is soluble in water.	Nitroalkanes, such as NITROGLYCERIN, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames. This compound is incompatible with the following: Heat, ozone, shock, acids. Note: An OSHA Class A Explosive (1910.109). (NIOSH, 1997).	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroglycerin, CAS number 55 63-0.	2	3	4	7																						
3010	TRIPHENYLTIN CHLORIDE	Caution : Fluoroacetamide is extremely toxic. There is no known antidote. Immediately transport victims to a health care facility. Highly toxic fumes of fluorine-containing compounds and nitrogen oxides will be emitted when fluoroacetamide is heated to decomposition. Avoid sources of extreme heat including fire. (Non-Specific -- Sodium Fluoroacetate) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Very soluble in water [Farm Chemicals]	FLUOROACETAMIDE is a fluorinated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(EPA, 1998)		225 to 228	
3011	TRIPHENYLTIN HYDROXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CARBAZOLE is an extremely weak base. It is incompatible with strong oxidizing agents. It reacts with nitrogen oxides. Potassium hydroxide fusion yields a salt. (NTP, 1992)					0																			(NTP, 1992)		473 to 475	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3007	TRIFLUOROCHLOROETHYLENE	(NTP, 1992)	Negligible			68									(NTP, 1992)		1.66		77								(NTP, 1992)		305.81						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C6H12N2S4Zn	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	9.0	2.0	2.0
3008	TRIMETHYLTIN CHLORIDE	(NTP, 1992)	; 22.5 mm Hg at 108Â° F	12.7		77		mm Hg	(NTP, 1992)		5.6				(NTP, 1992)		0.973		46		(NTP, 1992)		385		760		(NTP, 1992)		162.66						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Corrosive	C8H15ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	9.0	2.0	2.0
3009	TRI-N-AMYLAMINE																														(NIOSH, 2003)	(as nitroglycerine)	75	mg/m3							Flammable Liquid	C3H5N3O9	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	7.0	2.0	2.0
3010	TRIPHENYLTIN CHLORIDE																				(EPA, 1998)	Sublimes on heating					(EPA, 1998)		77.06												Poison	C2H4FNO		5.0	0.0	7.0	2.0	2.0
3011	TRIPHENYLTIN HYDROXIDE	(NTP, 1992)		400		613		mm Hg							(NTP, 1992)		1.1		64		(NTP, 1992)		671		760		(NTP, 1992)		167.21						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C12H9N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	10.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3012	TRIS(4-ISOPROPYLPHENYL)PHOSPHATE	REOFOS 95|TRI(ISOPROPYLPHENYL) PHOSPHATE|TRIS(4-ISOPROPYLPHENYL)PHOSPHATE|TRIS(ISOPROPYLPHENYL) PHOSPHATE|TRIS(ISOPROPYLPHENYL)PHOSPHATE	26967-76-0	Yellow waxy solid.	1.0	2.5	5.0	4949.0	499.0	1688.0	877.0	534.0	1368.0	144.0	471.0	257.0	142.0	(BLOB)	Literature sources indicate that this chemical is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3013	TRIS(AZIRIDINYL)PHOSPHINE SULFIDE	AI 3-24916|CBC 806495|GIROSTAN|N,N',N''-TRI-1,2-ETHANEDIYLPHOSPHOROTHIOIC TRIAMIDE|N,N',N''-TRIETHYLENETHIOPHOSPHORAMIDE|N,N',N''-TRIETHYLENETHIOPHOSPHORTRIAMIDE|NCI-C01649|NSC 6396|NSC-6396|ONCOTEPA|ONCOTHIO-TEPA|ONCOTIOTEPA|PHOSPHINE SULFIDE, TRIS(1-AZIRIDINYL)-|1,1',1''-PHOSPHINOTHIOYLIDYNETRISAZIRIDINE|PHOSPHOROTHIOIC ACID TRIETHYLENETRIAMIDE|PHOSPHOROTHIOIC TRIAMIDE, N,N',N''-TRI-1,2-ETHANEDIYL|PHOSPHOROTHIOIC TRIAMIDE, N,N',N''-TRIETHYLENE-|SK 6882|STEPA|TESPA|TESPAMIN|TESPAMINE|THIO-TEP|THIO-TEPA S|THIOFOZIL|THIOPHOSPHAMIDE|THIOPHOSPHORAMIDE, N,N',N''-TRI-1,2-	52-24-4	PHYSICAL DESCRIPTION: Odorless white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4951.0	499.0	1688.0	877.0	534.0	1369.0	144.0	471.0	257.0	142.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3014	TRYPAN BLUE	(BLOB)	72-57-1	PHYSICAL DESCRIPTION: Bluish-gray to dark blue powder. (NTP, 1992)	1.0	2.5	5.0	4951.0	499.0	1688.0	877.0	534.0	1369.0	144.0	471.0	257.0	142.0	(BLOB)	May release nitrogen oxides. Containers may explode in heat of fire. Avoid alkalies. Stable under neutral or acid conditions. (EPA, 1998)	Stay at maximum distance. Use dry chemical, carbon dioxide, water spray, or foam. Dike fire control water for later disposal, do not scatter the material. (EPA, 1998)
3015	TURPENTINE	D.D. TURPENTINE|ESSENTIAL OILS, TURPENTINE|G 4134|GALIPOT|GUM THUS|GUM TURPENTINE|GUM TURPENTINE, OILS|GUMSPIRITS|NAVAL STORES, TURPENTINE|OIL OF TURPENTINE|OIL OF TURPENTINE, RECTIFIED|OILS, ESSENTIAL, TURPENTINE|OILS, TURPENTINE|PETROPINE|PINE GUM|PINE RESIN|RESINS, PINE|RESINS, TURPENTINE|SKIPIDAR|SPIRIT OF TURPENTINE|SPIRITS OF TURPENTINE|STEAM DISTILLED TURPENTINE|SULFATE TURPENTINE|SULFATE WOOD TURPENTINE|TURPENTINE|TURPENTINE GUM|TURPENTINE OIL|TURPENTINE OIL, RECTIFIED|TURPENTINE	8006-64-2	A clear colorless liquid with a characteristic odor. Flash point between 100-141Â°F. Less dense than water and insoluble in water. Vapors are heavier than air.	2.5	5.0	2.5	4953.0	499.0	1690.0	879.0	534.0	1370.0	144.0	472.0	258.0	142.0	INHALATION: Remove to fresh air. EYES: Irrigate with running water for 15 minutes. Consult a physician. SKIN: Wash thoroughly with soap and water. INGESTION: Induce vomiting, give demulcents and fluids. (USCG, 1999)	Behavior in Fire: Heat stable (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3016	UNDECANE	HALPACLEAN|HENDECANE|N 11|N-UNDECANE|NIKKOLELACE|UNDECANE	1120-21-4	A colorless liquid. Insoluble in water and less dense than water. Flash point 130Â°F. Used to make other chemicals.	2.5	5.0	2.5	4955.0	499.0	1690.0	879.0	534.0	1371.0	144.0	472.0	258.0	142.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3017	UNDECANOIC ACID	1-DECANECARBOXYLIC ACID|HENDECANOIC ACID|N UNDECANOIC ACID|N-UNDECOIC ACID|N-UNDECYLIC ACID|UNDECANOIC ACID	112-37-8	White crystalline solid. Insoluble in water. Specific gravity 0.85. Hence floats on water.	1.0	2.5	5.0	4957.0	499.0	1690.0	879.0	534.0	1372.0	144.0	472.0	258.0	142.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3012	TRIS(4-ISOPROPYLPHENYL)PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water. This compound slowly decomposes in alkaline solution. (NTP, 1992).	CARBENDAZIM is a carbamate ester-amine. Amines behave as chemical bases. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)		576 to 585
		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)																																		
3013	TRIS(AZIRIDINYL)PHOSPHINE SULFIDE		Soluble in water with release of heat.	FLUOROPHOSPHORIC ACID neutralizes chemical bases (for example: amines and metal hydroxides) to form salts. Neutralization can generate dangerously large amounts of heat in small spaces. May react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain classes of organic compounds. Reacts with cyanide compounds to release gaseous hydrogen cyanide. May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Incompatible with sodium tetrahydroborate. May react with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. May catalyze (increase the rate) of chemical reactions.	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
3014	TRYPAN BLUE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slighly soluble in water.	CARBOFURAN is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This compound is unstable in an alkaline media. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)			302 to 307
3015	TURPENTINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Chemical safety goggles. Full-cover work clothes, work gloves, and toxic dust respirator. (USCG, 1999)	It is insoluble in water. Reactivity in Water: Produces hazardous solution.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)	Not flammable					
3016	UNDECANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Denser than water and soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
3017	UNDECANOIC ACID	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water. Forms heavy clouds with moist air, decomposed by water into silicic acid and hydrofluoric acid [Merck 11th ed. 1989].	Salts, basic, such as SILICOFLUORIDES, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3012	TRIS(4-ISOPROPYLPHENYL)PHOSPHATE	(NTP, 1992)	; <0.001 mm Hg at 257Â° F		less than 0.00000075	68		mm Hg							(NTP, 1992)		1.45		68								(NTP, 1992)		191.21						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C9H9N3O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	6.0	2.0	2.0
3013	TRIS(AZIRIDINYL)PHOSPHINE SULFIDE																																								Corrosive	H2PO3F		6.0	0.0	8.0	2.0	2.0
3014	TRYPAN BLUE	(EPA, 1998)		2.00E-05		91.4		mm Hg							(EPA, 1998)		1.18		68								(EPA, 1998)		221.28						(NIOSH, 2003)	at 77Â° F	0.07		%	CBF	Poison	C12H15NO3		6.0	0.0	10.0	2.0	2.0
3015	TURPENTINE														(USCG, 1999)		3.895		59								(USCG, 1999)		203.64		(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3						SCM	Class 9	SrCrO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	9.0	2.0	2.0
3016	UNDECANE																																								Oxidizer	ClHO4.12Sr	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	10.0	2.0	2.0
3017	UNDECANOIC ACID																																								Poison	F6Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3018	URANYL ACETATE	BIS (ACETATE) DIOXOURANIUM|BIS(ACETATO)DIOXOURANIUM|DIACETATODIOXOURANIUM|URANIUM ACETATE|URANIUM ACETATE DIHYDRATE|URANIUM DIACETATE DIOXIDE|URANIUM OXYACETATE|URANIUM OXYACETATE DIHYDRATE|URANIUM, BIS(ACETATO)DIOXO-|URANIUM, BIS(ACETATO-O)DIOXO-, (T-4)-|URANYL ACETATE|URANYL ACETATE (UO2(OAC)2)|URANYL ACETATE DIHYDRATE|URANYL DIACETATE|URANYL(2+) ACETATE	541-09-3	Yellow crystals with a slight odor of vinegar. Density 2.89 g / cm3.	1.0	2.5	5.0	4959.0	499.0	1690.0	879.0	534.0	1373.0	144.0	472.0	258.0	142.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Behavior in Fire: Containers may explode when heated. (USCG, 1999)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3019	URANYL NITRATE, HEXAHYDRATE, SOLUTION	DINITRATODIOXOURANIUM HEXAHYDRATE|URANIUM DIOXIDE DINITRATE, HEXAHYDRATE|URANIUM, BIS(NITRATO-O)DIOXO-, HEXAHYDRATE, (T-4)-|URANIUM, DINITRATODIOXO-, HEXAHYDRATE|URANYL DINITRATE HEXAHYDRATE|URANYL NITRATE HEXAHYDRATE|URANYL NITRATE HEXAHYDRATE SOLUTION|URANYL NITRATE, HEXAHYDRATE, SOLUTION	13520-83-7	Acidic solution in water of uranyl nitrate, a radioactive yellow crystalline solid. Mildly toxic. Contains nitric acid. Noncombustible, but will accelerate the burning of other combustible materials if concentrated or if the water evaporates. Large quantities may explode if exposed to fire. Produces toxic oxides of nitrogen if involved in fire. Radioactive materials emit certain rays which can be detected only by instruments. Unirradiated uranium is only mildly radioactive. Minimal radiation hazard during transportation. No protective shielding is required. Non-fissile (natural or depleted) uranium, containing not more than 1.0% u-235, cannot sustain a nuclear chain reaction.	1.0	2.5	5.0	4961.0	499.0	1692.0	879.0	534.0	1374.0	144.0	473.0	258.0	142.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3020	URANYL NITRATE, SOLID	DINITRATODIOXOURANIUM |URANIUM DINITRATE DIOXIDE|URANIUM NITRATE|URANIUM NITRATE OXIDE (U(NO3)2O2)|URANIUM NITRATE OXIDE (UO2(NO3)2)|URANIUM, BIS(NITRATO-O)DIOXO-, (T-4)-|URANIUM, BIS(NITRATO-O,O')DIOXO-, (OC-6-11)-|URANIUM, DINITRATODIOXO-|URANYL DINITRATE|URANYL NITRATE|URANYL NITRATE (UO2(NO3)2)|URANYL NITRATE, SOLID	10102-06-4	A yellow rhombic radioactive crystal. Radioactive materials emit certain rays that can only be detected by instruments. Mildly chemically toxic. Unirradiated uranium is only mildly radioactive. Packages require no protective shielding. Noncombustible, but may accelerate the burning of combustible materials. Produces toxic oxides of nitrogen when involved in fires. Used to produce ceramic glazes.	1.0	2.5	5.0	4961.0	499.0	1692.0	879.0	534.0	1374.0	144.0	473.0	258.0	142.0	(BLOB)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3021	VANADIUM OXYTRICHLORIDE	TRICHLOROOXOVANADIUM |TRICHLOROOXOVANADIUM(V)|TRICHLOROVANADIUM OXIDE|VANADIUM CHLORIDE OXIDE (VCL3O)|VANADIUM CHLORIDE OXIDE (VOCL3)|VANADIUM MONOXIDE TRICHLORIDE|VANADIUM OXIDE TRICHLORIDE|VANADIUM OXYCHLORIDE|VANADIUM OXYTRICHLORIDE|VANADIUM TRICHLORIDE MONOOXIDE|VANADIUM TRICHLORIDE MONOXIDE|VANADIUM TRICHLORIDE OXIDE|VANADIUM(V) OXYTRICHLORIDE|VANADIUM, TRICHLOROOXO-|VANADYL CHLORIDE|VANADYL CHLORIDE (VOCL3)|VANADYL TRICHLORIDE	7727-18-6	A lemon yellow liquid. Boiling point 257-260Â°F (125-127Â°C). Corrosive to metals and tissue. Used as a catalyst.	2.5	5.0	2.5	4961.0	499.0	1692.0	879.0	534.0	1374.0	144.0	473.0	258.0	142.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of sulfur oxides and nitrogen oxides. Avoid alkalies, alkali carbonates and bicarbonates, benzoates, dichromates, bromides, iodides, tannic and picric acids, salicylates, borax, gold chloride and other alkaloid precipitants, piperazine, potassium-mercuric iodide. Protect from light. (EPA, 1998)	(Non-Specific -- Strychnine and Salts) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Strychnine and Salts) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. (EPA, 1998)
3022	VANADIUM TETRACHLORIDE	TETRACHLOROVANADIUM| VANADIUM CHLORIDE (VCL4)|VANADIUM TETRACHLORIDE|VANADIUM(IV) CHLORIDE	7632-51-1	A red liquid with a pungent odor. Boiling point 309.2Â°F (154Â°C). Corrosive to metals and tissue.	2.5	5.0	2.5	4961.0	499.0	1692.0	879.0	534.0	1374.0	144.0	473.0	258.0	142.0	(BLOB)	Literature sources indicate that this chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3018	URANYL ACETATE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Water soluble. Forms carbonic acid, a mild acid in water.	(BLOB)		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		-109.3	
3019	URANYL NITRATE, HEXAHYDRATE, SOLUTION	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Simple aromatic halogenated organic compounds, such as FLUOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. A glass catalyzed polymerization exploded a bottle in storage, Chem. Eng. News, 1990, 68(34), 2.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
3020	URANYL NITRATE, SOLID	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Carbon dioxide is water soluble, and forms carbonic acid, a mild acid in water.	(BLOB)	Highly Flammable; Explosive; Polymerizable	Excerpt from GUIDE 119P [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3300 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																											
3021	VANADIUM OXYTRICHLORIDE	(Non-Specific -- Strychnine and Salts) Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	STRYCHNINE is an alkaloid derivative. It is a base and forms water soluble salts with acids. Avoid alkalis, alkali carbonates and bicarbonates, benzoates, dichromates, bromides, iodides, tannic and picric acids, salicylates, borax, gold chloride and other alkaloid precipitants, piperazine, potassium-mercuric iodide. Protect from light. [EPA, 1998] This compound is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										(EPA, 1998)	with decomposition	392	
3022	VANADIUM TETRACHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	STYRAX BALSAM may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, can undergo exothermic addition polymerization.						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3018	URANYL ACETATE	(NIOSH, 2003)		56.5				atm							(USCG, 1999)		1.56		-110.2		(NIOSH, 2003)	Sublimes					(USCG, 1999)		44		(NIOSH, 2003)		40000	ppm	(NIOSH, 2003)	at 77Â° F	0.2		%	CDO	Non-Flammable Gas	CO2		5.0	0.0	7.0	2.0	2.0
3019	URANYL NITRATE, HEXAHYDRATE, SOLUTION																																								Flammable Liquid	C7H7F		6.0	0.0	8.0	2.0	2.0
3020	URANYL NITRATE, SOLID																																								Poison Gas|Flammable Gas	CO2 (carbon dioxide)|C2H4O (ethylene oxide)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	6.0	0.0	8.0	2.0	2.0
3021	VANADIUM OXYTRICHLORIDE																										(EPA, 1998)		383.49												Poison	C21H22N2O2.1|2H2O4S		5.0	0.0	9.0	2.0	2.0
3022	VANADIUM TETRACHLORIDE																																		(NTP, 1992)	at 68Â° F		less than 1	mg/mL				Dirt/Earth	4.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3023	VANADIUM TRICHLORIDE	VANADIUM TRICHLORIDE|VANADIUM(3+) CHLORIDE|VANADIUM(III) CHLORIDE	7718-98-1	A pink crystalline solid. Density 3.00 g / cm3. Irritates skin and eyes. Used to make other chemicals.	1.0	2.5	5.0	4961.0	499.0	1692.0	879.0	534.0	1374.0	144.0	473.0	258.0	142.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3024	VANADIUM TRIOXIDE	DIVANADIUM TRIOXIDE|VANADIC OXIDE|VANADIUM SESQUIOXIDE|VANADIUM TRIOXIDE|VANADIUM(3+) OXIDE	1314-34-7	A black crystalline solid. Density 4.87 g / cm3. Slightly soluble in water. Irritating to skin and eyes. May be toxic by ingestion. Used to make other chemicals. Used as a catalyst.	1.0	2.5	5.0	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3025	VINCRISTINE	2H-3,7-METHANOAZACYCLOUNDECINO[5,4-B]INDOLE, VINCALEUKOBLASTINE DERIV.|1H-INDOLIZINO[8,1-CD]CARBAZOLE, VINCALEUKOBLASTINE DERIV.|LCR|LEUROCRISTINE|NCI-C04864|NSC-67574|22-OXOVINCALEUKOBLASTINE|VCR|VINCRISTINE|VINKRISTIN	57-22-7	A white crystalline solid. Melting point 218Â°C. Used as an antineoplastic.	1.0	2.5	5.0	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	(BLOB)	Keep unnecessary people away; stay upwind; keep out of low areas. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Wear self-contained breathing apparatus; wear goggles if eye protection not provided. Shut off flow of gas or liquid and keep cooling water streams on exposed tanks or containers. Use water spray carefully in vicinity of dusts so as not to create dust clouds. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Do not get water inside container. Spray cooling water on containers exposed to flames until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
3026	VINYL BROMIDE, INHIBITED	BROMOETHENE|BROMOETHYLENE|ETHENE, BROMO-|ETHYLENE, BROMO-|MONOBROMOETHYLENE|NCI-C50373|R 1140B1|VINYL BROMIDE|VINYL BROMIDE, INHIBITED	593-60-2	Boiling point 60Â°F. Liquid at low ambient temperatures. Specific gravity 1.51. A suspected carcinogen. Under exposure to fire or heat containers may rupture violently and rocket.	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3027	VINYL CHLOROACETATE	ACETIC ACID, CHLORO-, VINYL ESTER|VINYL CHLOROACETATE|VINYL MONOCHLOROACETATE	2549-51-1	A colorless to light yellow colored liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation or skin absorption.	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3023	VANADIUM TRICHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water. Aqueous solutions have pHs of 4.0-4.8.	Acid solutions of FOLIC ACID are sensitive to heat, but towards neutrality, stability progressively increases. Solutions are inactivated by ultraviolet light and alkaline solutions are sensitive to oxidation. It is also inactivated by light. This chemical is incompatible with oxidizing agents, reducing agents and heavy metal ions. (NTP, 1992)					0																						(NTP, 1992)	(decomposes)	482	
3024	VANADIUM TRIOXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water. Hydrolyzed in alkaline solution. Hydrolysis products are corrosive to many metals.	A halogenated phthalimide.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
3025	VINCRISTINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	The solution gives up formaldehyde vapors readily. These vapors are flammable over a wide vapor-air concentration range. Water soluble.	FORMALDEHYDE, SOLUTION, reacts violently with strong oxidizing agents (hydrogen peroxide, performic acid, perchloric acid in the presence of aniline, potassium permanganate, nitromethane). Reacts with bases (sodium hydroxide, potassium hydroxide, ammonia), and with nitrogen dioxide (explosive reaction around 180Â°C). Reacts with hydrochloric acid to form highly toxic bis(chloromethyl) ether. Polymerization reaction with phenol may develop sudden destructive pressure [Bretherick, 5th ed., 1995, p.168].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(EPA, 1998)	40% solution	140		(EPA, 1998)		7		%	(EPA, 1998)		73		%	(USCG, 1999)		806		(EPA, 1998)	for anhydrous form	-134	
3026	VINYL BROMIDE, INHIBITED	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	SUCCINIC ACID reacts exothermically to neutralize bases, both organic and inorganic. Can react with active metals to form gaseous hydrogen and a metal salt. Such reactions are slow in the dry, but systems may absorb water from the air to allow corrosion of iron, steel, and aluminum parts and containers. Reacts slowly with cyanide salts to generate gaseous hydrogen cyanide. Reacts with solutions of cyanides to cause the release of gaseous hydrogen cyanide. May generate flammable and/or toxic gases and heat with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. May react with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Can be oxidized exothermically by strong oxidizing agents and reduced by strong reducing agents. May initiate polymerization reactions.					0																								(NTP, 1992)		363 to 365
3027	VINYL CHLOROACETATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Moderately soluble in water.	SUCCINIC ACID PEROXIDE is a strong oxidizing agent. May cause organic materials to ignite. May react explosively with strongly reduced material such as sulfides, nitrides, and hydrides. Mixing with a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity can cause rapid decomposition, a buildup of heat, and even an explosion. May explode from heat, shock, friction or contamination. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3023	VANADIUM TRICHLORIDE																										(NTP, 1992)		441.4						(NTP, 1992)	Almost insoluble						C19H19N7O6		5.0	0.0	9.0	2.0	2.0
3024	VANADIUM TRIOXIDE																																										Class 9	C9H4Cl3NO2S		3.0	0.0	6.0	2.0	2.0
3025	VINCRISTINE	(EPA, 1998)	for anhydrous form	10		-126.4		mm Hg	(EPA, 1998)	for gas state		1.067 to 1.075			(EPA, 1998)	anhydrous form	0.815		-4		(EPA, 1998)	commercial aqueous formaldehyde boils at 205Â° F	-3.1		760		(EPA, 1998)		30.03			(NIOSH, 2003)	; A potential human carcinogen.	20	ppm	(NIOSH, 2003)	Miscible				FMS	Flammable Liquid	Corrosive	CH2O (aqueous)	Cellulose-Based Absorbents	5.0	0.0	8.0	2.0	2.0
3026	VINYL BROMIDE, INHIBITED														(NTP, 1992)		1.572		68		(NTP, 1992)	(Decomposes)	455		760		(NTP, 1992)		118.09						(NTP, 1992)	at 72Â° F		5 to 10	mg/mL			C4H6O4		4.0	0.0	7.0	2.0	2.0
3027	VINYL CHLOROACETATE																																								Organic Peroxide|Explosive	C8H10O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3028	VINYL ETHYL ETHER	ETHENE, ETHOXY-|ETHER, ETHYL VINYL|ETHER, VINYL ETHYL|ETHOXYETHENE|1-ETHOXYETHENE|ETHOXYETHYLENE|1-ETHOXYETHYLENE|ETHYL VINYL ETHER|ETHYLOXYETHENE|EVE|VINAMAR|VINYL ETHYL ETHER|VINYL ETHYL ETHER, INHIBITED|VINYL ETHYL ETHER, [INHIBITED]	109-92-2	A clear colorless low-boiling liquid (35-36Â°C) with an ether-like odor. Flash point below -50Â°F. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a container, the container may rupture violently. Less dense than water and slightly soluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide, or dry chemical extinguisher. A water spray may also be used. (NTP, 1992)
3029	VINYLCYCLOHEXENE	BUTADIENE DIMER|CYCLOHEXENE, 4-VINYL-|CYCLOHEXENYLETHYLENE|4-ETHENYL-1-CYCLOHEXENE|4-ETHENYLCYCLOHEXENE|NCI-C54999|1,2,3,4-TETRAHYDROSTYRENE|VINYL CYCLOHEXENE|4-VINYL-1-CYCLOHEXENE|1-VINYL-3-CYCLOHEXENE|1-VINYLCYCLOHEX-3-ENE|VINYLCYCLOHEXENE|4-VINYLCYCLOHEXENE-1|1-VINYLCYCLOHEXENE-3|4-VINYLCYCLOHEXENE	100-40-3	Colorless liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3030	VINYLTRICHLOROSILANE	A 150|A 150 (SILANE)|KA 1003|SILANE, TRICHLOROVINYL-|TRICHLOROVINYL SILICANE|TRICHLOROVINYLSILANE|TRICHLOROVINYLSILICON|TSL 8303|VINYLSILICON TRICHLORIDE|VINYL TRICHLOROSILANE|VINYLSILICON TRICHLORIDE|VINYLSILYL TRICHLORIDE|VINYLTRICHLOROSILANE|VINYLTRICHLOROSILANE, INHIBITED|VTCS	75-94-5	A colorless to pale yellow fuming liquid with a pungent odor. Vapor and liquid may cause burns. More dense than water. Vapors are heavier than air.	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3031	WITCH HAZEL	HAMAMELIS|HAMAMELIS VIRGINIANA OIL|HAMAMELIS WATER|NCI-C50544|SNAPPING HAZEL|SPOTTED ALDER|STRIPED ALDER|TOBACCO WOOD|WINTER BLOOM|WITCH HAZEL	68916-39-2	PHYSICAL DESCRIPTION: Clear colorless liquid with a bitter astringent taste. Neutral or slightly acid to litmus. (NTP, 1992)	2.5	5.0	2.5	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	(BLOB)	Flash point data for this chemical are not available; it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3032	XYLENOLS	CRESYLIC ACID|DIMETHYLPHENOL|2-HYDROXY-M-XYLENE|SUDOL|XYLENOL|2,6-XYLENOL|XYLENOLS	1300-71-6	Xylenol is a white crystalline solid. It is combustible though it may take some effort to ignite. It is slightly soluble in water. It is toxic from ingestion or inhalation of the powder. It is used in disinfectants, insecticides, and to make other chemicals.	1.0	2.5	5.0	4963.0	499.0	1694.0	879.0	534.0	1375.0	144.0	474.0	258.0	142.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3033	YTTRIUM	YTTRIUM|YTTRIUM ELEMENT|YTTRIUM METAL|YTTRIUM-89	7440-65-5	Soft silvery-white metal in bulk. Dark-gray to black odorless powder. Mp: 1509Â°C; bp 2927Â°C. Density: 4.47 g cm-3 at 20Â°C. May irritate the respiratory tract if inhaled as a powder. May irritate the digestive tract if swallowed. Vapors may cause dizziness or suffocation.	1.0	2.5	5.0	4965.0	501.0	1694.0	879.0	534.0	1376.0	145.0	474.0	258.0	142.0	INHALATION: move victim to fresh air; call a doctor; administer artificial respiration and oxygen if required. INGESTION: give large amounts of water and induce vomiting; call a doctor. EYES: flush with water for at least 15 min. SKIN: wipe off; wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	proc_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	hpa_source_ce	hpa_node	hpa_basis_h	hpa_flam	hpa_react	hpa_specific	fp_source	fp_node	fp_value	fp_range	hel_source	hel_node	hel_value	hel_range	hel_unit	hel_node	hel_value	hel_range	hel_source	al_node	al_value	al_range	mp_source_e	mp_node	mp_value	mp_range
3033	YTTRIUM	Excerpt from GUIDE 128 Flammable Liquids (Non-Polar / Water-Insoluble): ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.	Organic canister or air-supplied mask; goggles or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	CARBNE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. Will attack some forms of plastics (USCG, 1999).		Insoluble in water.	[[Details on specifics of reactivity not yet available.]]					0																
3032	XYLENOLS	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF; EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYNEODECANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick, 1979 p. 602].	Explosive; Strong Oxidizing Agent	Insoluble in water.						0															
3030	VINYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	REccomENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992) a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]					0																333
3029	VINYLCYCLOHEXENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	REccomENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors) or a dust/mist filter. (NTP, 1992)	Insoluble in water.	SULFACETAMIDE is an amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet do react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generate mixed oxides of nitrogen (NOx)						0																(NTP, 1992)	360 to 363
3028	VINYL ETHYL ETHER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs,FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	REccomENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992) a dust/mist filter. (NTP, 1992)	Reacts slowly with water. Insoluble in water.	SUCCINIC ANHYDRIDE reacts exothermically with water. Reactions are usually slow, but may become violent if local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.						0																247.3	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	REccomENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]					0																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3028	VINYL ETHYL ETHER	(NTP, 1992)	; 5 mm Hg at 239.0Â° F; 10 mm Hg at 262.8Â° F	1		197.6		mm Hg	(NTP, 1992)		3.7				(NTP, 1992)		1.234		68		(NTP, 1992)		502		760		(NTP, 1992)		100.08						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C4H4O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	8.0	2.0	2.0
3029	VINYLCYCLOHEXENE																										(NTP, 1992)		214.26						(NTP, 1992)	at 61Â° F		less than 0.1	mg/mL			C8H10N2O3S		6.0	0.0	10.0	2.0	2.0
3030	VINYLTRICHLOROSILANE																										(NTP, 1992)		253.3						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H11N3O3S		3.0	0.0	8.0	2.0	2.0
3031	WITCH HAZEL																										(NTP, 1992)		567.69						(NTP, 1992)	Soluble (>=10 mg/ml at 70Â° F)						C27H32N2O6S2.Na	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
3032	XYLENOLS																																									Organic Peroxide	C14H28O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	6.0	0.0	10.0	2.0	2.0
3033	YTTRIUM														(USCG, 1999)		0.86		68		(USCG, 1999)		338		760		(USCG, 1999)		136											CAR	Flammable Liquid	C10H16	Dirt/Earth	5.0	0.0	7.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3034	ZEARALANOL	ALPHA-ZEARALANOL|6-(6,10-DIHYDROXYUNDECYL)-BETA-RESORCYLIC ACID, MU-LACTONE|FRIDERON|1H-2-BENZOXACYCLOTETRADECIN-1-ONE, 3,4,5,6,7,8,9,10,11,12-DECAHYDRO-7,14,16-TRIHYDROXY-3-METHYL-, (3S,7R)-(+)-|1H-2-BENZOXACYCLOTETRADECIN-1-ONE, 3,4,5,6,7,8,9,10,11,12-DECAHYDRO-7,14,16-TRIHYDROXY-3-METHYL-, [3S-(3R*,7S*)]-|MK 188|MK-188|P 1496|P1496|RALABOL|RALGRO|RALONE|(3S,7R)-(+)-3,4,5,6,7,8,9,10,11,12-DECAHYDRO-7,14,16-TRIHYDROXY-3-METHYL-1H-2-BENZOXACYCLOTETRADECIN-1-ONE|(3S,7R)-3,4,5,6,7,8,9,10,11,12-DECAHYDRO-7,14,16-TRIHYDROXY-3-METHYL-1H	26538-44-3	PHYSICAL DESCRIPTION: White fluffy powder. (NTP, 1992)	1.0	2.5	5.0	4965.0	501.0	1694.0	879.0	534.0	1376.0	145.0	474.0	258.0	142.0	(BLOB)	Flash point data for this chemical are not available, but it it probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3035	ZEARALENONE	(BLOB)	17924-92-4	PHYSICAL DESCRIPTION: White microcrystals or white powder. (NTP, 1992)	1.0	2.5	5.0	4965.0	501.0	1694.0	879.0	534.0	1376.0	145.0	474.0	258.0	142.0	(BLOB)		
3036	ZINC DITHIOPHOSPHATE	ZINC DITHIOPHOSPHATE	19210-06-1	A dark-colored viscous liquid with a mild odor. Insoluble in water and slightly less dense than water. Contact may moderately irritate skin, eyes, and mucous membranes, and cause dizziness, nausea and loss of consciousness. Used to make other chemicals and is a marine pollutant.	2.5	5.0	2.5	4967.0	501.0	1694.0	879.0	534.0	1377.0	145.0	474.0	258.0	142.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3037	ZINC FORMATE	FORMIC ACID, ZINC SALT|ZINC DIFORMATE|ZINC FORMATE	557-41-5	Zinc formate is a white crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a catalyst in chemical processing and as a waterproofing agent.	1.0	2.5	5.0	4967.0	501.0	1694.0	881.0	534.0	1377.0	145.0	474.0	259.0	142.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
3038	ZINC PHENOLSULFONATE	BENZENESULFONIC ACID, P-HYDROXY-, ZINC SALT (2:1)|P-HYDROXYBENZENESULFONIC ACID ZINC SALT|ZINC P-PHENOLSULFONATE|ZINC PHENOLSULFONATE|ZINC PHENOLSULFONATE OCTAHYDRATE|ZINC PHENOLSULPHONATE|ZINC SULFOCARBOLATE|ZINC SULFOPHENATE	127-82-2	A colorless to white crystalline solid which turns pink on exposure to air. The primary is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is soluble in water. It is used as an insecticide and in medicine.	1.0	2.5	5.0	4969.0	501.0	1694.0	881.0	534.0	1378.0	145.0	474.0	259.0	142.0	(BLOB)	Special Hazards of Combustion Products: Irritating fumes of maleic anhydride may form in fires. Behavior in Fire: Dust presents explosion hazard; knock down dust with water fog. (USCG, 1999)	
3039	ZIRCONIUM HYDRIDE	ZIRCONIUM DIHYDRIDE|ZIRCONIUM HYDRIDE	7704-99-6	A grayish black solid. No reaction with water under normal conditions. Easily ignited and burns with an intense flame. Water will increase the intensity of the fire.	1.0	2.5	5.0	4971.0	501.0	1694.0	881.0	536.0	1379.0	145.0	474.0	259.0	143.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3034	ZEARALANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CARISOPRODOL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.								0																			(NTP, 1992)			198 to 199
3035	ZEARALENONE		For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	FORMPARANATE is a carbamate ester. Incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Reaction with active metals or nitrides can produce flammable gaseous hydrogen. Incompatible with strongly oxidizing acids, peroxides, and hydroperoxides.							0																							
3036	ZINC DITHIOPHOSPHATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	SULFOXIDE, 3-CHLOROPROPYL OCTYL may generate flammable and toxic hydrogen sulfide with strong reducing agents. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
3037	ZINC FORMATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	FUEL OIL, [NO. 5] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)			greater than 130	(USCG, 1999)		1		%	(USCG, 1999)		5	%				(USCG, 1999)		0	
3038	ZINC PHENOLSULFONATE		Dust mask; gloves; safety glasses; dust cap (USCG, 1999)	Slightly soluble in water.	(BLOB)							0																	(USCG, 1999)		1364		(NTP, 1992)			572 to 576
3039	ZIRCONIUM HYDRIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CHLORANIL is sensitive to excessive light and heat. This chemical is incompatible with strong oxidizing agents. It reacts with alkalis. (NTP, 1992)							0																			(NTP, 1992)	(decomposes)	552	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3034	ZEARALANOL																									(NTP, 1992)		260.38						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C12H24N2O4		4.0	0.0	6.0	2.0	2.0
3035	ZEARALENONE																									(EPA, 1998)		235.32														C12H17N3O2	Mineral-Based & Clay-Based Absorbents	7.0	0.0	8.0	2.0	2.0
3036	ZINC DITHIOPHOSPHATE																									(EPA, 1998)		238.85													Poison	C11H23ClOS		5.0	0.0	7.0	2.0	2.0
3037	ZINC FORMATE														(USCG, 1999)		0.936		60.8		(USCG, 1999)			426 to >1062	760														OFV	Flammable Liquid			4.0	0.0	7.0	2.0	2.0
3038	ZINC PHENOLSULFONATE														(USCG, 1999)		1.635		68		(NTP, 1992)	; sublimes	329		1.7		(NTP, 1992)		116.07						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	FUM		C4H4O4	Dirt/Earth	5.0	0.0	8.0	2.0	2.0
3039	ZIRCONIUM HYDRIDE	(NTP, 1992)	approximately	0		68		mm Hg							(NTP, 1992)		1.97				(NTP, 1992)	Sublimes					(NTP, 1992)		245.88						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C6Cl4O2	Dirt/Earth	4.0	0.0	9.0	2.0	2.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3040	ZIRCONIUM NITRATE	TETRANITRATOZIRCONIUM|ZIRCONIUM NITRATE|ZIRCONIUM NITRATE (ZR(NO3)4)|ZIRCONIUM NITRATE PENTAHYDRATE|ZIRCONIUM TETRANITRATE	13746-89-9	Zirconium nitrate is a white crystalline solid. It is soluble in water. It is noncombustible, but it will accelerate the burning of combustible materials. If large quantities are involved in a fire or the combustible material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. It is used as a preservative.	1.0	2.5	5.0	4973.0	501.0	1694.0	881.0	536.0	1380.0	145.0	474.0	259.0	143.0	(BLOB)	Very dangerous, upon exposure to heat or flame. It may form unstable peroxides on exposure to air. Contact with acids can initiate a violent, heat producing reaction. Avoid acids, oxidizing agents. Upon standing in air, it may form unstable peroxides. (EPA, 1998)	Move container from fire area if this can be accomplished without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. For massive fires in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if a tank car or truck is involved. Water may be ineffective. Small fires: dry chemical, carbon dioxide, water spray, or alcohol foam. Large fires: water spray, fog, or alcohol foam. (EPA, 1998)
3041	(+)-2-METHYLBUTYL-4-METHOXYBENZILIDINE-4'-AMINOCINNAMATE	CINNAMIC ACID, P-[(P-METHOXYBENZYLIDENE)AMINO]-, 2-METHYLBUTYL ESTER, (S)-(+)-|3-(4-(((4-METHOXYPHENYL)METHYLENE)AMINO)PHENYL)-2-PROPENOIC ACID, 2-METHYLBU-|(+)-2-METHYLBUTYL-4-METHOXYBENZILIDINE-4'-AMINOCINNAMATE|2-PROPENOIC ACID, 3-(4-(((4-METHOXYPHENYL)METHYLENE)AMINO)PNENYL), 2-METHYLBU-|TYL ESTER	24140-30-5	PHYSICAL DESCRIPTION: Light yellow powder. (NTP, 1992)	1.0	2.5	5.0	4974.0	501.0	1694.0	883.0	536.0	1381.0	145.0	474.0	261.0	143.0	INHALATION: Remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Hold eyelids open, flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes, flush affected areas with plenty of water. INGESTION: Do nothing except keep victim warm. DO NOT INDUCE VOMITING. Call a physician. (USCG, 1999)		Fire Extinguishing Agents: CO 2 , dry chemical, foam, or water spray. (USCG, 1999)
3042	1-(1,2-DIBROMOETHYL)-3,4-DIBROMOCYCLOHEXANE	CITEX BCL 462|CYCLOHEXANE, 1,2-DIBROMO-4-(1,2-DIBROMOMETHYL)-|1,2-DIBROMO-4-(1,2-DIBROMOETHYL)CYCLOHEXANE|4-(1,2-DIBROMOETHYL)-1,2-DIBROMOCYCLOHEXANE|1-(1,2-DIBROMOETHYL)-3,4-DIBROMOCYCLOHEXANE|SAYTEX BCL 462	3322-93-8	PHYSICAL DESCRIPTION: White crystalline powder. Ester-like odor. (NTP, 1992)	2.5	5.0	2.5	4974.0	501.0	1694.0	883.0	536.0	1381.0	145.0	474.0	261.0	143.0			
3043	1-(2-CHLOROETHYL)-3-(4-METHYLCYCLOHEXYL)-1-NITROSOUREA	1-(2-CHLOROETHYL)-3-(4-METHYL-CYCLOHEXYL)-NITROSOUREA|1-(2-CHLOROETHYL)-3-(4-METHYLCYCLOHEXYL)-1-NITROSOUREA|CIG 1110|ME-CCNU|METHYL-CCNU|N-(2-CHLOROETHYL)-N'-(4-METHYLCYCLOHEXYL)-N-NITROSOUREA|NSC-95441|SEMUSTINE|UREA, 1-(2-CHLOROETHYL)-3-(4-METHYLCYCLOHEXYL)-1-NITROSO-	13909-09-6	PHYSICAL DESCRIPTION: Light yellow powder. (NTP, 1992)	1.0	2.5	5.0	4974.0	501.0	1694.0	883.0	536.0	1381.0	145.0	474.0	261.0	143.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3044	1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE	CFC 112A|2,2-DIFLUORO-1,1,1,2-TETRACHLOROETHANE|1,1-DIFLUORO-1,2,2,2-TETRACHLOROETHANE|1,1-DIFLUOROPERCHLOROETHANE|F 112A|FREONÂ® 112A|HALOCARBON 112A|R 112A|REFRIGERANT 112A|1,2,2,2-TETRACHLORO-1,1-DIFLUOROETHANE|1,1,1,2-TETRACHLORO-2,2-DIFLUOROETANE|1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE	76-11-9	Colorless solid with a slight, ether-like odor. mp: 40.6Â°C; bp: 91.5Â°C.	1.0	2.5	5.0	4974.0	501.0	1694.0	883.0	536.0	1381.0	145.0	474.0	261.0	143.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3045	1,1,2,2-TETRACHLORO-1,2-DIFLUOROETHANE	CFC 112|DAIFLON 112|DAIFLON S 2|1,2-DIFLUORO-1,1,2,2-TETRACHLOROETHANE|1,2-DIFLUOROTETRACHLOROETHANE|F 112|FC 112|FREON 112|FREONÂ® 112|FRON 112|GENETRON 112|HALOCARBON 112|R 112|REFRIGERANT 112|SYM-TETRACHLORODIFLUOROETHANE|TETRACHLORO-1,2-DIFLUOROETHANE|1,1,2,2-TETRACHLORO-1,2-DIFLUOROETHANE|1,1,2,2-TETRACHLORODIFLUOROETHANE|UCON 112	76-12-0	Colorless low-melting solid or liquid with a slight ethereal odor. Mp: 26.5Â°C; bp: 92.5Â°C. Density (of liquid): 1.64 g cm-3 at 30Â°C. Used as a refrigerant, a solvent extractant, and in dry cleaning.	1.0	2.5	5.0	4975.0	501.0	1694.0	883.0	536.0	1382.0	145.0	474.0	261.0	143.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3040	ZIRCONIUM NITRATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. When uninhibited, this compound forms explosive peroxides on exposure to air. Insoluble in water.	FURAN is sensitive to heat and may turn brown upon standing. This compound may be light sensitive. When uninhibited, this compound forms explosive peroxides on exposure to air. This chemical may react with oxidizers, acids, peroxides and oxygen. It resinifies on evaporation or when in contact with mineral acids, but it is stable in alkalis. (NTP, 1992).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(EPA, 1998)	Less than 32F			(EPA, 1998)		2.3		%	(EPA, 1998)		14.3		%						(EPA, 1998)		-123	
3041	(+)-2-METHYLBUTYL-4-METHOXYBENZILIDINE-4'-AMINOCINNAMATE	Neutralizing Agents for Acids and Caustics: Caustic soda, soda ash, lime (USCG, 1999)	Approved respirator, chemical resistant gloves, chemical safety gloves, other protective clothing, (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	2,2,-DIMETHYL OCTANOIC ACID reacts exothermically with bases. May corrode or dissolve iron, steel, and aluminum parts and containers. May react with active metals to form gaseous hydrogen and a metal salt. Reacts with cyanide salts to generate gaseous hydrogen cyanide. Reacts with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable and/or toxic gases and heat. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide) but some heat. Exothermically oxidized by strong oxidizing agents and reduced by strong reducing agents to give a range of products. May initiate polymerization reactions or catalyze other chemical reactions.			1.00	1.00	0.00	1																								
3042	1-(1,2-DIBROMOETHYL)-3,4-DIBROMOCYCLOHEXANE			No rapid reaction with air. No rapid reaction with water.	CHLORIMURON ETHYL is a sulfonyl urea, and pyrimidine derivative. [[Details on specifics of reactivity not yet available.]]					2.00	0.00	1.00	1																						
3043	1-(2-CHLOROETHYL)-3-(4-METHYLCYCLOHEXYL)-1-NITROSOUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water. Aqueous solutions are acidic.	2,2'-DIMETHYLBENZIDINE HYDROCHLORIDE is incompatible with strong oxidizing agents. (NTP, 1992)					0.00	0.00	0.00	0																			(NTP, 1992)			greater than 572
3044	1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene and transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene t pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with soap and water solution. All exposed surfaces should be analyzed for contamination. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,2'-DITHIOBISBENZOTHIAZOLE is incompatible with strong oxidizers. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2		(NTP, 1992)		518																	(NTP, 1992)		334	
3045	1,1,2,2-TETRACHLORO-1,2-DIFLUOROETHANE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts exothermically with moisture in the air and with water to generate hydrochloric acid.	TERT-BUTYLCYCLOHEXYL CHLOROFORMATE is incompatible with base (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3040	ZIRCONIUM NITRATE	(NTP, 1992)		493		68		mm Hg	(EPA, 1998)		2.3				(EPA, 1998)		0.9371		66.92		(EPA, 1998)		90		758		(EPA, 1998)		68.08						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	FUR	Flammable Liquid	C4H4O		4.0	0.0	7.0	2.0	2.0
3041	(+)-2-METHYLBUTYL-4-METHOXYBENZILIDINE-4'-AMINOCINNAMATE																									(USCG, 1999)		174.3												DMO		C10H20O2		2.0	0.0	2.0	1.0	1.0
3042	1-(1,2-DIBROMOETHYL)-3,4-DIBROMOCYCLOHEXANE																																									C15H15Cl4N4O6S	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3043	1-(2-CHLOROETHYL)-3-(4-METHYLCYCLOHEXYL)-1-NITROSOUREA																									(NTP, 1992)		248.76						(NTP, 1992)	at 66Â° F		50 to 100	mg/mL			C14H16N2.HCl		1.0	0.0	1.0	1.0	1.0
3044	1,1,1,2-TETRACHLORO-2,2-DIFLUOROETHANE														(NTP, 1992)		1.54										(NTP, 1992)		332.48						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Class 9	C14H8N2S4	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3045	1,1,2,2-TETRACHLORO-1,2-DIFLUOROETHANE																																								Poison	C11H19ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3046	1,1,2,2-TETRACHLORO-1-FLUOROETHANE	HCFC-121|1,1,2,2-TETRACHLORO-1-FLUOROETHANE	354-14-3		5.0	1.0	1.0	4975.0	501.0	1694.0	883.0	536.0	1382.0	145.0	474.0	261.0	143.0	(BLOB)	Flash point data for this compound are not available. It is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3047	1,1,3,3-TETRAMETHYL-2-THIOUREA	BASTHIORYL|N,N,N',N'-TETRAMETHYLTHIOUREA|NA-101|1,1,3,3-TETRAMETHYL-2-THIOUREA|TETRAMETHYLTHIOUREA|TMTU|UREA, 1,1,3,3-TETRAMETHYL-2-THIO-	2782-91-4	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	4975.0	501.0	1694.0	883.0	536.0	1382.0	145.0	474.0	261.0	143.0	(BLOB)	Flash point data is not available for this chemical, but it is probably combustible. (NTP, 1992)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3048	1,1,3-TRIMETHYL-2-THIOUREA	N,N,N'-TRIMETHYLTHIOUREA|NCI-C02186|NOCCELER TMU|SANCELER TMU|THATE E|THIOUREA, TRIMETHYL-|1,1,3-TRIMETHYL-2-THIOUREA|TRIMETHYLTHIOUREA|1,1,3-TRIMETHYLTHIOUREA|1,3,3-TRIMETHYLTHIOUREA|UREA, 1,1,3-TRIMETHYL-2-THIO-	2489-77-2	PHYSICAL DESCRIPTION: Prisms (from benzene or ligroin) or off-white powder. (NTP, 1992)	1.0	2.5	5.0	4975.0	501.0	1694.0	883.0	536.0	1382.0	145.0	474.0	261.0	143.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3049	1,1-DICHLORO-1,2,2,3,3-PENTAFLUOROPROPANE	1,1-DICHLORO-1,2,2,3,3-PENTAFLUOROPROPANE|HCFC-225CC	422-56-0	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	4976.0	501.0	1695.0	885.0	536.0	1383.0	145.0	475.0	263.0	143.0	Seek medical attention. INHALATION: maintain respiration; give oxygen if needed. ASPIRATION: enforce bed rest; administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was ingested; guard against aspiration into lungs. EYES: wash with copious quantity of water. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: None Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
3050	1,1-DICHLOROETHANE	ASYMMETRICAL DICHLOROETHANE|CHLORINATED HYDROCHLORIC ETHER|1,1-DICHLORETHANE|DICHLOROETHANE, 1,1-|1,1-DICHLOROETHANE|DICHLOROMETHYLMETHANE|1,1-ETHYLENE DICHLORIDE|ETHYLIDENE CHLORIDE|ETHYLIDENE DICHLORIDE|1,1-ETHYLIDENE DICHLORIDE|HCC 150A|NCI-C04535	75-34-3	A colorless liquid with an ether-like odor. Slightly soluble in water and slightly denser than water. Flash point below 70Â°F. Vapors denser than air. Used to make other chemicals.	2.5	5.0	2.5	4977.0	501.0	1695.0	885.0	536.0	1384.0	145.0	475.0	263.0	143.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3051	1,1-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)	BIS(4-ISOCYANATOCYCLOHEXYL)METHANE|DICYCLOHEXYLMETHANE 4,4'-DIISOCYANATE|4,4'-DIISOCYANATODICYCLOHEXYLMETHANE|DMDI|HMDI|HYDROGENATED MDI|ISOCYANIC ACID, METHYLENEDI-1,4-CYCLOHEXYLENE ESTER|ISOCYANIC ACID, METHYLENEDI-4,1-CYCLOHEXYLENE ESTER|METHYLENE BIS(4-CYCLOHEXYLISOCYANATE)|1,1'-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)|1,1-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)METHYLENEBIS(1,4-CYCLOHEXYLENE) DIISOCYANATE|METHYLENEBIS(4-CYCLOHEXYL ISOCYANATE)|METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)|4,4'-METHYLENEBIS(CYCLOHEX	5124-30-1	Clear colorless to light-yellow liquid. (NIOSH, 1997)	2.5	5.0	2.5	4977.0	501.0	1695.0	885.0	536.0	1384.0	145.0	475.0	263.0	143.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3046	1,1,2,2-TETRACHLORO-1-FLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An organosulfide and an amine. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					3.00	1.00	1.00	2																								
3047	1,1,3,3-TETRAMETHYL-2-THIOUREA	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,2'-THIOBIS(4,6-DICHLOROPHENOL) is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials may generate heat and toxic or flammable gases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2																	(NTP, 1992)		365.9 to 367.7
3048	1,1,3-TRIMETHYL-2-THIOUREA	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,2'-THIOBIS(4-CHLOROPHENOL) is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials may generate heat and toxic or flammable gases.					2.00	2.00	1.00	3															(NTP, 1992)		348.4 to 368.2
3049	1,1-DICHLORO-1,2,2,3,3-PENTAFLUOROPROPANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves. (USCG, 1999)	Highly flammable.	Saturated aliphatic hydrocarbons, which are found in GASOLINES: STRAIGHT RUN, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	1.00	1.00	2		(USCG, 1999)	(a) <0Â° F (cc); (b) 0-73Â°F (cc)			(USCG, 1999)	(a)	1.3		%	(USCG, 1999)	(a)	7.1		%							
3050	1,1-DICHLOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. Keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	GERANYL ACETATE should be protected from light. This compound reacts with strong oxidizing agents. (NTP, 1992)			(NFPA, 2010)		1.00	3.00	0.00	3		(NTP, 1992)			greater than 200																
3051	1,1-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	(BLOB)	Polymerizes in the presence of water. (NTP, 1992)	GLUTARALDEHYDE may discolor on exposure to air. It polymerizes on heating. This chemical is incompatible with strong oxidizing agents. It polymerizes in the presence of water. (NTP, 1992)	Polymerizable; Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	2.00	0.00	2																	(USCG, 1999)		less than 20

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3046	1,1,2,2-TETRACHLORO-1-FLUOROETHANE																										(NTP, 1992)		198.28														C6H6N4S2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3047	1,1,3,3-TETRAMETHYL-2-THIOUREA	(NTP, 1992)		1.1109		99		mm Hg							(NTP, 1992)		1.73										(NTP, 1992)		356.07						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	[ClC6H2(OH)]2S		4.0	0.0	5.0	1.0	1.0
3048	1,1,3-TRIMETHYL-2-THIOUREA																										(NTP, 1992)		287.18						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			[ClC6H3(OH)]2S		3.0	0.0	3.0	1.0	1.0
3049	1,1-DICHLORO-1,2,2,3,3-PENTAFLUOROPROPANE														(USCG, 1999)		0.71 to 0.747	59		(USCG, 1999)			58 to 275	760															GSR	Flammable Liquid			2.0	0.0	2.0	1.0	1.0
3050	1,1-DICHLOROETHANE	(NTP, 1992)	; 1 mm Hg at 164.3Â° F	0.02		68		mm Hg	(NTP, 1992)		6.8				(NTP, 1992)		0.907		77		(NTP, 1992)		468		760		(NTP, 1992)		196.32						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H20O2	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3051	1,1-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE)	(NTP, 1992)		17		68		mm Hg							(USCG, 1999)		1.062 to 1.124	68		(NTP, 1992)	(decomposes)		369 to 372	760		(NTP, 1992)		100.13						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	GTA	Poison	C5H8O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3052	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	1,2,3,4,6,7,8-HCDD|1,2,3,4,6,7,8-HEPTACHLORODIBENZO(B,E)(1,4)DIOXIN|HEPTACHLORODIBENZO-P-DIOXIN|1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN|1,2,3,4,6,7,8-HEPTACHLORODIBENZO-PARA-DIOXIN|1,2,3,4,6,7,8-HEPTACHLORODIBENZODIOXIN|1,2,3,4,6,7,8-HEPTACHLORODIBENZO[1,4]DIOXIN|1,2,3,4,6,7,8-HEPTACHLORODIBENZO[B,E][1,4]DIOXIN	35822-46-9	PHYSICAL DESCRIPTION: Off-white powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	4978.0	501.0	1695.0	885.0	536.0	1385.0	145.0	475.0	263.0	143.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray, LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3053	1,2,3,4-TETRACHLOROBENZENE	1,2,3,4-BENZENE TETRACHLORIDE|BENZENE, 1,2,3,4-TETRACHLORO-|1,2,3,4-TETRACHLOROBENZENE	634-66-2	PHYSICAL DESCRIPTION: White to off-white crystals. (NTP, 1992)	1.0	2.5	5.0	4979.0	501.0	1695.0	885.0	536.0	1386.0	145.0	475.0	263.0	143.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3054	1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN	DIBENZO-P-DIOXIN, 1,2,3,4-TETRACHLORO-|1,2,3,4-TCDD|1,2,3,4-TETRACHLORODIBENZO(B,E)(1,4)DIOXIN|1,2,3,4-TETRACHLORODIBENZO(P)DIOXIN|1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN|1,2,3,4-TETRACHLORODIBENZO-PARA-DIOXIN|1,2,3,4-TETRACHLORODIBENZODIOXIN	30746-58-8	PHYSICAL DESCRIPTION: Colorless needles or white powder. (NTP, 1992)	1.0	2.5	5.0	4980.0	501.0	1695.0	887.0	536.0	1387.0	145.0	475.0	265.0	143.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3055	1,2,3,5-TETRACHLOROBENZENE	1,2,3,5-BENZENE TETRACHLORIDE|1,2,3,5-TETRACHLOROBENZENE|1,2,4,6-TETRACHLOROBENZENE	634-90-2	PHYSICAL DESCRIPTION: White crystals or off-white solid. (NTP, 1992)	2.5	5.0	2.5	4981.0	501.0	1695.0	887.0	536.0	1388.0	145.0	475.0	265.0	143.0	Eye: If this chemical in liquid form contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical in liquid form contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing immediately remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3056	1,2,3,5-TETRAMETHYLBENZENE	BENZENE 1,2,3,5-TETRAMETHYL|ISODURENE|1,2,3,5-TETRAMETHYLBENZENE|1,3,4,5-TETRAMETHYLBENZENE	527-53-7	A pale yellow to white liquid with a camphor-like odor. Flash point 165Â°F. Less dense than water and only negligibly soluble in water. Slightly irritates the skin and eyes. Slightly toxic by ingestion but may irritate the mouth, throat and gastrointestinal tract.	2.5	5.0	2.5	4981.0	501.0	1695.0	887.0	536.0	1388.0	145.0	475.0	265.0	143.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3052	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene and transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene t pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with soap and water solution. All exposed surfaces should be analyzed for contamination. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	This compound will behave as a weak oxidizer, and will react with strong reducing agents including hydrides, sulfides and nitrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	1.00	1.00	2																						(NTP, 1992)		149 to 153
3053	1,2,3,4-TETRACHLOROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0																						(NTP, 1992)		383 to 385
3054	1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	A related chemical is incompatible with strong oxidizers and strong bases. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	1.00	1.00	2																						(NTP, 1992)		138 to 147
3055	1,2,3,5-TETRACHLOROBENZENE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Decomposes in water, products likely to include gaseous Cl2 (Lewis 2000). Reacts with water to produce toxic and corrosive fumes of chlorine. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Chlorine gas will be created in 0.14 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009. .	(BLOB)	Explosive; Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9191 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0																						(NIOSH, 2003)		-74
3056	1,2,3,5-TETRAMETHYLBENZENE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes in water giving hydrofluoric acid, another corrosive material.	TUNGSTEN HEXAFLUORIDE emits very toxic and irritating fumes containing metallic tungsten and tungsten fluorides when heated to decomposition. Reacts violently with tetramethoxysilane [Jacob, E., Angew. Chem., 1982, 21, p. 143].	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2196 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)			1.00	2.00	0.00	2																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3052	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN																										(NTP, 1992)		260.88													Poison	C6HCl4NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3053	1,2,3,4-TETRACHLOROBENZENE																										(NTP, 1992)		340.5													Poison	C12H3Cl5O		2.0	0.0	2.0	1.0	1.0
3054	1,2,3,4-TETRACHLORODIBENZO-P-DIOXIN																										(NTP, 1992)		223.49						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C8H5Cl3O		1.0	0.0	1.0	1.0	1.0
3055	1,2,3,5-TETRACHLOROBENZENE	(NIOSH, 2003)			greater than 1			atm								(NIOSH, 2003)	(Liquid at 32Â° F)	1.6				(NIOSH, 2003)		52		760		(NIOSH, 2003)		67.5		(NIOSH, 2003)		5	ppm	(NIOSH, 2003)	at 77Â° F	0.3		%		Oxidizer|Poison	ClO2.xH2O, ClO2 (gas)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3056	1,2,3,5-TETRAMETHYLBENZENE																																							Poison Gas|Corrosive	F6W	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3057	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	1,2,3,6,7,8-HCDD|1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN|1,2,3,6,7,8-HEXACHLORODIBENZODIOXIN|1,2,3,6,7,8-HEXACHLORODIBENZO[1,4]DIOXIN|1,2,3,6,7,8-HEXACHLORODIBENZO[B,E][1,4]DIOXIN	57653-85-7	PHYSICAL DESCRIPTION: Fluffy white solid. (NTP, 1992)	1.0	2.5	5.0	4981.0	501.0	1695.0	887.0	536.0	1388.0	145.0	475.0	265.0	143.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3058	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN	D 70|DIBENZO-P-DIOXIN, 1,2,3,7,8,9-HEXACHLORO-|1,2,3,7,8,9-HCDD|1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN|1,2,3,7,8,9-HEXACHLORODIBENZODIOXIN|1,2,3,7,8,9-HEXACHLORODIBENZO[1,4]DIOXIN|1,2,3,7,8,9-HEXACHLORODIBENZO[B,E][1,4]DIOXIN	19408-74-3	PHYSICAL DESCRIPTION: Light pink crystalline solid. (NTP, 1992)	2.5	5.0	2.5	4981.0	501.0	1695.0	887.0	536.0	1388.0	145.0	475.0	265.0	143.0			
3059	1,2,3-TRICHLOROPROPENE	ALLYLTRICHLORIDE|2,3-DICHLOROALLYL CHLORIDE|PROPENE, 1,2,3-TRICHLORO-|1,2,3-TRICHLORO-1-PROPENE|1,2,3-TRICHLOROPROPENE	96-19-5	An amber liquid. May be absorbed through the skin. Vapors are heavier than air. Contact with vapors or liquid may cause burns or irritation.	2.5	5.0	2.5	4982.0	501.0	1696.0	887.0	536.0	1389.0	145.0	476.0	265.0	143.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3060	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	ARCTON 114|ARCTON 33|CFC 114|CFC-114|CRYOFLUORAN|CRYOFLUORANE|1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE|1,2-DICHLOROPERFLUOROETHANE|DICHLOROTETRAFLUOROETHANE|DICHLOROTETRAFLUOROETHANE|ETHANE, 1,2-DICHLOROTETRAFLUORO-|F 114|F 114 (HALOCARBON)|F-114|FC 114|FKW 114|FLUORANE 114|FLUOROCARBON 114|FREON 114|FRIGEN 114|FRIGIDERM|FRON 114|GENETRON 114|GENETRON 316|HALON 242|ISCEON 224|LEDON 114|PROPELLANT 114|R 114|R 114 (HALOCARBON)|REFRIGERANT 114|REFRIGERANT GAS R-114|SYM-DICHLOROTETRAFLUOROETHANE|1,1,2,2-TETRAFLUORO-1,2-	76-14-2	1,2-Dichloro-1,1,2,2-tetrafluoroethane is a colorless, nearly odorless nonflammable gas. It may be mildly toxic and irritating by inhalation. It can asphyxiate by the displacement of air. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket. It is used as a solvent and as a fire extinguishing agent.	5.0	1.0	1.0	4982.0	501.0	1696.0	887.0	536.0	1389.0	145.0	476.0	265.0	143.0	(BLOB)		
3061	1,2-DICHLORO-1,1,2-TRIFLUOROETHANE	1,2-DICHLORO-1,1,2-TRIFLUOROETHANE|HCFC-123A	354-23-4	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	4982.0	501.0	1696.0	887.0	536.0	1389.0	145.0	476.0	265.0	143.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes of PO x (USCG, 1999)	Fire Extinguishing Agents: CO 2 , dry chemical, fog, mist (USCG, 1999)
3062	1,2-DICHLORO-1,1,3,3,3-PENTAFLUOROPROPANE	1,2-DICHLORO-1,1,3,3,3-PENTAFLUOROPROPANE|HCFC-225DA	431-86-7	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	4983.0	501.0	1696.0	888.0	536.0	1390.0	145.0	476.0	266.0	143.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3057	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	2,3,4-TRICHLOROPHENOL may be incompatible with AlCl3, formaldehyde, peroxo-, mono- and di- sulfuric acids, NaNO2 and NaNO3/trifluoroacetic acid (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	1.00	1.00	2																		(NTP, 1992)			171 to 174
3058	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN			Decomposes in water forming chlorine and oxygen gases.	Explodes when heated or by reaction with organic materials, including: carbon, carbon disulfide, ethers, hydrocarbons, dicyanogen, any readily oxidizable materials (ammonia, potassium, arsenic, antimony, sulfur, mercury sulfide, calcium phosphide, phosphine, phosphorus, hydrogen sulfide, antimony sulfide, barium sulfide, mercury sulfide, and tin sulfide). Dissolves in alkalis, forming a mixture of chlorite and chlorate. Concentration of gas should be limited to less than 10% to reduce explosion hazard. Alcohols are oxidized explosively.	Explosive; Strong Oxidizing Agent; Water-Reactive		(NFPA, 2010)		3.00	4.00	3.00	7																							
3059	1,2,3-TRICHLOROPROPENE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	GLYCERYL TRINITRATE SOLUTION is incompatible with the following: Heat, ozone, shock, acids. Note: An OSHA Class A Explosive (1910.109). (NIOSH, 1997). It may react vigorously with reducing agents, including hydrides, sulfides and nitrides. Incompatible with ozone, acids.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2.00	3.00	4.00	7		(NIOSH, 2003)	Explodes															(NIOSH, 2003)		56	
3060	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE	STORAGE PRECAUTIONS: Store in a refrigerator and protect from moisture. Keep away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Rapidly decomposes in water(NTP, 1992).	Borates behave similarly to esters in that they react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters/borates with alkali metals and hydrides. Reacts vigorously with oxidizing materials. (NTP, 1992).	Water-Reactive		(NFPA, 2010)		1.00	0.00	0.00	0																					(NTP, 1992)			less than -94
3061	1,2-DICHLORO-1,1,2-TRIFLUOROETHANE	Neutralizing Agents for Acids and Caustics: Dry lime or soda ash (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water insoluble. Reacts slowly with water under basic conditions.	TRIBUTYL PHOSPHATE is incompatible with strong oxidizing agents and strong bases. Attacks some forms of plastics and rubber (NTP, 1992).	Strong Reducing Agent		(NFPA, 2010)		1.00	0.00	0.00	0		(NTP, 1992)		295											(USCG, 1999)		770		(NTP, 1992)			less than -112
3062	1,2-DICHLORO-1,1,3,3,3-PENTAFLUOROPROPANE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	GRAPHITE is non-flammable in bulk form, but combustible. A reducing agent. Mixtures of graphite dust and air are explosive when ignited. Reacts violently with very strong oxidizing agents such as fluorine, chlorine dioxide, and potassium peroxide. Almost inert chemically when in bulk form. Keep away from ignition sources and oxidizing agents.					1.00	0.00	0.00	0																	(NIOSH, 2003)	(Sublimes)	6602	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3057	1,2,3,6,7,8-HEXACHLORODIBENZO-P-DIOXIN																				(NTP, 1992)	Sublimes					(NTP, 1992)		197.45						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H3Cl3O		2.0	0.0	2.0	1.0	1.0
3058	1,2,3,7,8,9-HEXACHLORODIBENZO-P-DIOXIN																																								Cl2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3059	1,2,3-TRICHLOROPROPENE	(NIOSH, 2003)		0.0003				mm Hg							(NIOSH, 2003)		1.6				(NIOSH, 2003)	Begins to decompose at 122-140Â° F					(NIOSH, 2003)		227.1		(NIOSH, 2003)	(as nitroglycerine)	75	mg/m3	(NIOSH, 2003)		0.1		%		Flammable Liquid	C3H5N3O9 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3060	1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE								(NTP, 1992)		7.95				(NTP, 1992)		0.8567		68		(NTP, 1992)			446 to 448	760		(NTP, 1992)		230.2						(NTP, 1992)	Decomposes						C12H27BO3		4.0	0.0	5.0	1.0	1.0
3061	1,2-DICHLORO-1,1,2-TRIFLUOROETHANE	(NTP, 1992)		13.7		68		mm Hg	(NTP, 1992)		9.2				(USCG, 1999)		0.982		68		(NTP, 1992)		552		760		(NTP, 1992)		266.36		(NIOSH, 2003)		30	ppm	(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL	TBP		C12H27O4P		2.0	0.0	3.0	1.0	1.0
3062	1,2-DICHLORO-1,1,3,3,3-PENTAFLUOROPROPANE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			2.0 to 2.25			(NIOSH, 2003)	Sublimes					(NIOSH, 2003)		12		(NIOSH, 2003)		1250	mg/m3	(NIOSH, 2003)	Insoluble						C		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3063	1,2-DICHLORO-1,1-DIFLUOROETHANE	1,2-DICHLORO-1,1-DIFLUOROETHANE|HCFC-132B	1649-08-7	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	4983.0	501.0	1696.0	888.0	536.0	1390.0	145.0	476.0	266.0	143.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3064	1,2-DICHLOROETHYLENE, (CIS ISOMERS)	ACETYLENE DICHLORIDE|CIS-ACETYLENE DICHLORIDE|CIS-DICHLOROETHYLENE|DICHLOROETHENE|DICHLOROETHYLENE|1,2-DICHLOROETHYLENE, (CIS ISOMERS)|1,2-DICHLOROETHYLENE|ETHYLENE, DICHLORO-|(Z)-1,2-DICHLOROETHYLENE	156-59-2	A clear colorless liquid with an ether-like odor. Flash point 36-39Â°F. Denser than water and insoluble in water. Vapors heavier than air. Used in the making of perfumes.	2.5	5.0	2.5	4983.0	501.0	1696.0	888.0	536.0	1390.0	145.0	476.0	266.0	143.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3065	1,2-DICHLOROETHYLENE, (MIXED ISOMERS)	ACETYLENE DICHLORIDE|1,2-DICHLOROETHENE|DICHLOROETHYLENE|1,2-DICHLOROETHENE|1,2-DICHLOROETHYLENE, (MIXED ISOMERS)|1,2-DICHLOROETHYLENE|DIFORM|ETHYLENE, 1,2-DICHLORO-|NCI-C56031	540-59-0	A clear colorless liquid with ether-like odor. Mixture of cis and trans isomers. Flashpoint 36 - 43Â° F. Denser than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	4984.0	501.0	1696.0	888.0	536.0	1391.0	145.0	476.0	266.0	143.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3066	1,2-DICHLOROETHYLENE, (TRANS ISOMERS)	ACETYLENE DICHLORIDE|1,2-DICHLORO-, (E)-ETHENE|1,2-DICHLORO-, (E)-ETHYLENE|1,2-DICHLOROETHENE|1,2-DICHLOROETHYLENE, (TRANS ISOMERS)|1,2-DICHLOROETHYLENE|DIFORM|(E)-1,2-DICHLOROETHENE|(E)-1,2-DICHLOROETHYLENE|ETHENE, 1,2-DICHLORO-, (E)-|ETHYLENE, 1,2-DICHLORO-|ETHYLENE, 1,2-DICHLORO-, (E)-|HCC 1130T|NCI-C54591|R 1130T|SYM-DICHLOROETHYLENE|TRANS-1,2-DICHLOROETHENE|TRANS-ACETYLENE DICHLORIDE|1,2-TRANS-DICHLOROETHENE|TRANS-DICHLOROETHYLENE|1,2-TRANS-DICHLOROETHYLENE	156-60-5	Clear colorless liquid with a pleasant odor. Flash point 43Â°F.	2.5	5.0	2.5	4984.0	501.0	1696.0	888.0	536.0	1391.0	145.0	476.0	266.0	143.0	(BLOB)	Flash point data for this compound are not available. However, it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3067	1,2-DIETHYLHYDRAZINE DIHYDROCHLORIDE	1,2-DIETHYLHYDRAZINE DIHYDROCHLORIDE|HYDRAZINE, 1,2-DIETHYL-, DIHYDROCHLORIDE|N,N-DIETHYLHYDRAZINE DIHYDROCHLORIDE	7699-31-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	4984.0	501.0	1696.0	888.0	536.0	1391.0	145.0	476.0	266.0	143.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3068	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE	ACETONANIL|ACETONANYL|ACETONE ANIL|ACETONE ANIL (QUINOLINE DERIVATIVE)|AGERITE RESIN D|"AGERITE" RESIN D|DHTMQ|1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE|FLECTOL A|FLECTOL H|FLECTOL PASTILLES|GOOD-RITE 3140|NCI-C60902|POLNOX R|QUINOLINE, 1,2-DIHYDRO-2,2,4-TRIMETHYL-|TMQ|TRIMETHYL-1,2-DIHYDROQUINOLINE|2,2,4-TRIMETHYL-1,2-DIHYDROQUINOLINE|2,2,4-TRIMETHYL-1,2-DIHYDROQUINONE|VULKANOX HS/LG|VULKANOX HS/POWDER	147-47-7	PHYSICAL DESCRIPTION: Dark cloudy copper-colored or yellow liquid. Odorless. (NTP, 1992)	2.5	5.0	2.5	4985.0	501.0	1696.0	888.0	536.0	1392.0	145.0	476.0	266.0	143.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3063	1,2-DICHLORO-1,1-DIFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	GRISEOFULVIN is incompatible with strong oxidizing agents. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]				1.00	0.00	0.00	0																						(NTP, 1992)		428	
3064	1,2-DICHLOROETHYLENE, (CIS ISOMERS)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to air, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to air. Dust can be explosive when suspended in air at specific concentrations. Water soluble.	The triazoles, of which GUANAZOLE is a member, are a group of highly explosive materials that are sensitive to heat, friction, and impact. Sensitivity varies with the type of substitution to the triazole ring. The amine substituted derivatives, guanazole, tend not to be explosion sensitive. Metal chelated and halogen substitution of the triazol ring make for a particularly heat sensitive material. Azido and nitro derivatives have been employed as high explosives. No matter the derivative these materials should be treated as explosives. GUANAZOLE forms salts readily with acids. (NTP, 1992)	Explosive			1.00	0.00	0.00	0																						(NTP, 1992)	(Decomposes)		399 to 403
3065	1,2-DICHLOROETHYLENE, (MIXED ISOMERS)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	GUANIDINE NITRATE can explode. Demolished an autoclave built to withstand 50 atmospheres when it exploded as it was being synthesized from ammonium thiocyanate and lead nitrate [C. Angew Chem. 49:23(1936)]. Acts an an oxidizing agent with organic matter.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0																								
3066	1,2-DICHLOROETHYLENE, (TRANS ISOMERS)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	The organic dusts can react violently when suspended in air in the presence of an ignitable source. (NTP, 1992). Insoluble in water.	GUAR GUM is a ether-alcohol derivative, the ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.				1.00	0.00	0.00	0																								
3067	1,2-DIETHYLHYDRAZINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,3,5,6-TETRACHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	3.00	1.00	4																						(NTP, 1992)		237 to 241
3068	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	GYPSUM is generally of low reactivity. Can serve as an oxidizing agent under forcing conditions. Incompatible with aluminum (at high temperatures) and diazomethane.				1.00	1.00	0.00	1																						(NIOSH, 2003)	(Loses H2O)		262 to 325

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3063	1,2-DICHLORO-1,1-DIFLUOROETHANE																										(NTP, 1992)		352.77						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C17H17ClO6	Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3064	1,2-DICHLOROETHYLENE, (CIS ISOMERS)																										(NTP, 1992)		99.12						(NTP, 1992)	Soluble						C2H5N5	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3065	1,2-DICHLOROETHYLENE, (MIXED ISOMERS)																																								Oxidizer	CH5N3.HNO3|CH5N3.xHNO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3066	1,2-DICHLOROETHYLENE, (TRANS ISOMERS)																										(NTP, 1992)	approximately	220000						(NTP, 1992)	at 66Â° F		less than 1	mg/mL				Cellulose-Based Absorbents	3.0	0.0	5.0	1.0	1.0
3067	1,2-DIETHYLHYDRAZINE DIHYDROCHLORIDE															(NTP, 1992)		1.6		140		(NTP, 1992)		327		23	(NTP, 1992)		231.89						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H2Cl4O		3.0	0.0	3.0	1.0	1.0
3068	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE	(NIOSH, 2003)	(approx)	0				mm Hg								(NIOSH, 2003)		2.32									(NIOSH, 2003)		172.2						(NIOSH, 2003)	at 77Â° F	0.2		%			CaSO4 = 2H2O		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3069	1,2-EPOXY-3-BUTENE	BUTADIENE EPOXIDE|BUTADIENE MONOEPOXIDE|1,3-BUTADIENE MONOEPOXIDE|BUTADIENE MONOOXIDE|1,3-BUTADIENE MONOOXIDE|BUTADIENE MONOXIDE|BUTADIENE OXIDE|1,3-BUTADIENE OXIDE|BUTENE 3,4-EPOXIDE|1-BUTENE, 3,4-EPOXY-|1-BUTENE,3,4-EPOXY-|3,4-EPOXY-1-BUTENE|1,2-EPOXY-3-BUTENE|EPOXYBUTADIENE|1,2-EPOXYBUTENE-3|3,4-EPOXYBUTENE|ETHENYLOXIRANE|1,2-OXIDO-3-BUTENE|VINYL EPOXIDE|VINYLETHYLENE OXIDE|VINYLOXIRANE|(+-)-VINYLOXIRANE|2-VINYLOXIRANE	930-22-3	PHYSICAL DESCRIPTION: Clear light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4986.0	502.0	1697.0	888.0	537.0	1393.0	146.0	477.0	266.0	144.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3070	1,2-EPOXY-3-ETHOXYPROPANE	1,2-EPOXY-3-ETHOXYPROPANE|1,2-EPOXY-3-ETHYLOXYPROPANE|3-ETHOXY-1,2-EPOXYPROPANE|(ETHOXYMETHYL)OXIRANE|2-(ETHOXYMETHYL)OXIRANE |ETHYL GLYCIDYL ETHER|PROPANE, 1,2-EPOXY-3-ETHOXY-	4016-11-9	A colorless liquid. Less dense than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	4986.0	502.0	1697.0	888.0	537.0	1393.0	146.0	477.0	266.0	144.0	(BLOB)		This material is considered to be non-flammable. (NTP, 1992)
3071	1,2-EPOXY-4,4,4-TRICHLOROBUTANE	BUTANE, 1,1,1-TRICHLORO-3,4-EPOXY-|1,2-EPOXY-4,4,4-TRICHLOROBUTANE|4,4,4-TRICHLORO-1,2-BUTYLENE OXIDE|4,4,4-TRICHLORO-1,2-EPOXYBUTANE|1,1,1-TRICHLORO-3,4-EPOXYBUTANE|TRICHLORO BUTYLENE OXIDE|2,2,2-TRICHLOROETHYLOXIRENE	3083-25-8	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4986.0	502.0	1697.0	888.0	537.0	1393.0	146.0	477.0	266.0	144.0	(BLOB)		This material is considered to be non-flammable. (NTP, 1992)
3072	1,2-EPOXYDODECANE	ALPHA-DODECENE OXIDE|DECYL OXIRANE|DECYLOXIRANE|(.+-.)-DECYLOXIRANE|DODECANE, 1,2-EPOXY-|DODECENE EPOXIDE|1-DODECENE EPOXIDE|1,2-DODECENE OXIDE|1-DODECENE OXIDE|1,2-EPOXY-N-DODECANE|(.+-.)-1,2-EPOXYDODECANE|1,2-EPOXYDODECANE|NEDOX 1200|OXIRANE, DECYL- |OXIRANE, DECYL-, (.+-.)- |VIKOLOX 12	2855-19-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4986.0	502.0	1697.0	888.0	537.0	1393.0	146.0	477.0	266.0	144.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3073	1,2-EPOXYHEXADECANE	CYRACURE UVR 6216|1,2-EPOXYHEXADECANE|1,2-EPOXYHEXADECENE|HEXADECANE, 1,2-EPOXY- |HEXADECENE EPOXIDE|1,2-HEXADECENE EPOXIDE|1-HEXADECENE OXIDE|HEXADECYLENE OXIDE|1,2-HEXADECYLENE OXIDE|NCI-C55538|TETRADECYL OXIRANE|TETRADECYLOXIRANE|VIKOLOX 16	7320-37-8	PHYSICAL DESCRIPTION: White waxy solid or clear colorless liquid. Faint pleasant odor. (NTP, 1992)	1.0	2.5	5.0	4986.0	502.0	1697.0	890.0	537.0	1393.0	146.0	477.0	268.0	144.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3074	1,2-EPOXYOCTADECANE	1,2-EPOXYOCTADECANE|HEXADECYLOXIRANE|2-HEXADECYLOXIRANE|OCTADECANE, 1,2-EPOXY- |OCTADECENE EPOXIDE|1,2-OCTADECENE EPOXIDE|OCTADECYLENE OXIDE|1,2-OCTADECYLENE OXIDE|VIKOLOX 18	7390-81-0	PHYSICAL DESCRIPTION: White waxy or chunky solid. (NTP, 1992)	1.0	2.5	5.0	4987.0	502.0	1697.0	890.0	537.0	1394.0	146.0	477.0	268.0	144.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3069	1,2-EPOXY-3-BUTENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Slightly water soluble.	HALOTHANE is sensitive to exposure to light. Incompatible with oxidizing materials. Tarnishes or corrodes most metals, with the exception of chromium, nickel and titanium. When moisture is present, it attacks aluminum, brass and lead, but not copper. Contact causes rubber and some plastics to deteriorate rapidly. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	3.00	0.00	3																			(NIOSH, 2003)		-180	
3070	1,2-EPOXY-3-ETHOXYPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as HALOWAX 1000, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)					2.00	2.00	0.00	2																										
3071	1,2-EPOXY-4,4,4-TRICHLOROBUTANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as HALOWAX 1001, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)					2.00	2.00	0.00	2																										
3072	1,2-EPOXYDODECANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Slow oxidation. Insoluble in water.	A nitrated aromatic, amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.					2.00	2.00	0.00	2																								(NTP, 1992)		215 to 219
3073	1,2-EPOXYHEXADECANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture. Sensitive to prolonged exposure to air. Insoluble in water.	TERT-DODECYLMERCAPTAN is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Generate heat and in many cases hydrogen gas and possibly hydrogen sulfide with these materials. May liberate hydrogen sulfide upon decomposition or reaction with an acid. Incompatible with oxygen. Incompatible with strong oxidizing agents (NTP, 1992). May be sensitive to heat.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2.00	2.00	0.00	2	(NTP, 1992)		195															(NTP, 1992)		18.5	
3074	1,2-EPOXYOCTADECANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed in strong acid or alkaline media.	2,3,5-TRIMETHYLPHENYL METHYLCARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	2.00	0.00	2																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3069	1,2-EPOXY-3-BUTENE	(NTP, 1992)		243		68		mm Hg	(NTP, 1992)	(calculated)	6.8				(NTP, 1992)		1.871		68		(NTP, 1992)		122.4		760		(NTP, 1992)		197.39						(NTP, 1992)	at 64Â° F		0.1 to 1.0	mg/mL		Class 9	F3CCHBrCl		4.0	0.0	5.0	1.0	1.0
3070	1,2-EPOXY-3-ETHOXYPROPANE																																												1.0	0.0	1.0	1.0	1.0
3071	1,2-EPOXY-4,4,4-TRICHLOROBUTANE																																												2.0	0.0	2.0	1.0	1.0
3072	1,2-EPOXYDODECANE																											(NTP, 1992)		255.31						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C11H17N3O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0
3073	1,2-EPOXYHEXADECANE	(NTP, 1992)		less than 0.1	75		mm Hg	(NTP, 1992)		6.98					(NTP, 1992)		0.85		77		(NTP, 1992)		441 to 478	760			(NTP, 1992)		202.44						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Class 9	C12H26S		4.0	0.0	4.0	1.0	1.0
3074	1,2-EPOXYOCTADECANE																																									Poison	C11H15NO2		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3075	1,2-EPOXYTETRADECANE	DODECYLENE OXIDE|DODECYLOXIRANE|(.+-.)-DODECYLOXIRANE|(.+-.)-1,2-EPOXYTETRADECANE|1,2-EPOXYTETRADECANE|TETRADECANE, 1,2-EPOXY-|TETRADECANE, 1,2-EPOXY-|TETRADECENE EPOXIDE|1,2-TETRADECENE OXIDE|1-TETRADECENE OXIDE|TETRADECENEEPOXIDE|1,2-TETRADECYLENE OXIDE	3234-28-4	PHYSICAL DESCRIPTION: Clear colorless mobile liquid with an ether-like odor. (NTP, 1992)	2.5	5.0	2.5	4987.0	502.0	1697.0	890.0	537.0	1394.0	146.0	477.0	268.0	144.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3076	1,3-BIS(METHYLISOCYANATE)CYCLOHEXANE	1,3-BIS(METHYLISOCYANATE)CYCLOHEXANE	38661-72-2		2.5	5.0	2.5	4987.0	502.0	1697.0	890.0	537.0	1394.0	146.0	477.0	268.0	144.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3077	1,3-DICHLORO-1,1,2,2,3-PENTAFLUOROPROPANE	1,3-DICHLORO-1,1,2,2,3-PENTAFLUOROPROPANE|HCFC-225CB	507-55-1	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	4987.0	502.0	1698.0	890.0	537.0	1394.0	146.0	478.0	268.0	144.0	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3078	1,3-DICHLOROPROPANOL	DICHLOROHYDRIN|DICHLOROPROPANOL|1,3-DICHLOROPROPANOL-2|GLYCERIN DICHLORHYDRIN|GLYCERIN DICHLOROHYDRIN|GLYCEROL DICHLOROHYDRIN	26545-73-3	A colorless liquid with an ether-like odor. Denser than water and slightly soluble in water. Toxic by ingestion, inhalation or skin absorption and may irritate skin and eyes.	2.5	5.0	2.5	4988.0	502.0	1698.0	890.0	537.0	1395.0	146.0	478.0	268.0	144.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3079	1,3-DIMETHYL-5-NITROBENZENE	3,5-DIMETHYL-1-NITROBENZENE|1,3-DIMETHYL-5-NITROBENZENE|3,5-DIMETHYLNITROBENZENE|M-XYLENE, 5-NITRO-|1-NITRO-3,5-DIMETHYLBENZENE|5-NITRO-M-XYLENE	99-12-7	PHYSICAL DESCRIPTION: Needles or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	4989.0	502.0	1698.0	890.0	537.0	1396.0	146.0	478.0	268.0	144.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3080	1,3-DIMETHYLBUTYLAMINE	2-AMINO-4-METHYLPENTANE|BUTYLAMINE, 1,3-DIMETHYL-|1,3-DIMETHYL BUTYLAMINE|1,3-DIMETHYLBUTANAMINE|(.+-.)-1,3-DIMETHYLBUTYLAMINE|1,3-DIMETHYLBUTYLAMINE|DL-1,3-DIMETHYLBUTYLAMINE|4-METHYL-2-AMINOPENTANE|(.+-.)-4-METHYL-2-PENTANAMINE|4-METHYL-2-PENTANAMINE	108-09-8	A liquid with a fishlike odor. Less dense than water. Flash point 39 - 55Â°F. Vapors heavier than air. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	4990.0	502.0	1698.0	892.0	537.0	1397.0	146.0	478.0	270.0	144.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3075	1,2-EPOXYTETRADECANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Slow oxidation. Insoluble in water.	A nitrated aromatic, amine and alcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			2.00	2.00	0.00	2																						(NTP, 1992)		182 to 194
3076	1,3-BIS(METHYLISOCYANATE)CYCLOHEXANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as 1-(1,2 DIBROMOETHYL)-3,4-DIBROMOCYCLOHEXANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.			2.00	0.00	0.00	0																						(NTP, 1992)		154 to 194
3077	1,3-DICHLORO-1,1,2,2,3-PENTAFLUOROPROPANE	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids or solids. (ERG, 2012)	Slightly soluble in water.	These substances undergo no chemical reactions under any known circumstances. They are nonflammable, noncombustible and nontoxic. They can asphyxiate. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container, [Handling Chemicals Safely 1980].		Excerpt from GUIDE 120 [Gases - Inert (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	0.00	0.00	0																								
3078	1,3-DICHLOROPROPANOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Susceptible to epoxidation. Slowly losses hydrogen chloride in the presence of alkaline solution. Insoluble in water.	HEPTACHLOR is incompatible with strong alkali. It is corrosive to metals. It can react with iron and rust to form toxic gases. It can react vigorously with oxidizing materials. It is susceptible to epoxidation. (NTP, 1992). Halogenated aliphatic compounds, such as HEPTACHLOR AND METABOLITES, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	3.00	0.00	3																								
3079	1,3-DIMETHYL-5-NITROBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLORNAPHAZINE reacts with nucleophiles (NTP, 1992).	Explosive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	3.00	0.00	3																						(NTP, 1992)		129 to 133
3080	1,3-DIMETHYLBUTYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved respirator, rubber gloves, safety goggles. (USCG, 1999)	Slightly soluble in water.	HEPTANOIC ACID reacts exothermically with bases. Can react, particularly if moist, with active metals to form gaseous hydrogen and a metal salt. Such reactions are slow if the acid remains dry. Corrodes or dissolves iron, steel, and aluminum parts and containers under ordinary conditions. Reacts with cyanide salts to generate gaseous hydrogen cyanide, particularly if moist. May generate flammable and/or toxic gases with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO_2), to generate flammable and/or toxic gases and heat. Reacts exothermically with carbonates and bicarbonates to generate a harmless gas (carbon dioxide). Can be oxidized exothermically by strong oxidizing agents and reduced exothermically by strong reducing agents. A wide variety of products is possible. May initiate polymerization reactions; may catalyze chemical reactions.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235															(NTP, 1992)		16	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3075	1,2-EPOXYTETRADECANE																										(NTP, 1992)		285.34						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C12H19N3O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3076	1,3-BIS(METHYLISOCYANATE) CYCLOHEXANE														(NTP, 1992)		2.28										(NTP, 1992)		427.83						(NTP, 1992)			less than 1	mg/mL			C8H12Br4		3.0	0.0	3.0	1.0	1.0
3077	1,3-DICHLORO-1,1,2,2,3-PENTAFLUOROPROPANE																																								Non-Flammable Gas	He		2.0	0.0	2.0	1.0	1.0
3078	1,3-DICHLOROPROPANOL																														(NIOSH, 2003)	; A potential human carcinogen.	35	mg/m3							Poison		Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3079	1,3-DIMETHYL-5-NITROBENZENE																				(NTP, 1992)		410		760		(NTP, 1992)		268.2						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C14H15Cl2N	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3080	1,3-DIMETHYLBUTYLAMINE	(NTP, 1992)	; 100 mm Hg at 330Â° F; 760 mm Hg at 430.7Â° F	1		172		mm Hg							(USCG, 1999)		0.92		68		(NTP, 1992)			432 to 473	760		(NTP, 1992)		130.19						(NTP, 1992)	at 73Â° F		1 to 10	mg/mL	HEP	Corrosive	C7H14O2		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3081	1,3-DIOXANE	1,3-DIOXACYCLOHEXANE|1,3-DIOXANE|M-DIOXAN|M-DIOXANE|M-DIOXIN, DIHYDRO-|1,3-PROPANEDIOL FORMAL|TRIMETHYLENE GLYCOL METHYLENE ETHER|TRIMETHYLENE METHYLENE DIOXIDE	505-22-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	4990.0	502.0	1698.0	892.0	537.0	1397.0	146.0	478.0	270.0	144.0	Flush all affected parts with plenty of water. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Fire Extinguishing Agents: Foam, carbon dioxide, or dry chemical (USCG, 1999)
3082	1,4-DICHLORO-2-BUTENE	2-BUTENE, 1,4-DICHLORO-|2-BUTYLENE DICHLORIDE|CIS-1,4-DICHLORO-2-BUTENE|1,4-DICHLORO-2-BUTENE|1,4-DICHLORO-2-BUTYLENE|DICHLOROBUTENE|TRANS-1,4-DICHLORO-2-BUTENE	764-41-0	A clear colorless liquid. Burns, though may be difficult to ignite. Corrosive to tissue. Denser than water and insoluble in water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	4990.0	502.0	1698.0	892.0	537.0	1397.0	146.0	478.0	270.0	144.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3083	1,4-DICHLOROBUTANE-D8	1,4-DICHLOROBUTANE-D8	83547-96-0	Colorless liquid. May have sweet smell. Insoluble in water.	2.5	5.0	2.5	4991.0	502.0	1698.0	892.0	537.0	1398.0	146.0	478.0	270.0	144.0	(BLOB)	Special Hazards of Combustion Products: They contain highly toxic chloride fumes. Behavior in Fire: Produces highly toxic chloride fumes. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3084	1,4-PENTADIENE	ALLYLETHYLENE|DIVINYL METHANE|PENTA-1,4-DIENE|1,4-PENTADIENE	591-93-5	A colorless liquid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	4992.0	502.0	1698.0	892.0	537.0	1399.0	146.0	478.0	270.0	144.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3085	1,6-DIMETHYLNAPHTHALENE	1,6-DIMETHYLNAPHTHALENE|NAPHTHALENE, 1,6-DIMETHYL-	575-43-9	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4993.0	502.0	1698.0	892.0	538.0	1400.0	146.0	478.0	270.0	145.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3086	1,8-P-MENTHANEDIAMINE	1-AMINO-1-METHYL-4-(2-AMINO-2-PROPYL)CYCLOHEXANE|4-AMINO-ALPHA,ALPHA,4-TRIMETHYL-CYCLOHEXANE METHAMINE|1,8-DIAMINO-P-MENTHANE|MENTHANEDIAMINE|1,8-MENTHANEDIAMINE|METHANEDIAMINE|1-METHYL-4-(1-AMINO-1-METHYLETHYL)CYCLOHEXYLAMINE|P-MENTHANE-1,8-DIAMINE|1,8-P-MENTHANEDIAMINE|P-METHANE-1,8-DIAMINE|PRIMENE MD|USAF RH-4	80-52-4	PHYSICAL DESCRIPTION: Blackish liquid. (NTP, 1992)	2.5	5.0	2.5	4994.0	502.0	1698.0	892.0	538.0	1401.0	146.0	478.0	270.0	145.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3081	1,3-DIOXANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Chemical goggles or face shield. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	HEPTANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		170														(USCG, 1999)		-29	
3082	1,4-DICHLORO-2-BUTENE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	HEXABUTOXYTRIPHENYLENE is an ether. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound						0																				
3083	1,4-DICHLOROBUTANE-D8	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	This chemical is sensitive to moisture. Insoluble in water.	HEXACHLOROBENZENE reacts violently with dimethylformamide. (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		468														(NTP, 1992)		441 to 444	
3084	1,4-PENTADIENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Halogenated aliphatic compounds, such as HEXACHLOROCYCLOHEXANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
3085	1,6-DIMETHYLNAPHTHALENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	HEXACHLORONAPHTHALENE is generally unreactive. May be incompatible with strong oxidizing and reducing agents. May be incompatible with some amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.						0																		(NTP, 1992)		279	
3086	1,8-P-MENTHANEDIAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes rather slowly in water to form hydrochloric acid and palmitic acid, a fatty acid that is not soluble in water.	HEXADECANOYL CHLORIDE is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3081	1,3-DIOXANE														(USCG, 1999)		0.822		68		(USCG, 1999)		349		760		(USCG, 1999)		116.2											HTN	Poison	C7H16O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3082	1,4-DICHLORO-2-BUTENE																										(NTP, 1992)		660.95														C42H60O6		4.0	0.0	4.0	1.0	1.0
3083	1,4-DICHLOROBUTANE-D8	(NTP, 1992)	: 0.0000109 mm Hg at 68Â° F	1		237.9		mm Hg	(NTP, 1992)		9.8				(USCG, 1999)		2.044		75.2		(NTP, 1992)	(sublimes)	612		760		(NTP, 1992)		284.76						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	HCZ	Poison	C6Cl6		2.0	0.0	2.0	1.0	1.0
3084	1,4-PENTADIENE																																								Poison	C6H6Cl6		2.0	0.0	3.0	1.0	1.0
3085	1,6-DIMETHYLNAPHTHALENE	(NTP, 1992)			less than 1	68		mm Hg							(NIOSH, 2003)		1.78				(NTP, 1992)		649 to 729		760		(NTP, 1992)		334.9		(NIOSH, 2003)		2	mg/m3	(NTP, 1992)	Insoluble						C10H2Cl6		4.0	0.0	4.0	1.0	1.0
3086	1,8-P-MENTHANEDIAMINE																																								Corrosive	C16H31ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3087	1-ACETYL-2-THIOUREA	ACETOTHIOUREA|ACETYL THIOUREA|1-ACETYL-2-THIOUREA|ACETYLTHIOCARBAMIDE|ACETYLTHIOUREA|1-ACETYLTHIOUREA|N-ACETYL-2-THIOUREA|N-ACETYLTHIOCARBAMIDE|N-ACETYLTHIOUREA|UREA, 1-ACETYL-2-THIO-|USAF EK-4890	591-08-2	White crystalline solid. Noncombustible, but decomposes with heating.	1.0	2.5	5.0	4995.0	502.0	1698.0	892.0	538.0	1402.0	146.0	478.0	270.0	145.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Heat of fire can cause decomposition, with evolution of highly toxic and irritating hydrogen chloride and phosgene vapors. Behavior in Fire: Highly irritating (tear gas) vapors released when heated. Hydrogen chloride gas is released if in contact with water. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3088	1-AMINO-2,4-DIBROMOANTHRAQUINONE	1-AMINO-2,4-DIBROMOANTHRAQUINONE|9,10-ANTHRACENEDIONE,1-AMINO-2,4-DIBROMO-|ANTHRAQUINONE, 1-AMINO-2,4-DIBROMO-|2,4-DIBROMO-1-ANTHRAQUINONYLAMINE|NCI-C55458	81-49-2	Odorless red powder. (NTP, 1992)	1.0	2.5	5.0	4995.0	502.0	1699.0	892.0	538.0	1402.0	146.0	479.0	270.0	145.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3089	1-AMINO-2-BUTANOL	(+-)-1-AMINO-2-BUTANOL|1-AMINO-2-BUTANOL|1-AMINO-2-HYDROXYBUTANE|1-AMINO-SEC-BUTANOL|1-ETHYL-2-AMINOETHANOL|2-HYDROXY-1-BUTYLAMINE|2-HYDROXY-N-BUTYLAMINE|2-HYDROXYBUTYLAMINE|MONO-SEC-BUTANOLAMINE	13552-21-1	PHYSICAL DESCRIPTION: Slightly yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4995.0	502.0	1699.0	892.0	538.0	1402.0	146.0	479.0	270.0	145.0	EYES OR SKIN: flush with water. (USCG, 1999)		
3090	1-AMINO-2-METHYLANTHRAQUINONE	ACETATE FAST ORANGE R|ACETOQUINONE LIGHT ORANGE JL|1-AMINO-2-METHYL-9,10-ANTHRACENEDIONE|1-AMINO-2-METHYLANTHRAQUINONE|9,10-ANTHRACENEDIONE, 1-AMINO-2-METHYL-|ANTHRAQUINONE, 1-AMINO-2-METHYL-|ARTISIL ORANGE 3RP|C.I. 60700|C.I. DISPERSE ORANGE 11|C.I. SOLVENT ORANGE 35|CELLITON ORANGE R|CILLA ORANGE R|DISPERSE ORANGE|DISPERSE ORANGE (ANTHRAQUINONE DYE)|DISPERSE ORANGE 11|DURANOL ORANGE G|2-METHYL-1-ANTHRAQUINONYLAMINE|MICROSETILE ORANGE R|NCI-C01901|NYLOQUINONE ORANGE JR|PERLITON ORANGE 3R|SERISOL ORANGE YL|SMOKE	82-28-0	PHYSICAL DESCRIPTION: Red powder. (NTP, 1992)	1.0	2.5	5.0	4996.0	503.0	1700.0	894.0	539.0	1403.0	147.0	480.0	272.0	146.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3091	1-AMINOPYRENE	ALPHA-AMINOPYRENE|1-AMINOPYRENE|3-AMINOPYRENE|1-PYRENAMINE	1606-67-3	PHYSICAL DESCRIPTION: Colorless crystals. Yellow needles from hexane, melting point 117-118Â°C.	1.0	2.5	5.0	4997.0	503.0	1701.0	894.0	539.0	1404.0	147.0	481.0	272.0	146.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halone extinguisher. (NTP, 1992)
3092	1-AZIRIDINE ETHANOL	1-AZIRIDINE ETHANOL|1-AZIRIDINEETHANOL|2-(1-AZIRIDINYL) ETHANOL|BETA-HYDROXY-1-ETHYLAZIRIDINE|3-HYDROXY-1-ETHYL AZIRIDINE|1-(2-HYDROXYETHYL) ETHYLENIMINE|1-(2-HYDROXYETHYL)ETHYLENIMINE|N-(2-HYDROXYETHYL) ETHYLENEIMINE|N-(2-HYDROXYETHYL)AZIRIDINE|N-(2-HYDROXYETHYL)ETHYLENIMINE|N-(BETA-HYDROXYETHYL)AZIRIDENE|N-(BETA-HYDROXYETHYL)AZIRIDINE|N-HYDROXYETHYL ETHYLENE IMINE	1072-52-2	PHYSICAL DESCRIPTION: Clear colorless to yellow liquid. (NTP, 1992)	2.5	5.0	2.5	4998.0	503.0	1701.0	894.0	539.0	1405.0	147.0	481.0	272.0	146.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a CO2, dry chemical, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3087	1-ACETYL-2-THIOUREA	(BLOB)	(BLOB)	Reacts with moisture in the air or with water with generation of heat and hydrochloric acid [Merck, 11th ed., 1989]. Chloroacetyl chloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.8 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	CHLOROACETYL CHLORIDE reacts rapidly with water. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1752 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																						(USCG, 1999)		-8.5	
3088	1-AMINO-2,4-DIBROMOANTHRAQUINONE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Slightly soluble in water.	2,3-DIMETHYLCYCLOHEXYL AMINE is a base and a reducing agent. Reacts violently with strong oxidizing agents and acids; attacks copper and copper compounds [Handling Chemicals Safely, 1980 p. 123]. Reacts with hypochlorites to give N-chloroamines, some of which, are explosives when isolated [Bretherick, 1979 p. 108].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3089	1-AMINO-2-BUTANOL		Plastic or rubber gloves; goggles or face shield (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Salts, basic, such as HEXADECYL SULFATE, [SODIUM SALT], are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																									
3090	1-AMINO-2-METHYLANTHRAQUINONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Insoluble in water.	Solutions of 2,3-DIMETHYLPHENOL in water, DMSO, 95% ethanol or acetone should be stable for 24 hours under normal lab conditions. This compound is incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. It corrodes steel, brass, copper, and copper alloys. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		167	
3091	1-AMINOPYRENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Water soluble.	Epoxides, such as 2,3-EPOXY-2,3-DIMETHYLBUTANE, are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3092	1-AZIRIDINE ETHANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This compound may be sensitive to prolonged exposure to air. Insoluble in water.	HEXADECYLAMINE may react with oxidizing agents (NTP, 1992). Readily neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		285																			(NTP, 1992)		115.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3087	1-ACETYL-2-THIOUREA	(NIOSH, 2003)		19				mm Hg							(USCG, 1999)		1.42		68		(USCG, 1999)		221		760		(USCG, 1999)		112.9						(NIOSH, 2003)	Decomposes				CAC	Poison Inhalation Hazard|Corrosive	ClCH2COCl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	5.0	1.0	1.0
3088	1-AMINO-2,4-DIBROMOANTHRAQUINONE																																							Corrosive|Flammable Liquid	C8H17N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3089	1-AMINO-2-BUTANOL														(USCG, 1999)		1		68																					HSS		C16H33O4S.Na		2.0	0.0	3.0	1.0	1.0
3090	1-AMINO-2-METHYLANTHRAQUINONE	(NTP, 1992)	: 5 mm Hg at 182.8Â° F; 10 mm Hg at 207.7Â° F	1		132.8		mm Hg													(NTP, 1992)		424		760		(NTP, 1992)		122.17						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C8H10O		3.0	0.0	3.0	1.0	1.0
3091	1-AMINOPYRENE														(NTP, 1992)		0.8156		61		(NTP, 1992)			194 to 201	745		(NTP, 1992)		100.16						(NTP, 1992)	Soluble					Combustible Liquid	C6H12O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3092	1-AZIRIDINE ETHANOL														(NTP, 1992)		0.8129		68		(NTP, 1992)		613		760		(NTP, 1992)		241.47						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C16H35N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3093	1-AZIRIDINYL PHOSPHINE OXIDE (TRIS)	APHOXIDE|APO|1-AZIRIDINYL PHOSPHINE OXIDE (TRIS)|ENT 24915|IMPERON FIXER T|NSC 9717|PHOSPHINE OXIDE, TRIS(1-AZIRIDINYL)-|PHOSPHORIC ACID TRIETHYLENE IMIDE|PHOSPHORIC ACID TRIETHYLENEIMIDE|PHOSPHORIC TRIAMIDE, N,N',N''-TRI-1,2-ETHANEDIYL-|TAPO|TEF|TEPA|TRI(AZIRIDINYL)PHOSPHINE OXIDE|TRI-1-AZIRIDINYLPHOSPHINE OXIDE|TRIAZIRIDINOPHOSPHINE OXIDE|TRIAZIRIDINYLPHOSPHINE OXIDE|TRIETHYLENEPHOSPHORAMIDE|TRIETHYLENEPHOSPHOROTRIAMIDE|TRIS(1-AZIRIDINE)PHOSPHINE OXIDE|TRIS(1-AZIRIDINYL) PHOSPHINE OXIDE|TRIS(1-AZIRIDINYL)PHOSPHINE OXIDE|TRIS(AZIRIDINYL)PHOSPHINE OXIDE|TRIS-(1-AZIRIDINYL) PHOSPHINE	545-55-1	An aqueous solution of a colorless crystalline solid. Toxic by skin absorption, ingestion or inhalation. Produces toxic oxides of nitrogen during combustion. Used as a pesticide.	2.5	5.0	2.5	4999.0	503.0	1701.0	894.0	539.0	1406.0	147.0	481.0	272.0	146.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3094	1-BROMO-2-BUTANONE	1-BROMO-2-BUTANONE	816-40-0	A colorless to straw-colored liquid. Toxic by inhalation, skin contact or ingestion.	2.5	5.0	2.5	5000.0	503.0	1701.0	894.0	539.0	1407.0	147.0	481.0	272.0	146.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3095	1-BROMO-2-PROPANOL	1-BROMO-2-HYDROXYPROPANE|(.+-.)-1-BROMO-2-PROPANOL|1-BROMO-2-PROPANOL|2-HYDROXY-2-METHYLETHYL BROMIDE|2-HYDROXYPROPYL BROMIDE|PROPYLENE BROMOHYDRIN	19686-73-8	PHYSICAL DESCRIPTION: Colorless to dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	5000.0	503.0	1701.0	894.0	539.0	1407.0	147.0	481.0	272.0	146.0	INGESTION: do NOT induce vomiting; drink large quanities of fluid and call a physician immediately. EYES: flush with water for at least 15 min. and call a physician. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating fumes of hydrogen chloride may form in fires. Behavior in Fire: Solvent vapors are heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
3096	1-BUTEN-3-YNE	1-BUTEN-3-YNE|VINYL ACETYLENE	689-97-4	A colorless gas or liquid. Derived by the dimerization of acetylene. Used in the synthesis of neoprene and for other organic syntheses.	5.0	1.0	1.0	5000.0	504.0	1701.0	894.0	539.0	1407.0	148.0	481.0	272.0	146.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Forms heavy black smoke and soot (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3097	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE|HCFC-124A	354-25-6	Colorless odorless nonflammable gas.	5.0	1.0	1.0	5001.0	504.0	1701.0	894.0	539.0	1408.0	148.0	481.0	272.0	146.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3093	1-AZIRIDINYL PHOSPHINE OXIDE (TRIS)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CHLOROANILINES are amines. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3094	1-BROMO-2-BUTANONE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas. REF [Handling Chemicals Safely, 1980 p. 924]. Fumes in air. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DHS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as HEXADECYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1781 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2																							
3095	1-BROMO-2-PROPANOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	HEXADECYLTRIMETHYLAMMONIUM CHLORIDE is a quaternary ammonium compound. Therefore it has a permanently charged nitrogen atom with four alkyl or aryl groups on it. Compounds in this group are generally soluble in water and are near pH 7 (neutral). They do not undergo the acid-base reactions typical of primary, secondary, or tertiary ammonium ions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		69		(USCG, 1999)	(isopropyl alcohol)	2		%	(USCG, 1999)	(isopropyl alcohol)	12		%	(USCG, 1999)		750					
3096	1-BUTEN-3-YNE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	SPIRITS OF TURPENTINE reacts with oxidizing agents. Calcium hypochlorite was placed in a turpentine container, thought to be empty. Reaction with the residual turpentine resulted in an explosion within a few minutes [Benson 1967]. Reacts violently with chromic anhydride [Haz. Chem. Data 1967 p. 68]. Reacts with stannic chloride producing heat and sometimes flame [Mellor 7:430 1946-47]. May also react exothermically with reducing agents to produce gaseous hydrogen.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		95		(USCG, 1999)		0.8		%						(USCG, 1999)		488		(NIOSH, 2003)		-76 to -58
3097	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May ignite on contact with air or moist air. Insoluble in water.	Organophosphates, such as TRIBUTYLPHOSPHINE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	2	5																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3093	1-AZIRIDINYL PHOSPHINE OXIDE (TRIS)																																								Poison	C6H6ClN	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3094	1-BROMO-2-BUTANONE																																								Corrosive	C16H33Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3095	1-BROMO-2-PROPANOL														(USCG, 1999)	(approx.)	0.9		77		(USCG, 1999)	(isopropyl alcohol)	180		760		(USCG, 1999)	(solute only)	319										HAC	Class 9	C19H42N.Cl		4.0	0.0	4.0	1.0	1.0
3096	1-BUTEN-3-YNE	(USCG, 1999)		13.44				mm Hg							(NIOSH, 2003)		0.86				(USCG, 1999)		302 to 320	760		(NIOSH, 2003)		136		(NIOSH, 2003)		800	ppm	(NIOSH, 2003)	Insoluble				TPT	Flammable Liquid		Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3097	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE																																							Spontaneously Combustible	C12H27P	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3098	1-CHLORO-1-NITROPROPANE	1-CHLORO-1-NITROPROPANE|CHLORONITROPROPANE|KORAX|KORAXÃ®|LANSTAN|LANSTANÃ® |PROPANE, 1-CHLORO-1-NITRO-	600-25-9	Colorless liquid. Unpleasant odor. (USCG, 1999)	2.5	5.0	2.5	5001.0	504.0	1701.0	894.0	539.0	1408.0	148.0	481.0	272.0	146.0	Eye: If eye tissue is frozen, seek medical attention immediately. If tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photo phobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3099	1-CHLORO-2-PROPANOL	ALPHA-PROPYLENE CHLOROHYDRIN|1-CHLORO-2-HYDROXYPROPANE|(.+-.)-1-CHLORO-2-PROPANOL|1-CHLORO-2-PROPANOL|1-CHLOROISOPROPYL ALCOHOL|2-PROPANOL, 1-CHLORO-|SEC-PROPYLENE CHLOROHYDRIN	127-00-4	PHYSICAL DESCRIPTION: Clear colorless to light amber liquid with a mild non residual odor. (NTP, 1992)	2.5	5.0	2.5	5001.0	504.0	1702.0	894.0	539.0	1408.0	148.0	482.0	272.0	146.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3100	1-HEPTANETHIOL	HEPTANE-1-THIOL|1-HEPTANETHIOL|HEPTYL MERCAPTAN|HEPTYLTHIOL|1-HEPTYLTHIOL|1-MERCAPTOHEPTANE|N-HEPTANETHIOL|N-HEPTYL MERCAPTAN|N-HEPTYLTHIOL|NSC 71119	1639-09-4	Colorless liquid with a strong unpleasant odor. Mp: -41.3Â°C; bp: 177Â°C. Density: 0.84 g cm-3. Insoluble in water.	2.5	5.0	2.5	5001.0	504.0	1702.0	894.0	539.0	1408.0	148.0	482.0	272.0	146.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3101	1-HYDROXY-1'-HYDROPEROXY DICYCLOHEXYL PEROXIDE	CADOX HDP|CYCLOHEXANONE PEROXIDE|DICYCLOHEXANONE DIPEROXIDE|1-HYDROPEROXYCYCLOHEXYL|1-HYDROXY-1'-HYDROPEROXY DICYCLOHEXYL PEROXIDE|1-HYDROXYCYCLOHEXYL PEROXIDE|LUPERCO JDB-50-T	78-18-2	Odorless thick white liquid. Sinks in water. (USCG, 1999)	2.5	5.0	2.5	5002.0	504.0	1702.0	894.0	539.0	1409.0	148.0	482.0	272.0	146.0	INHALATION: remove victim to uncontaminated atmosphere; get medical attention. INGESTION: give large amount of water; do NOT induce vomiting; get medical attention if large amount was swallowed. EYES: flush with water for 15 min. and get medical attention. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3102	1-METHYLPYRENE	1-METHYLPYRENE|3-METHYLPYRENE	2381-21-7	PHYSICAL DESCRIPTION: Plates (in ethanol) or brown-green powder. (NTP, 1992)	1.0	2.5	5.0	5003.0	504.0	1702.0	894.0	539.0	1410.0	148.0	482.0	272.0	146.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3098	1-CHLORO-1-NITROPROPANE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact and to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Hygroscopic (i.e., absorbs moisture from the air); reacts with moisture to form a highly acidic sesquihydrate. (NIOSH, 1997).	HEXAFLUOROACETONE is incompatible with the following: Water, acids [Note: Hygroscopic (i.e., absorbs moisture from the air); reacts with moisture to form a highly acidic sesquihydrate.] (NIOSH, 1997).	Water-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2420 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)					0																			(NIOSH, 2003)		-188	
3099	1-CHLORO-2-PROPANOL	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	HEXAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3100	1-HEPTANETHIOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Protective clothing; eye protection. (USCG, 1999)	May be sensitive to air. Water soluble.	HEXAMETHYLENEDIAMINE is hygroscopic. This compound can react with strong oxidizing materials. It is incompatible with acids, acid chlorides and acid anhydrides. It is also incompatible with ketones, aldehydes, nitrates, phenols, isocyanates, monomers and chlorinated compounds. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		178		(NTP, 1992)		0.7		%	(NTP, 1992)		6.3		%	(NTP, 1992)			734 to 788	(NTP, 1992)		108	
3101	1-HYDROXY-1'-HYDROPEROXY DICYCLOHEXYL PEROXIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; impervious gloves; chemical safety goggles; impervious apron and boots (USCG, 1999)	Highly flammable. Soluble in water.	HEXAMETHYLENEIMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		99		(USCG, 1999)		1.6		%	(USCG, 1999)		2.3		%								
3102	1-METHYLPYRENE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 2,4,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3098	1-CHLORO-1-NITROPROPANE	(NIOSH, 2003)		5.8				atm													(NIOSH, 2003)		-18		760		(NIOSH, 2003)		166						(NIOSH, 2003)	Reacts with water					Poison Gas|Corrosive	C3F6O		3.0	0.0	4.0	1.0	1.0
3099	1-CHLORO-2-PROPANOL																																									Non-Flammable Gas	C2F6		4.0	0.0	5.0	1.0	1.0
3100	1-HEPTANETHIOL	(NTP, 1992)	: 3 mm Hg at 140Â° F	1.1		122		mm Hg	(NTP, 1992)		4.01				(USCG, 1999)	(anhyd.) 0.799 at 140.0Â° F (70% soln.) 0.933 at 20Â°C					(NTP, 1992)		401		760		(NTP, 1992)		116.24						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	HMD	Corrosive	C6H16N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3101	1-HYDROXY-1'-HYDROPEROXY DICYCLOHEXYL PEROXIDE	(USCG, 1999)		217.14				mm Hg							(USCG, 1999)	0.88		68		(USCG, 1999)		270		760		(USCG, 1999)		99												HMI	Flammable Liquid|Corrosive	C6H13N	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3102	1-METHYLPYRENE																																								Poison	C11H18N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3103	1-NITROBUTANE	1-NITROBUTAN|1-NITROBUTANE	627-05-4	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5004.0	504.0	1702.0	894.0	539.0	1411.0	148.0	482.0	272.0	146.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3104	1-NITROHEXANE	N-NITROHEXANE|NITROHEXANE|1-NITROHEXANE	646-14-0	PHYSICAL DESCRIPTION: Clear colorless liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5004.0	504.0	1702.0	894.0	539.0	1411.0	148.0	482.0	272.0	146.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide, or dry chemical extinguisher. (NTP, 1992)
3105	1-NITROPROPANE	N-NITROPROPANE|1-NITROPAN|NITROPROPANE|1-NITROPROPANE|1-NP|PROPANE, 1-NITRO-	108-03-2	A colorless oily flammable liquid. Density about the same as water. Vapors much heavier than air. Vapors may irritate skin, eyes and mucous membranes. Toxic oxides of nitrogen are released during combustion. Used as a propellant and as a solvent.	2.5	5.0	2.5	5004.0	504.0	1702.0	894.0	539.0	1411.0	148.0	482.0	272.0	146.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3106	1-TETRADECENE	DODECYLETHYLENE|1-TETRADECENE	1120-36-1	Watery liquid; colorless; mild pleasant odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5005.0	504.0	1702.0	894.0	539.0	1412.0	148.0	482.0	272.0	146.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Special Hazards of Combustion Products: Vapor may travel considerable distance to a source of ignition and flash back. Container explosion may occur under fire conditions. Forms explosive mixtures in air. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3107	1-TRIDECENE	1-TRIDECENE|UNDECYLETHYLENE	2437-56-1	Watery colorless liquid with a mild pleasant odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5005.0	504.0	1702.0	894.0	539.0	1412.0	148.0	482.0	272.0	146.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3108	1-UNDECANETHIOL	1-MERCAPTOUNDECANE|N-UNDECYL MERCAPTAN|NSC 4031|UNDECANE-1-THIOL|1-UNDECANETHIOL|UNDECYL MERCAPTAN|UNDECYLTHIOL	5332-52-5	Liquid with a bad smell. Mp: -3Â°C; bp: 259.5Â°C. Density: 0.841 g cm-3 at 25Â°C.	2.5	5.0	2.5	5005.0	504.0	1702.0	894.0	539.0	1412.0	148.0	482.0	272.0	146.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3103	1-NITROBUTANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	(BLOB)	Water soluble.	HEXAMETHYLPHOSPHORAMIDE may react with strong oxidizing agents and strong acids (NTP, 1992). Susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		222																(NTP, 1992)			41 to 45
		SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)																															
3104	1-NITROHEXANE			Insoluble in water.	HEXAMETHYL-P-ROSANILINE CHLORIDE is light sensitive. (NTP, 1992). May react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.					0																(NTP, 1992)	(Decomposes)	419	
3105	1-NITROPROPANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	HEXANAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). Can react with mineral acids and bases. (NTP, 1992)					0																(NTP, 1992)		214	
3106	1-TETRADECENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	HEXYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		99												(USCG, 1999)		-112	
3107	1-TRIDECENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	HEXYL BENZOATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.					0		(NTP, 1992)		greater than 200																
3108	1-UNDECANETHIOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Insoluble in water.	Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Peroxidizable Compound					0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	mlwgt_source	mlwgt_note	mlwgt_unit	ildh_value	ildh_note	ildh_source	hydro_range	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chem_codes	hot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3103	1-NITROBUTANE	(NTP, 1992)		0.07		77		mm Hg	(NTP, 1992)		6.18				(NTP, 1992)		1.024		77		(NTP, 1992)		451				(NTP, 1992)	179.2					(NIOSH, 2003)	A potential human carcinogen.				(NTP, 1992)	greater than or equal to 100	mg/mL			Poison		C4H9NO2		1.0	0.0	1.0	1.0	1.0
3104	1-NITROHEXANE																												407.99					(NIOSH, 2003)				(NTP, 1992)	less than 1	mg/mL				C25H30N3Cl	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3105	1-NITROPROPANE	(NTP, 1992)							(NTP, 1992)						(NTP, 1992)		0.999		68		(NTP, 1992)		491				(NTP, 1992)	115.18					(NIOSH, 2003)				(NTP, 1992)	0.1 to 1	mg/mL				C6H13NO		3.0	0.0	4.0	1.0	1.0
3106	1-TETRADECENE														(USCG, 1999)		0.876				(USCG, 1999)		334.4 to 338		760		(USCG, 1999)	144.21				ppm	500									HAE	Flammable Liquid	C8H16O2		5.0	0.0	5.0	1.0	1.0
3107	1-TRIDECENE	(NTP, 1992)	: 47 mm Hg at 124.4° F; 81 mm Hg at 167.4° F	32		72		mm Hg	(NTP, 1992)		7.1				(NTP, 1992)		0.979		70.7		(NTP, 1992)		522		770		(NTP, 1992)	206.28									(NTP, 1992)	less than 1	mg/mL				C13H18O2		2.0	0.0	3.0	1.0	1.0
3108	1-UNDECANETHIOL														(NTP, 1992)		0.876		73								(NTP, 1992)	158.24										less than 1	mg/mL				C8H18O2	Mineral-Based & Clay-Based Absorbents;Other Earth	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3109	1-VINYL-3-CYCLOHEXENE DIOXIDE	CHISSONOX 206|CHISSONOX 206 MONOMER|EP-206|1,2-EPOXY-4-(EPOXYETHYL)CYCLOHEXANE|1-(EPOXYETHYL)-3,4-EPOXYCYCLOHEXANE|3-(EPOXYETHYL)-7-OXABICYCLO(4.1.0)HEPTANE|3-(1,2-EPOXYETHYL)-7-OXABICYCLO(4.1.0)HEPTANE|4-(EPOXYETHYL)-7-OXABICYCLO(4.1.0)HEPTANE|4-(1-oxiranyl)-7-OXABICYCLO(4.1.0)HEPTANE|3-(EPOXYETHYL)-7-OXABICYCLO(4.1.0)HEPTANE|3-(1,2-EPOXYETHYL)-7-OXABICYCLO(4.1.0)HEPTANE|1-EPOXYETHYL-3,4-EPOXY CYCLOHEXANE|1-EPOXYETHYL-3,4-EPOXYCYCLOHEXANE|ERL A-2270|ERL/A-2271|1-ETHYLENEOXY-3,4-EPOXYCYCLOHEXANE|NCI-C60139|7-OXABICYCLO(4.1.0)HEPTANE, 3-(EPOXYETHYL)-|3-OXIRANYL-7-	106-87-6	PHYSICAL DESCRIPTION: Clear colorless liquid. Sets to glass at -67Â°F. Faint olefinic odor. (NTP, 1992)	2.5	5.0	2.5	5006.0	504.0	1702.0	894.0	539.0	1413.0	148.0	482.0	272.0	146.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3110	2-(3-METHYL-2-BUTENYL)CYCLOPENTANONE	CYCLOPENTANONE, 2-(3-METHYL-2-BUTENYL)-|2-(3-METHYL-2-BUTENYL)CYCLOPENTANONE|PENTENYL CYCLOPENTANONE|2-PRENYLCYCLOPENTANONE	2520-60-7	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5007.0	504.0	1703.0	894.0	539.0	1414.0	148.0	483.0	272.0	146.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3111	2,2,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	2,2,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	16938-22-0	Yellow liquid.	2.5	5.0	2.5	5007.0	504.0	1703.0	894.0	539.0	1414.0	148.0	483.0	272.0	146.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3112	2,2'-AZODI-(2,4-DIMETHYL-4-METHOXYVALERONITRILE)	2,2'-AZODI(2,4-DIMETHYL-4-METHOXYVALERONITRILE)|2,2'-AZODI-(2,4-DIMETHYL-4-METHOXYVALERONITRILE)	15545-97-8	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5007.0	504.0	1703.0	894.0	539.0	1414.0	148.0	483.0	272.0	146.0			
3113	2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE	2,2-BIS[4,4-BIS(TERT-BUTYLPEROXY)CYCLOHEXYL]PROPANE|2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE, [<= 42% WITH INERT SOLID]|2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE|2,2-DI[4,4-DI(TERT-BUTYLPEROXY)CYCLOHEXYL]PROPANE|PERKADOX 12|PERKADOX 12X625|PEROXIDE, (ISOPROPYLIDENEDI-4-CYCLOHEXANYL-1-YLIDENE)TETRAKIS[TERT-BUTYL	1705-60-8		1.0	2.5	5.0	5007.0	504.0	1703.0	894.0	539.0	1414.0	148.0	483.0	272.0	146.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3114	2,2'-DICHLORODIETHYL ETHER	(BLOB)	75-34-3	A clear colorless liquid with a sweet pleasant or nauseating odor. Flash point 131Â°F. Denser than water and insoluble in water. Toxic by inhalation and skin absorption. Used in cleaning compounds, paints, textile finishing, and as a general solvent.	2.5	5.0	2.5	5007.0	504.0	1704.0	894.0	539.0	1414.0	148.0	484.0	272.0	146.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3109	1-VINYL-3-CYCLOHEXENE DIOXIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas [Handling Chemicals Safely, 1980 p. 924]. Hexyltrichlorosilane reacts vigorously with water to generate gaseous HCl.Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 2.5 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as HEXYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1784 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3110	2-(3-METHYL-2-BUTENYL)CYCLOPENTANONE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water. Hydrolysis occurs rapidly at low and high pHs.	HYDRAMETHYLNON is a trifluoromethyl amidinohydrazone. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3111	2,2,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Water soluble.	HYDRAZINE SULFATE is a strong reducing agent. Aqueous solutions are weakly acidic.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		489	
3112	2,2'-AZODI-(2,4-DIMETHYL-4-METHOXYVALERONITRILE)			No rapid reaction with air. No rapid reaction with water.									0																									
3113	2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.						0																									
3114	2,2'-DICHLORODIETHYL ETHER	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Water soluble.	HYDRAZINE, AQUEOUS SOLUTION, WITH NOT LESS THAN 37% BUT NOT MORE THAN 64% HYDRAZINE is a reducing agent (reacts with oxidizing agents) and a strong base. Dissolution in water moderates the reactivity of hydrazine. Neutralizes acids in exothermic reactions to give water and salts. Salts from neutralization of oxidizing acids are sometimes explosive when dried. Attacks glass (slowly) and rubber and cork [Merck]. A 64% solution of hydrazine in water corresponds to the chemical composition hydrazine hydrate (N2H4.H2O).	Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)		(NFPA, 2010)	Note: NFPA ratings shown are for anhydrous hydrazine, CAS number 302-01-2.	4	4	3	7																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3109	1-VINYL-3-CYCLOHEXENE DIOXIDE																																									Corrosive	C6H13ClSi	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3110	2-(3-METHYL-2-BUTENYL)CYCLOPENTANONE																																									Class 9	C25H24F6N4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3111	2,2,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE														(NTP, 1992)		1.37				(NTP, 1992)	DECOMPOSES					(NTP, 1992)		130.13						(NTP, 1992)	at 70Â° F		greater than or equal to 0.1	mg/mL		Corrosive|Poison	H4N2.H2O4S		3.0	0.0	3.0	1.0	1.0
3112	2,2'-AZODI-(2,4-DIMETHYL-4-METHOXYVALERONITRILE)																																												4.0	0.0	5.0	1.0	1.0
3113	2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE																											(NTP, 1992)		233.36													C12H27NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3114	2,2'-DICHLORODIETHYL ETHER																															(NIOSH, 2003)	; A potential human carcinogen.	50	ppm							Corrosive|Flammable Liquid|Poison	H4N2 (aqueous)		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3115	2,2-DICHLOROETHANOL	DICHLOROETHANOL|2,2-DICHLOROETHANOL|ETHANOL, 2,2-DICHLORO-	598-38-9	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5008.0	504.0	1704.0	894.0	539.0	1415.0	148.0	484.0	272.0	146.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3116	2,2-DICHLOROPROPIONIC ACID	ALATEX|ALPHA,ALPHA-DICHLOROPROPANOIC ACID|ALPHA,ALPHA-DICHLOROPROPIONIC ACID|BASINEX P|DALAPON|DALASCAM|2,2-DICHLOROPROPANOIC ACID|2,2-DICHLOROPROPIONIC ACID|DPA|2,2-DPA|PROPIONIC ACID, 2,2-DICHLORO-|PROPROP|S 1315|S 95|S 95 (HERBICIDE)|TRIPON	75-99-0	A colorless liquid. Soluble in water. Corrosive to metals and tissue. Used as a herbicide.	2.5	5.0	2.5	5008.0	504.0	1705.0	894.0	539.0	1415.0	148.0	485.0	272.0	146.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3117	2,2-DIMETHYLPROPANE	2,2-DIMETHYLPROPANE|NEOPENTANE|PROPANE, 2,2-DIMETHYL-|TERT-PENTANE|TETRAMETHYLMETHANE|1,1,1-TRIMETHYLETHANE	463-82-1	May liquefy in cool or cold weather. Less dense than water. Insoluble in water but soluble in alcohol. Under prolonged exposure to fire or heat, the containers may rupture violently and rocket.	5.0	1.0	1.0	5008.0	504.0	1706.0	894.0	539.0	1415.0	148.0	486.0	272.0	146.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3118	2,2'-THIOBIS(4,6-DICHLOROPHENOL)	ACTAMER|BIDIPHEN|BIS(2-HYDROXY-3,5-DICHLOROPHENYL) SULFIDE|BIS(2-HYDROXY-3,5-DICHLOROPHENYL)SULFIDE|BISOXYPHEN|BITHIN|BITHIONOL|BITHIONOL SULFIDE|BITIN|BITIONOL|CP 3438|CP3438| 26|2,2'-DIHYDROXY-3,3',5,5'-TETRACHLORODIPHENYL SULFIDE|2,2'DIHYDROXY-3,3',5,5'-TETRACHLORODIPHENYLSULFIDE|2-HYDROXY-3,5-DICHLOROPHENYL SULPHIDE|2-HYDROXY-3,5-DICHLOROPHENYLSULFIDE|LOROTHIDOL|LOROTHIODOL|NCI-C60628|NEOPELLIS|NOBACTER|TBP|2,2'-THIOBIS(4,6-DICHLOROPHENOL)|TKHSD|USAF B-22|VANCIDE BL|XL 7|XL-7	97-18-7	PHYSICAL DESCRIPTION: White or grayish white crystalline powder with a very faint aromatic or phenolic odor. (NTP, 1992)	1.0	2.5	5.0	5009.0	504.0	1706.0	894.0	539.0	1416.0	148.0	486.0	272.0	146.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Decomposition gases are toxic and irritating. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3119	2,2'-THIOBIS(4-CHLOROPHENOL)	BIS(2-HYDROXY-5-CHLOROPHENYL) SULFIDE|BIS(2-HYDROXY-5-CHLOROPHENYL)SULFIDE|CR 305|D 25|D 25-ANTIMYKOTIKUM|5,5'-DICHLORO-2,2'-DIHYDROXYDIPHENYL SULFIDE|2,2'-DIHYDROXY-5,5'-DICHLORODIPHENYL SULFIDE|2,2'-DIHYDROXY-5,5'-DICHLOROPHENYL SULFIDE|FENTICHLOR|FENTICLOR|HL 1050|MEFLORIN|NOVEX|OKSID|OVITROL|PH 549|S 7|S 7 (ANTIMYCOTIC)|S7|2,2'-THIOBIS(4-CHLOROPHENOL)|2,2'-THIOBIS[4-CHLOROPHENOL]	97-24-5	PHYSICAL DESCRIPTION: White to cream-colored solid or pale yellow powder. White crystalline solid melting from 175.8-186.8Â°C. Odorless and insoluble in water.	1.0	2.5	5.0	5010.0	504.0	1706.0	894.0	539.0	1417.0	148.0	486.0	272.0	146.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3115	2,2-DICHLOROETHANOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Water soluble	AQUEOUS SOLUTIONS OF HYDRAZINE WITH NOT MORE THAN 37% HYDRAZINE are reducing agents (react with oxidizing agents) and chemical bases (react with acids to generate heat). Dissolution in water moderates the reactivity of hydrazine.	Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for anhydrous hydrazine, CAS number 302-01-2.	4	4	3	7																								
3116	2,2-DICHLOROPROPIONIC ACID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Water soluble.	HYDRAZINE, AQUEOUS SOLUTIONS, WITH MORE THAN 64% HYDRAZINE are strongly basic and are powerful reducing agents. Note that a 64% solution corresponds to the composition hydrazine hydrate (N2H4.H2O). Spontaneous ignition can occur with hydrogen peroxide and nitric acid. Contact with metallic oxide surfaces may lead to flaming decomposition [Haz. Chem. Data (1966)]. The reaction between 2,4-dinitrochlorobenzene and hydrazine hydrate shattered the reaction flask [Wischmeyer 1967]. Spontaneous ignition occurs when nitrous oxide and hydrazine are mixed [Mellor 8, Supp. 2:214(1967)]. Potassium and sodium dichromate react explosively with hydrazine [Mellor 11:234(1946-1947)]. Hydrazine hydrate reacts with stannous chloride to give stannous dihydrazinechloride, which decomposes explosively when heated [Mellor 7:430(1946-1947)]. Explodes during distillation if traces of air are present. Affected by UV and metal ion catalysis [Merck, 11th ed., 1989].	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for anhydrous hydrazine, CAS number 302-01-2.	4	4	3	7																								
3117	2,2-DIMETHYLPROPANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Halogenated aliphatic compounds, such as 1,1,1-TRIFLUOROETHANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																								
3118	2,2'-THIOBIS(4,6-DICHLOROPHENOL)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	The liquefied gas poured into water can be violently explosive. This is due to the phase transition from superheated liquid to vapor.	CHLORODIFLUOROMETHANE is incompatible with the following: Alkalis, alkaline earth metals (e.g., powdered aluminum, sodium, potassium, zinc) (NIOSH, 1997).		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3119	2,2'-THIOBIS(4-CHLOROPHENOL)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	SULFUR PENTAFLUORIDE is non-combustible. Decomposes when heated above 400Â°C in air to generate toxic and corrosive fumes of sulfur oxides and sulfur fluorides. Shows little chemical reactivity at room conditions. Acts as a strong oxidizing agent and as a fluorinating agent at elevated temperature as it begins to break down. Reacts rapidly with molten caustics such as NaOH or KOH.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3287 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3115	2,2-DICHLOROETHANOL																														(NIOSH, 2003)	; A potential human carcinogen.	50	ppm							Poison	H4N2 (aqueous)		3.0	0.0	3.0	1.0	1.0
3116	2,2-DICHLOROPROPIONIC ACID																														(NIOSH, 2003)	; A potential human carcinogen.	50	ppm							Corrosive|Flammable Liquid|Poison	N2H4 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3117	2,2-DIMETHYLPROPANE																																								Flammable Gas	C2H3F3		3.0	0.0	4.0	1.0	1.0
3118	2,2'-THIOBIS(4,6-DICHLOROPHENOL)	(USCG, 1999)		10991.42				mm Hg							(USCG, 1999)		1.41		-40		(USCG, 1999)		-40.9		760	(USCG, 1999)		86.48					(NIOSH, 2003)	at 77Â° F	0.3		%	MCF	Non-Flammable Gas	CHClF2		5.0	0.0	5.0	1.0	1.0
3119	2,2'-THIOBIS(4-CHLOROPHENOL)	(NIOSH, 2003)		561				mm Hg							(NIOSH, 2003)		2.08		32		(NIOSH, 2003)		84		760	(NIOSH, 2003)		254.1		(NIOSH, 2003)		1	ppm	(NIOSH, 2003)	Insoluble						Poison	S2F10	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3120	2,3,4,5,6-PENTABROMOETHYLBENZENE	EB 80|PENTABROMOETHYLBENZENE|2,3,4,5,6-PENTABROMOETHYLBENZENE|PENTABROMOPHENYLETHANE	85-22-3	PHYSICAL DESCRIPTION: Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5011.0	504.0	1706.0	894.0	539.0	1418.0	148.0	486.0	272.0	146.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3121	2,3,4,5-TETRACHLORONITROBENZENE	DB-905|FOLSAN|FOLSAN DB-905|FUMITE|FUSAREX|1-NITRO-2,3,4,5-TETRACHLOROBENZENE|TCBN|2,3,4,5-TETRACHLORO-1-NITROBENZENE|1,2,3,4-TETRACHLORO-5-NITROBENZENE|2,3,4,5-TETRACHLORONITROBENZENE	879-39-0	PHYSICAL DESCRIPTION: Pale yellow crystals. (NTP, 1992)	1.0	2.5	5.0	5011.0	504.0	1706.0	894.0	540.0	1418.0	148.0	486.0	272.0	147.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3122	2,3,4,6-TETRACHLOROPHENOL	DOWICIDE 6|PHENOL, 2,3,4,6-TETRACHLORO-|TCP|2,3,4,6-TETRACHLOROPHENATE|2,3,4,6-TETRACHLOROPHENOL|2,4,5,6-TETRACHLOROPHENOL	58-90-2	PHYSICAL DESCRIPTION: Brown flakes or beige solid. Strong odor. (NTP, 1992)	1.0	2.5	5.0	5011.0	504.0	1706.0	894.0	540.0	1418.0	148.0	486.0	272.0	147.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3123	2',3',4'-TRICHLOROACETOPHENONE	ACETOPHENONE, 2',3',4'-TRICHLORO-|ETHANONE, 1-(2,3,4-TRICHLOROPHENYL)-|2',3',4'-TRICHLOROACETOPHENONE|2,3,4-TRICHLOROACETOPHENONE|1-(2,3,4-TRICHLOROPHENYL)ETHANONE	13608-87-2	PHYSICAL DESCRIPTION: Dark gold-colored solid. (NTP, 1992)	1.0	2.5	5.0	5011.0	504.0	1706.0	894.0	540.0	1418.0	148.0	486.0	272.0	147.0			
3124	2,3,4-TRICHLORONITROBENZENE	1-NITRO-2,3,4-TRICHLOROBENZENE|2,3,4-TRICHLORO-1-NITROBENZENE|1,2,3-TRICHLORO-4-NITROBENZENE|2,3,4-TRICHLORONITROBENZENE	17700-09-3	PHYSICAL DESCRIPTION: Needles or light yellow fluffy solid. (NTP, 1992)	1.0	2.5	5.0	5012.0	504.0	1707.0	894.0	540.0	1419.0	148.0	487.0	272.0	147.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3125	2,3,4-TRICHLOROPHENOL	PHENOL, 2,3,4-TRICHLORO-|2,3,4-TRICHLOROPHENOL	15950-66-0	PHYSICAL DESCRIPTION: Needles (from benzene and ligroin) or light peach solid. (NTP, 1992)	1.0	2.5	5.0	5013.0	504.0	1708.0	894.0	540.0	1420.0	148.0	488.0	272.0	147.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3120	2,3,4,5,6-PENTABROMOETHYLBENZENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1,1,2,2-tetrachloro-1,2-Difluoroethane is non-flammable. Incompatible with active metals such as potassium, sodium, beryllium, powdered aluminum, zinc, magnesium, and calcium. Reacts with acids.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		77	
3121	2,3,4,5-TETRACHLORONITROBENZENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in an explosion-proof refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Explosive by heat or shock. 2,4,6-TRINITROANILINE is an aromatic nitrate. Aromatic nitrates range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						(NTP, 1992)		378 to 383	
3122	2,3,4,6-TETRACHLOROPHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to exposure to moisture. Insoluble in water.	Simple aromatic halogenated organic compounds, such as 2,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		115 to 120	
3123	2',3',4'-TRICHLOROACETOPHENONE			No rapid reaction with air. No rapid reaction with water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																									
3124	2,3,4-TRICHLORONITROBENZENE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3125	2,3,4-TRICHLOROPHENOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	It is slightly soluble in water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3120	2,3,4,5,6-PENTABROMOETHYLBENZENE	(NIOSH, 2003)		40				mm Hg							(NIOSH, 2003)		1.65				(NIOSH, 2003)		199		760		(NIOSH, 2003)		203.8		(NIOSH, 2003)		2000	ppm	(NIOSH, 2003)	at 77Â° F	0.01		%		Non-Flammable Gas	CCl2FCCl2F		2.0	0.0	2.0	1.0	1.0
3121	2,3,4,5-TETRACHLORONITROBENZENE														(NTP, 1992)		1.762		54		(NTP, 1992)	Explodes					(NTP, 1992)		288.13						(NTP, 1992)	Insoluble					Explosive 1.1D	C6H4N4O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3122	2,3,4,6-TETRACHLOROPHENOL																										(NTP, 1992)		264.36						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	C7H3Cl5		3.0	0.0	3.0	1.0	1.0
3123	2',3',4'-TRICHLOROACETOPHENONE																																									C16H22Cl2O3		4.0	0.0	5.0	1.0	1.0
3124	2,3,4-TRICHLORONITROBENZENE																																								Class 9	C16H22Cl2O3		4.0	0.0	4.0	1.0	1.0
3125	2,3,4-TRICHLOROPHENOL																																								Class 9	C9H8Cl2O3|C11H12Cl2O3|C16H22Cl2O3|(C3H6O)nC12H14Cl2O3|C12H14Cl2O3		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3126	2,3,5-TRICHLOROPHENOL	PHENOL, 2,3,5-TRICHLORO-|2,3,5-TRICHLOROPHENOL	933-78-8	PHYSICAL DESCRIPTION: Long colorless needles or white chalky solid. (NTP, 1992)	1.0	2.5	5.0	5014.0	504.0	1708.0	894.0	541.0	1421.0	148.0	488.0	272.0	148.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3127	2,3,6-TRICHLOROPHENOL	PHENOL, 2,3,6-TRICHLORO-|2,3,6-TRICHLOROPHENOL	933-75-5	PHYSICAL DESCRIPTION: Colorless needles or purple crystalline solid. Taste threshold concentration: 0.0005 mg/L. Odor threshold concentration (detection): 0.3 mg. (NTP, 1992)	1.0	2.5	5.0	5014.0	505.0	1708.0	894.0	542.0	1421.0	149.0	488.0	272.0	149.0	(BLOB)	Container may explode in the heat of fire. When heated it liberates phosgene, hydrogen chloride, chlorine and toxic and corrosive oxides of carbon and chlorine. Chloroform explodes when in contact with aluminum powder or magnesium powder or with alkali metals (e.g., lithium, sodium, and potassium) and dinitrogen tetroxide. It reacts vigorously with acetone in the presence of potassium hydroxide or calcium hydroxide. It is oxidized by strong oxidizers such as chromic acid forming phosgene and chlorine. It reacts vigorously with triisopropylphosphine. It develops acidity from prolonged exposure to air and light. (EPA, 1998)	Wear self-contained breathing apparatus and special protective clothing. Move container from fire area. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
3128	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	AROMATIC HYDROCARBON RECEPTOR (HUMAN CLONE HU14)|DIBENZO-P-DIOXIN, 2,3,7,8-TETRACHLORO-|DIOXIN|DIOXIN (HERBICIDE CONTAMINANT)|DIOXINE|NCI-C03714|TCDBD|TCDD|2,3,7,8-TCDD|2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN|2,3,7,8-TETRACHLORODIBENZO\[B,E\](1,4)DIOXIN|2,3,7,8-TETRACHLORODIBENZO-1,4-DIOXIN|2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)|2,3,6,7-TETRACHLORODIBENZO-P-DIOXIN|2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN|TETRACHLORODIBENZODIOXIN|2,3,6,7-TETRACHLORODIBENZOIDIOXIN|2,3,7,8-TETRACHLORODIBENZO\[B,E\]\[1,4\]DIOXIN|TETRADIOXIN	1746-01-6	PHYSICAL DESCRIPTION: White crystals or tan crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5015.0	505.0	1708.0	894.0	542.0	1422.0	149.0	488.0	272.0	149.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3129	2,3-DIBROMOPROPYL ACRYLATE	ACRYLIC ACID, 2,3-DIBR ESTER|ACRYLIC ACID, 2,3-DIBROMOPROPYL ESTER|2,3-DIBROMOPROPYL 2-PROPENOATE|2,3-DIBROMOPROPYL ACRYLATE|1-PROPANOL, 2,3-DIBROMO-, ACRYLATE	19660-16-3	PHYSICAL DESCRIPTION: Clear light brown liquid. (NTP, 1992)	2.5	5.0	2.5	5016.0	505.0	1708.0	894.0	542.0	1423.0	149.0	488.0	272.0	149.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3130	2,3-DIMETHYLCYCLOHEXYL AMINE	CYCLOHEXYLAMINE, 2,3-DIMETHYL-|2,3-DIMETHYLCYCLOHEXYL AMINE|2,3-DIMETHYLCYCLOHEXYLAMINE	42195-92-6	A water-white liquid. Less dense than water and slightly soluble in water. Hence floats on water. Very irritating to skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	5016.0	505.0	1709.0	894.0	542.0	1423.0	149.0	489.0	272.0	149.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3126	2,3,5-TRICHLOROPHENOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	2,4-DIAMINOANISOLE is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		153	
3127	2,3,6-TRICHLOROPHENOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Slightly soluble in water. Dissolves in water to form a corrosive solution of hypochlorous acid which decomposes on standing to chlorine, oxygen, and chloric acid.	A mixture of acetone and CHLOROFORM in a residue bottle exploded. Since addition of acetone to chloroform in the presence of base will result in a highly exothermic reaction, it is thought that a base was in the bottle. [MCA Case History 1661(1970)]. Powdered aluminum and carbon tetrachloride (also methyl chloride and chloroform or mixtures of these chemicals) exploded when heated (to 153Â° C) and by impact, [Chem. Eng. News 32:258(1954); UL Bull. Research 34 (1945), ASESB Pot. Incid. 39(1968)]. An inadequately cooled addition of sodium to a chloroform-methanol mixture (sodium methoxide) caused a violent explosion, [MCA Case History No. 693]. It is incompatible with dinitrogen tetraoxide, fluorine, sodium metal and alcohols, nitromethane, and triisopropylphosphine.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	0	0		(EPA, 1998)	None		(EPA, 1998)	None					(EPA, 1998)	NoneNone				(USCG, 1999)	Not flammable			(EPA, 1998)		-82.3	
3128	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with moisture in air to generate heat and hydrochloric acid fumes [Merck, 11th ed., 1989]. Reacts with water.	CHLOROMETHYLCHLOROFORMATE is water reactive. Incompatible with strong oxidizing agents, alcohols, bases (including amines). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
3129	2,3-DIBROMOPROPYL ACRYLATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	(BLOB)	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5																											
3130	2,3-DIMETHYLCYCLOHEXYL AMINE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Finely divided platinum and some other metals will cause a mixture of HYDROGEN and oxygen to explode at ordinary temperatures. If a jet of hydrogen in air impinges on platinum black the metal surface gets hot enough to ignite the gases, [Mellor 1:325(1946-1947)]. Explosive reactions occur upon ignition of mixtures of nitrogen trifluoride with good reducing agents such as ammonia, hydrogen, hydrogen sulfide or methane. Mixtures of hydrogen, carbon monoxide, or methane and oxygen difluoride are exploded when a spark is discharged, [Mellor 2, Supp. 1:192(1956)]. An explosion occurred upon heating 1'-pentol and 1"-pentol under hydrogen pressure. It appears that this acetylenic compound under certain conditions suddenly breaks down to form elemental carbon, hydrogen, and carbon monoxide with the release of sufficient energy to develop pressures in excess of 1000 atmospheres, [AIChE Loss Prevention, p1, (1967)].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for hydrogen, CAS number 1333-74-0	3	4	0	4																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3126	2,3,5-TRICHLOROPHENOL																									(NIOSH, 2003)		138.2		(NIOSH, 2003)	A potential human carcinogen.										Poison	C7H10N2O		1.0	0.0	1.0	1.0	1.0
3127	2,3,6-TRICHLOROPHENOL	(EPA, 1998)		100		50.72		mm Hg	(EPA, 1998)		4.12				(EPA, 1998)		1.4832		68		(EPA, 1998)		143		760		(EPA, 1998)		119.39		(NIOSH, 2003)	; A potential human carcinogen.	500	ppm	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	CRF	Poison	CHCl3		3.0	0.0	3.0	1.0	1.0
3128	2,3,7,8-TETRACHLORODIBENZO-P-DIOXIN (TCDD)																																								Poison|Corrosive	C2H2Cl2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3129	2,3-DIBROMOPROPYL ACRYLATE																															(NIOSH, 2003)		50	ppm							Poison	HCN (aqueous)	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3130	2,3-DIMETHYLCYCLOHEXYL AMINE																																								Flammable Gas	H2[CH4		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3131	2,3-EPOXYBUTANE	BETA-BUTYLENE OXIDE|BETA-OXYBUTENE|BUTANE, 2,3-EPOXY-|2-BUTENE EPOXIDE|2-BUTENE OXIDE|2,3-BUTYLENE OXIDE|2,3-DIMETHYLETHYLENE OXIDE|2,3-DIMETHYLOXIRANE|2,3-EPOXYBUTANE	3266-23-7	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5016.0	505.0	1709.0	894.0	542.0	1423.0	149.0	489.0	272.0	149.0	(BLOB)	(BLOB)	Wear self-contained breathing apparatus and full protective clothing. Neutralize with chemically basic substances such as soda ash or slaked lime. Normal fire fighting procedures may be used. Do not get water inside containers. Move containers from fire area. Keep containers that are exposed to the fire cool with water that is sprayed from the side until well after the fire is out. (EPA, 1998)
3132	2,3-HEXANEDIONE	ACETYLBUTYRYL|ACETYLBUTYRYL|2,3-HEXANEDIONE|METHYL PROPYL DIKETONE|METHYLPROPYL GLYOXAL	3848-24-6	PHYSICAL DESCRIPTION: Yellow liquid. Sharp penetrating odor in high concentrations. Sweet, aromatic odor when diluted. (NTP, 1992)	2.5	5.0	2.5	5016.0	505.0	1709.0	894.0	542.0	1423.0	149.0	489.0	272.0	149.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3133	2,4,5-TRICHLOROPHENOXYACETIC ACID	AMINE 2,4,5-T FOR RICE|ARBOKAN|BCF-BUSHKILLER|BRUSH RHAP|BRUSH-OFF 445 LOW VOLATILE BRUSH KILLER|BRUSHTOX|DACAMINE|DEBROUSSAILLANT CONCENTRE|DEBROUSSAILLANT SUPER CONCENTRE|DECAMINE 4T|DED-WEED BRUSH KILLER|DED-WEED LV-6 BRUSH KIL AND T-5 BRUSH KIL|DINOXOL|ENVERT-T|ESTERICIDE T-2 AND T-245|ESTERON|ESTERON 245|ESTERON 245 BE|ESTERON BRUSH KILLER|FARMCO FENCE RIDER|FENCE RIDER|FORRON|FORST U 46|FORTEX|FRUITONE A|INVERTON 245|LINE RIDER|PHORTOX|REDDON|REDDOX|SPONTOX|SUPER D WEEDONE|2,4,5-T ACID|2,4,5-T|TIPPON|TORMONA|TRANSAMINE|TRIBUTON|(2,4,5-TRICHLOROPHENOXY)ACET	93-76-5	Light tan solid (melting point 153Â°C). Insoluble in water. Contact may irritate the skin.	1.0	2.5	5.0	5017.0	505.0	1709.0	894.0	542.0	1424.0	149.0	489.0	272.0	149.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
3134	2,4,5-TRIMETHYLANILINE	1-AMINO-2,4,5-TRIMETHYLBENZENE|ANILINE, 2,4,5-TRIMETHYL-|NCI-C02299|PSEUDOCUMIDINE|PSI-CUMIDINE|1,2,4-TRIMETHYL-5-AMINOBENZENE|2,4,5-TRIMETHYLANILINE|2,4,5-TRIMETHYLBENZENAMINE	137-17-7	PHYSICAL DESCRIPTION: White crystals or beige powder. (NTP, 1992)	1.0	2.5	5.0	5018.0	505.0	1709.0	894.0	542.0	1425.0	149.0	489.0	272.0	149.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3135	2,4,6-TRICHLORONITROBENZENE	BENZENE, 1,3,5-TRICHLORO-2-NITRO-|2,4,6-TRICHLORO-1-NITROBENZENE|1,3,5-TRICHLORO-2-NITROBENZENE|2,4,6-TRICHLORONITROBENZENE	18708-70-8	PHYSICAL DESCRIPTION: Needles in alcohol or light beige crystals. (NTP, 1992)	1.0	2.5	5.0	5018.0	505.0	1709.0	894.0	542.0	1425.0	149.0	489.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3136	2,4,7-TRINITROFLUOREN-9-ONE	FLUOREN-9-ONE, 2,4,7-TRINITRO-|9H-FLUOREN-9-ONE, 2,4,7-TRINITRO-|9-OXO-2,4,7-TRINITROFLUORENE|TNF|TNF (KETONE)|2,4,7-TRINITRO-9-FLUORENONE|2,4,7-TRINITRO-9H-FLUOREN-9-ONE|2,4,7-TRINITROFLUOREN-9-ONE|TRINITROFLUORENONE|2,4,7-TRINITROFLUORENONE|2,4,7-TRINITROFLUORONE	129-79-3	PHYSICAL DESCRIPTION: Pale yellow needles (from acetic acid or benzene) or yellow powder. (NTP, 1992)	1.0	2.5	5.0	5018.0	505.0	1709.0	894.0	542.0	1425.0	149.0	489.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3131	2,3-EPOXYBUTANE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Fumes strongly in moist air. Soluble in water with evolution of heat.	(BLOB)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1050 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1					(EPA, 1998)	Not combustible.				(EPA, 1998)	Not combustible.				(USCG, 1999)	Not flammable			(EPA, 1998)	(Melting point is -13.7Â° F for a 39.17% weight/weight solution.)	-174.6	
3132	2,3-HEXANEDIONE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Fumes in air as vapors boil away. Very soluble in water to give hydrochloric acid. Rapid mixing with water generates heat that drives off considerable gaseous hydrogen chloride.	(BLOB)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 2186 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																								(NIOSH, 2003)		-174	
3133	2,4,5-TRICHLOROPHENOXYACETIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Can react vigorously with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235														(NTP, 1992)			84 to 90
3134	2,4,5-TRIMETHYLANILINE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	CHLORONITROTOLUENES react with strong bases. The feed stream into a tank of mixed chlorotoluenes became contaminated with caustic (sodium hydroxide). The runaway reaction within the tank ripped an opening in the tank despite provision of a relief vent [MCA Case History 907(1963)]. Incompatible with strong oxidizing agents and strong reducing agents.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3135	2,4,6-TRICHLORONITROBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An acidic organic salt of an amine. In aqueous solution it behaves as a weak acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																								(NTP, 1992)		93 to 99
3136	2,4,7-TRINITROFLUOREN-9-ONE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	vd_note	vd_source	vp_unit	vp_range_tempDegF	vp_value_tempDegF	vp_range_tempDegF	vd_value_tempDegF	vd_range_tempDegF	bp_value	bp_note	bp_source	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molWgt_source	molWgt_note	molWgt_value	molWgt_range	bdln_source	bdln_note	bdln_value	bdln_unit	solbly_source	solbly_note	solbly_value	solbly_unit	chris_codes	HDC	solbly_unit	solbly_range	formulas	isocompatible_absorbents	# of Reactions Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3131	2,3-EPOXYBUTANE	(NTP, 1992)	; 760 mm Hg at < 120.6A° F	32452	70	mm Hg	(EPA, 1998)	1.2G8	59	(EPA, 1998)	(A constant boiling azeotrope with water containing 30.27% hydrogen chloride boils at 227A° F.)	-121	760	(EPA, 1998)	36.46	760	ppm	50	ppm	(NTP, 1992)	at 32A° F	82.3	solbly_value	at 86A° F	(NIOSH, 2003)	67	%	mg/mL	less than 1	Poison	Poison (Gas/Corrosive	HDC	g/100 g	HCl	3.0	0.0	4.0	1.0	1.0
3132	2,3-HEXANEDIONE	(NIOSH, 2003)	40.5	atm	(NTP, 1992)	189.66	-121	760	(NIOSH, 2003)	36.5	(NIOSH, 2003)	50	ppm	(NTP, 1992)	at 73A° F	2.0	0.0	2.0	5.0	1.0	1.0	Poison (Gas/Corrosive	HCl	C8H11NO2.ClH	2.0	0.0	2.0	4.0	1.0	1.0
3133	2,4,5-TRICHLOROPHENOXYACETIC ACID	(NTP, 1992)	less than 0.1	(NTP, 1992)	1.72	1.551	(NTP, 1992)	496	(NTP, 1992)	296.33	192	760	(NTP, 1992)	at 61A° F	(NTP, 1992)	1.0	0.0	1.0	1.0	1.0	1.0	Poison	C6H3Cl2NO2	Cellulose-Based Absorbents	Exp anded Polymeric Absorbents	1.0	0.0	2.0	1.0	1.0	1.0
3134	2,4,5-TRIMETHYLANILINE	(NTP, 1992)	; 760 mm Hg at < 120.6A° F	32452	70	mm Hg	(EPA, 1998)	1.2G8	59	(EPA, 1998)	(A constant boiling azeotrope with water containing 30.27% hydrogen chloride boils at 227A° F.)	-121	760	(EPA, 1998)	36.46	760	ppm	50	ppm	(NTP, 1992)	at 32A° F	82.3	solbly_value	at 86A° F	(NIOSH, 2003)	67	%	mg/mL	less than 1	Poison	Poison (Gas/Corrosive	HCl	g/100 g	HDC	3.0	0.0	4.0	1.0	1.0
3135	2,4,6-TRICHLORONITROBENZENE	(NTP, 1992)				(NTP, 1992)														(NTP, 1992)	at 73A° F			C8H11NO2.ClH											2.0	0.0	2.0	1.0	1.0
3136	2,4,7-TRINITROFLUORENONE																																			C14H20N2O5	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3137	2,4-D 2-ETHYLHEXYL ESTER	2,4-D 2-ETHYLHEXYL ESTER	1928-43-4	Sweet smelling liquid.	2.5	5.0	2.5	5019.0	505.0	1710.0	894.0	542.0	1426.0	149.0	490.0	272.0	149.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3138	2,4-DB	2,4-DB\4-(2,4-DICHLOROPHENOXY)BUTANOIC ACID	94-82-6	Colorless crystals. Slightly corrosive to iron. A chlorinated phenoxy herbicide. Soluble in organic solvents.	1.0	2.5	5.0	5019.0	505.0	1710.0	894.0	542.0	1426.0	149.0	490.0	272.0	149.0	(BLOB)	Combustible. May explode if subjected to heat or flame. POISONOUS GAS IS PRODUCED WHEN HEATED. Vapors are toxic. Can detonate or explode when heated under confinement. (USCG, 1999)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3139	2,4-DIAMINOANISOLE	1,3-DIAMINO-4-METHOXYBENZENE\2,4-DIAMINOANISOLE (AND ITS SALTS)\2,4-DIAMINOANISOLE\4-METHOXY-1,3-BENZENE-DIAMINE\4-METHOXY-M-PHENYLENE-DIAMINE	615-05-4	Colorless needles. Primarily used (along with salts such as 2,4-diaminoanisole sulfate) as a component of hair & fur dye formulations. (NIOSH, 1997)	1.0	2.5	5.0	5020.0	505.0	1710.0	894.0	542.0	1427.0	149.0	490.0	272.0	149.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases including hydrogen chloride, hydrogen fluoride, and very small amounts of phosgene, fluorine and chlorine are produced. Behavior in Fire: While no flash point is reported, the material may burn if ignited by a high intensity heat source. (USCG, 1999)	Fire Extinguishing Agents: Extinguish fires with material appropriate to the surrounding materials. (USCG, 1999)
3140	2,4-DP	3-(2,4-DICHLOROPHENOXY)PROPANOICACID\3-(2,4-DICHLOROPHENOXY)PROPIONIC ACID\DICHLORPROP\2,4-DP	120-36-5	Yellowish to colorless solid. Soluble in organic solvents. Used as an herbicide.	1.0	2.5	5.0	5020.0	505.0	1710.0	894.0	542.0	1427.0	149.0	490.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3141	2,5-DIETHOXY-4-MORPHOLINOBENZENEDIAZONIUM ZINC CHLORIDE	2,5-DIETHOXY-4-MORPHOLINOBENZENEDIAZONIUM ZINC CHLORIDE	6023-29-6	A white to light-colored solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5020.0	505.0	1710.0	894.0	542.0	1427.0	149.0	490.0	272.0	149.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3142	2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, NOT MORE THAN 82% WITH WATER	2,5-BIS(HYDROPEROXY)-2,5-DIMETHYLHEXANE\2,5-DIHYDROPEROXY-2,5-DIMETHYLHEXANE\2,5-DIMETHYL-2,5-BIS(HYDROPEROXY)HEXANE\2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, NOT MORE THAN 82% WITH WATER\2,5-DIMETHYL-2,5-DIHYDROPEROXYHEXANE\2,5-DIMETHYL-2,5-HEXYLENE DIHYDROPEROXIDE\2,5-DIMETHYLHEXANE 2,5-BIS(HYDROPEROXIDE)\DIMETHYLHEXANE DIHYDROPEROXIDE\2,5-DIMETHYLHEXYL-2,5-DIHYDROPEROXIDE\HYDROPEROXIDE, (1,1,4,4-TETRAMETHYLTETRAMETHYLENE)DI-\LUPEROX 2,5-2,5\LUPERSOL 2,5-2,5\1,1,4,4-TETRAMETHYLTETRAMETHYLENE DIHYDROPEROXIDE	3025-88-5	White wet solid. May float or sink in water. This solid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a water slurry.	1.0	2.5	5.0	5020.0	505.0	1710.0	894.0	542.0	1427.0	149.0	490.0	272.0	149.0	(BLOB)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3137	2,4-D 2-ETHYLHEXYL ESTER	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Reacts with water to release gaseous hydrogen cyanide (very poisonous).	(BLOB)	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3294 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for hydrogen cyanide, CAS number 74-90-8	4	4	1	5																							
3138	2,4-DB	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Wear goggles, self-contained breathing apparatus, and rubber overclothing (including gloves). (USCG, 1999)	Highly flammable. Slightly soluble in water.	2,4-DINITROPHENOL may explode if subjected to heat or flame. May explode if allowed to dry out. Forms explosive salts with alkalis and ammonia. Incompatible with heavy metals and their compounds. Also incompatible with strong oxidizing agents, strong bases and reducing agents. Reacts with combustibles. (NTP, 1992)	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)			234 to 237
3139	2,4-DIAMINOANISOLE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE yields violent reactions with Al, Ba, Li, Sm, Na/K alloy and Ti (NTP, 1992). May react exothermically with aluminum.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)		1256	(NTP, 1992)		-33.5	
3140	2,4-DP	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)						0																		(NTP, 1992)			304 to 309
3141	2,5-DIETHOXY-4-MORPHOLINOBENZENEDIAZONIUM ZINC CHLORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,5-DIMETHYL-2,5-DI-(2-ETHYLHEXANOYLPEROXY)HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3142	2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, NOT MORE THAN 82% WITH WATER	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Peroxides, such as 2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. This compound may react violently on exposure to heat, shock or reducing agents. (NTP, 1992)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)	185																	(NTP, 1992)		46	

id	name	vp_source	vp_note	vp_value	vp_range	vp_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_n_otr	molwgt_value	molwgt_range	solbly_source	solbly_value	solbly_note	solbly_source	solbly_unit	hlth_value	hlth_note	hlth_source	molwgt_range	solbly_range	solbly_unit	formulas	incompatible_labels	Prob Score
3140	2,4-DP										(NTP, 1992)						574							760		(NTP, 1992)			191.01			less than 1	mg/mL			50	ppm						C7H4Cl2O2		2.0	0.0	3.0	1.0	1.0
3137	2,4-D 2-ETHYLHEXYL ESTER																																											
3139	2,4-DIAMINOANISOLE	(NTP, 1992)		284		77		mm Hg							(USCG, 1999)			1.5635			77		117.9		760		(NTP, 1992)		(NIOSH, 2003)	187.38				2000	ppm	(NTP, 1992)	insoluble					3.0	0.0	3.0	1.0	1.0
3138	2,4-DB							(NTP, 1992)				6.35			(USCG, 1999)			1.68			68			Sublimes (when centrifuged hexed)		(NTP, 1992)		(NTP, 1992)	184.11			less than 1	mg/mL	DNP	Flammable Solid/Poison	C6H4N2O5					2.0	0.0	2.0	1.0	1.0
3142	2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, NOT MORE THAN 82% WITH WATER																																											
3141	2,5-DIETHOXY-4-MORPHOLINOBENZENEDIAZONIUM ZINC CHLORIDE																																											
3136	2,4-D 2-ETHYLHEXYL ESTER																																											
3135	2,4-D																																											
3134	2,4,6-TRICHLOROPHENOL																																											
3133	2,4,5-TRICHLOROPHENOL																																											
3132	2,4,5-T ESTERS																																											
3131	2,4,5-T																																											
3130	2,4,5-TP ACID ESTERS																																											
3129	2,4,5-TP ACID																																											
3128	2,4,5-TP																																											
3127	2,4,5-TETRACHLOROPHENOL																																											
3126	2,4,5-TCP																																											
3125	2,4,5-T AMINE SALTS																																											
3124	2,4,5-T AMINE																																											
3123	2,4,5-T ALKYL ESTERS																																											
3122	2,4,5-T																																											
3121	2,4,5-TRICHLOROPHENOL																																											
3120	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3119	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3118	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3117	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3116	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3115	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
3114	2,4,5-TRICHLOROPHENOXYACETIC ACID																																											
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id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3143	2,5-DINITRO-9H-FLUORENE	2,5-DINITRO-9H-FLUORENE|2,5-DINITROFLUORENE|FLUORENE, 2,5-DINITRO-	15110-74-4	PHYSICAL DESCRIPTION: Light brown solid. (NTP, 1992)	1.0	2.5	5.0	5020.0	505.0	1710.0	894.0	542.0	1427.0	149.0	490.0	272.0	149.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3144	2,5-DINITROPHENOL	2,5-DINITROPHENOL|2,5-DNP|GAMMA-DINITROPHENOL	329-71-5	Yellow crystalline solid with a sweet musty odor. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	5021.0	505.0	1711.0	894.0	542.0	1428.0	149.0	491.0	272.0	149.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3145	2,6-DICHLORO-P-PHENYLENEDIAMINE	4-AMINO-2,6-DICHLOROANILINE|C.I. 37020|DAITO BROWN SALT RR|2,5-DIAMINO-1,3-DICHLOROBENZENE|1,4-DIAMINO-2,6-DICHLOROBENZENE|2,6-DICHLORO-1,4-BENZENEDIAMINE|2,6-DICHLORO-1,4-PHENYLENEDIAMINE|3,5-DICHLORO-1,4-PHENYLENEDIAMINE|2,6-DICHLORO-P-PHENYLENEDIAMINE|2,6-DICHLORO-PARA-PHENYLENEDIAMINE|FAST BROWN RR SALT|NCI-C50260|P-PHENYLENEDIAMINE, 2,6-DICHLORO-	609-20-1	PHYSICAL DESCRIPTION: Gray, microcrystalline powder or solid. (NTP, 1992)	1.0	2.5	5.0	5021.0	505.0	1711.0	894.0	542.0	1428.0	149.0	491.0	272.0	149.0	(BLOB)	Fire risk in contact with organic materials. An explosive increase in vapor pressure occurs when the alpha form melts. Combines with water with explosive violence, forming sulfuric acid. May ignite other combustible materials (wood, paper, oil, etc.). Flammable poisonous gases may accumulate in tanks and hopper cars. Runoff to sewer may create fire or explosion hazard. Forms sulfuric acid on contact with water. Avoid water and organic materials. On exposure to air, it absorbs moisture and emits dense white fumes. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Do not get water inside container. Small fires: dry chemical or carbon dioxide. Large fires: flood fire area with water from a distance. Do not get solid stream of water on spilled material. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. (EPA, 1998)
3146	2,6-DIMETHYL MORPHOLINE	2,6-DIMETHYL MORPHOLINE|2,6-DIMETHYL-2,3,5,6-TETRAHYDRO-4H-1,4-OXAZINE|2,6-DIMETHYLMORPHOLINE	141-91-3	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	5022.0	505.0	1711.0	894.0	542.0	1429.0	149.0	491.0	272.0	149.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3147	2,7-DICHLORODIBENZO-P-DIOXIN	DCDD|DIBENZO-P-DIOXIN, 2,7-DICHLORO-|2,7-DICHLORO-P-DIOXIN|2,7-DICHLORODIBENZO(B,E)(1,4)DIOXIN|2,7-DICHLORODIBENZO-P-DIOXIN|2,7-DICHLORODIBENZO-PARA-DIOXIN|2,7-DICHLORODIBENZODIOXIN|2,7-DICHLORODIOXIN|NCI-C03667	33857-26-0	PHYSICAL DESCRIPTION: Colorless crystals or a white powder. (NTP, 1992)	1.0	2.5	5.0	5022.0	505.0	1711.0	894.0	542.0	1429.0	149.0	491.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3143	2,5-DINITRO-9H-FLUORENE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Peroxides, such as 2,5-DIMETHYL-2,5-DI-(TERT-BUTYLPEROXY)HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
3144	2,5-DINITROPHENOL	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water. Slowly decomposes in water	CHLOROPICRIN reacts vigorously with strong bases [Ramsey, B. G., et al., J. Am. Chem. Soc., 1966, 88, p. 3059]. Reacts violently with aniline [Jackson, K. E., Chem. Rev., 1934, 14, p. 269]. Can, when pure, be shocked into detonation. Reactivity is modified by mixing with other components. Emits highly toxic fumes of chlorine gas and nitrogen oxides when heated to decomposition [Sax, 9th ed., 1996, p. 821]. A mixture with 3-bromopropyne intended for use as an insecticide exploded violently on passage through an overheated pump during a railcar transfer operation [BCISC Quart. Safety Summ., 1968, 39, 12].	Highly Flammable; Explosive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)		(NFPA, 2010)		4	4	3	7																								
3145	2,6-DICHLORO-P-PHENYLENEDIAMINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Combines with water with explosive force, forming sulfuric acid. Sulfur trioxide chars most organic substances. On exposure to air it absorbs moisture rapidly, emitting dense white acidic fumes, mists [Merck 11th ed. 1989].	The reaction of SULFUR TRIOXIDE and oxygen difluoride is very vigorous and explosions occur if the reaction is carried out in the absence of a solvent [J. Chem. Eng. Data 13(4):529-531. 1968]. The reaction of sulfur trioxide in excess with tetrafluoroethylene causes explosive decomposition to carbonyl fluoride and sulfur dioxide [Chem. Eng. News 49(22):3. 1971]. The reaction of anhydrous perchloric acid with sulfur trioxide is violent and accompanied by the evolution of considerable heat (Pascal 16:300 1931-34). Liquid sulfur trioxide reacts violently with nitryl chloride, even at 75Â° C. The reaction of sulfur trioxide and lead oxide causes white luminescence [Mellor 7:654 1946-47]. The combination of iodine, pyridine, sulfur trioxide, and formamide developed a gas over pressurization after several months. This is due to the slow formation of sulfuric acid, from external water or dehydration of the formamide to hydrogen cyanide.	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1829 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		144Â° F Alpha form 90.5Â° F Beta form 62.2Â° F Gamma form		
3146	2,6-DIMETHYL MORPHOLINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble with heat generation.	BIFLUORIDES react with strong acids to liberate toxic hydrogen fluoride gas. React with chemical bases (examples: amines, amides, inorganic hydroxides). May react with active metals to liberate hydrogen and/or toxic gases. Can initiate polymerization in certain alkenes. React with cyanide salts and compounds to release gaseous hydrogen cyanide. May generate flammable and/or toxic gases with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and weak or strong reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. Can catalyze (increase the rate of) chemical reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3147	2,7-DICHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																							(NTP, 1992)		261 to 264	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3143	2,5-DINITRO-9H-FLUORENE																																								Organic Peroxide	C16H34O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3144	2,5-DINITROPHENOL																														(NIOSH, 2003)	(as chloropicrin)	2	ppm							Poison|Flammable Liquid	CCl3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0
3145	2,6-DICHLORO-P-PHENYLENEDIAMINE	(EPA, 1998)	73 mm Hg at 77Â° F Alpha form 344 mm Hg at 77Â° F Beta form 433 mm Hg at 77Â° F Gamma form						(EPA, 1998)		2.76				(EPA, 1998)	Gamma form (liquid)	1.92		68		(EPA, 1998)	all forms	113		760		(EPA, 1998)		80.06												Corrosive|Poison Inhalation Hazard	SO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3146	2,6-DIMETHYL MORPHOLINE																																							Corrosive	F2H	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3147	2,7-DICHLORODIBENZO-P-DIOXIN																										(NTP, 1992)		276.76						(NTP, 1992)	at 57Â° F		less than 1	mg/mL			C10H13ClN2O3S		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3148	2-ACETYLAMINOFLUORENE	AAF|2-AAF|ACETAMIDE, N-9H-FLUOREN-2-YL-|ACETAMIDE, N-FLUOREN-2-YL-|2-ACETAMIDOFLUORENE|2-ACETAMINOFLUORENE|ACETOAMINOFLUORENE|2-(ACETYLAMINO)FLUORENE|2-ACETYLAMINOFLUORENE|FAA|2-FAA|2-FLUORENYLACETAMIDE|N-2-FLUORENYLACETAMIDE|N-9H-FLUOREN-2-YLACETAMIDE|N-ACETYL-2-AMINOFLUORENE|N-FLUOREN-2-YLACETAMIDE	53-96-3	PHYSICAL DESCRIPTION: White powder or light beige solid. (NTP, 1992)	1.0	2.5	5.0	5023.0	505.0	1711.0	894.0	542.0	1430.0	149.0	491.0	272.0	149.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3149	2-AMINO-2,4-DIMETHYL-PENTANE NITRILE	2-AMINO-2,4-DIMETHYL-PENTANENITRILE|2-AMINO-2,4-DIMETHYLPENTANENITRILE|2-AMINO-2,4-DIMETHYLVALERONITRILE	26842-43-3	A clear red liquid with an ammonia-like odor. Less dense than water and insoluble in water. Toxic by ingestion, inhalation and skin absorption. Produces toxic fumes during combustion.	2.5	5.0	2.5	5024.0	505.0	1711.0	894.0	542.0	1431.0	149.0	491.0	272.0	149.0	(BLOB)	Combustible (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3150	2-AMINO-2-METHYL-BUTANE NITRILE	2-AMINO-2-METHYL-BUTANE NITRILE|2-AMINO-2-METHYLBUTANENITRILE|2-AMINO-2-METHYLBUTYRONITRILE|BUTYRONITRILE, 2-AMINO-2-METHYL-|1-CYANO-1-METHYLPROPYLAMINE|ISOVALINONITRILE	4475-95-0	A yellow liquid with an ammonia-like odor. About the same density as water and insoluble in water. Toxic by ingestion, absorption and inhalation. May irritate eyes. Produces toxic fumes during combustion. Used to make other chemicals.	2.5	5.0	2.5	5025.0	505.0	1711.0	894.0	542.0	1432.0	149.0	491.0	272.0	149.0	Call a physician. EYES: Flush with water. SKIN: Wash with soap and water immediately. INGESTION: Remove by gastric lavage or emesis (vomiting) and catharsis. (USCG, 1999)	Special Hazards of Combustion Products: Nitrogen oxides - toxic fumes - react with water or steam to produce heat and corrosive liquids - can react violently with reducing materials. Behavior in Fire: May explode when exposed to heat or flame. Explodes at 265Â°F. (USCG, 1999)	Fire Extinguishing Agents: Use extreme caution - material may explode. Use remote extinguishing equipment or unmanned fixed turret and hose nozzles - evacuate area. (USCG, 1999)
3151	2-AMINO-2-THIAZOLINE-4-CARBOXYLIC ACID	2-AMINO-2-THIAZOLINE-4-CARBOXYLIC ACID|2-AMINOTHIAZOLINE-4-CARBOXYLIC ACID|DL-2-AMINO-DELTA2-THIAZOLINE-4-CARBOXYLIC ACID|DL-2-AMINOTHIAZOLINE-4-CARBOXYLIC ACID|2-IMINOTHIAZOLIDINE-4-CARBOXYLIC ACID|2-THIAZOLINE-4-CARBOXYLIC ACID, 2-AMINO-	2150-55-2	White powder. (NTP, 1992)	1.0	2.5	5.0	5025.0	505.0	1711.0	894.0	542.0	1432.0	149.0	491.0	272.0	149.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3152	2-AMINO-3,4-DIMETHYLIMIDAZO(4,5-F)QUINOLINE	2-AMINO-3,4-DIMETHYLIMIDAZO(4,5-F)QUINOLINE|2-AMINO-3,4-DIMETHYLIMIDAZO[4,5-F]QUINOLINE|3,4-DIMETHYL-3H-IMIDAZO[4,5-F]QUINOLIN-2-AMINE|MEIQ|METHYL-IQ	77094-11-2	Pale orange crystalline solid or light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5025.0	505.0	1711.0	894.0	542.0	1432.0	149.0	491.0	272.0	149.0	EYES: wash eyes carefully for at least 15 min. SKIN: Treat molten sulfur burns with petroleum jelly or mineral oil. If recovered sulfur, treat as for hydrogen sulfide.* (USCG, 1999)	Special Hazards of Combustion Products: Produces toxic sulfur dioxide gas. Behavior in Fire: Burns with a pale blue flame that may be difficult to see in daylight. (USCG, 1999)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3148	2-ACETYLAMINOFLUORENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3149	2-AMINO-2,4-DIMETHYL-PENTANE NITRILE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Sensitive to moisture. Water soluble.	HYDROQUINONE MONOMETHYL ETHER can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		269.6												(NTP, 1992)		790		(NTP, 1992)		126.5	
3150	2-AMINO-2-METHYL-BUTANE NITRILE	Neutralizing Agents for Acids and Caustics: Sodium bisulfate (USCG, 1999)	Wear protective clothing, cap, gloves, goggles - canister type mask recommended. (USCG, 1999)	Decomposes rapidly at room temperature or when dissolved in hot water by internal oxidation reduction. Reacts with water or steam to produce heat and corrosive liquids.	(BLOB)	Explosive; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	3	3		(USCG, 1999)		265												(USCG, 1999)		265		(USCG, 1999)		91.49	
3151	2-AMINO-2-THIAZOLINE-4-CARBOXYLIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,5-DITHIOBIUREA is related to dithiocarbamates. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.						0																								
3152	2-AMINO-3,4-DIMETHYLIMIDAZO(4,5-F)QUINOLINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Safety goggles with side shields; approved respirator; heat-resistant gloves; leather heat-resistant clothing. If recovered sulfur, refer to hydrogen sulfide.* (USCG, 1999)	Flammable. Insoluble in water.	(BLOB)	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(USCG, 1999)		405												(USCG, 1999)		450		(USCG, 1999)		251	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3148	2-ACETYLAMINOFLUORENE																																								Corrosive	C3H5ClO2		3.0	0.0	4.0	1.0	1.0
3149	2-AMINO-2,4-DIMETHYL-PENTANE NITRILE	(NIOSH, 2003)			less than 0.01			mm Hg							(NTP, 1992)		1.55		68		(NTP, 1992)		475		760		(NTP, 1992)		124.15						(NTP, 1992)	Soluble					Class 9	C7H8O2		2.0	0.0	2.0	1.0	1.0
3150	2-AMINO-2-METHYL-BUTANE NITRILE														(USCG, 1999)		1.227		68		(USCG, 1999)	133.7Â° F 22 mm 158Â°F 60 mm					(USCG, 1999)		33.03										HDA	Corrosive	H3NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3151	2-AMINO-2-THIAZOLINE-4-CARBOXYLIC ACID																										(NTP, 1992)		150.24						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL			C2H6N4S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3152	2-AMINO-3,4-DIMETHYLIMIDAZO(4,5-F)QUINOLINE														(USCG, 1999)		1.8		248		(USCG, 1999)		832.3		760		(USCG, 1999)		256.51										SXX	Flammable Solid (international)|Class 9 (domestic)	S		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3153	2-AMINO-3-METHYLIMIDAZO(4,5-F)QUINOLINE	2-AMINO-3-METHYL-3H-IMIDAZO(4,5-F)QUINOLINE|2-AMINO-3-METHYL-3H-IMIDAZO[4,5-F]QUINOLINE|2-AMINO-3-METHYLIMIDAZO(4,5-F)QUINOLINE|2-AMINO-3-METHYLIMIDAZO[4,5-F]QUINOLINE|3H-IMIDAZO[4,5-F]QUINOLIN-2-AMINE, 3-METHYL-;IQ|3-METHYL-3H-IMIDAZO[4,5-F]QUINOLIN-2-AMINE|3-METHYL-3H-IMIDAZO[4,5-F]QUINOLIN-2-AMINE	76180-96-6	PHYSICAL DESCRIPTION: Light tan crystalline solid or tan powder. (NTP, 1992)	1.0	2.5	5.0	5026.0	505.0	1711.0	894.0	542.0	1433.0	149.0	491.0	272.0	149.0	(BLOB)	It is highly reactive and capable of igniting finely-divided combustible materials on contact. When heated, it emits highly toxic fumes. Avoid heat; water and organic materials. Sulfuric acid is explosive or incompatible with an enormous array of substances. Can undergo violent chemical change at elevated temperatures and pressure. May react violently with water. When heated, it emits highly toxic fumes. Hazardous polymerization may not occur. (EPA, 1998)	Fight fire from safe distance or from protected location. Use care as water applied directly to this acid results in evolution of heat and causes spattering. Cool containers that are exposed to flames with streams of water until fire is out. Wear positive pressure breathing apparatus and special protective clothing. Not flammable. For small fires use dry chemical or carbon dioxide. Use water on combustibles burning in vicinity of this material. For large fires flood fire area with water from a distance. Do not get solid streams of water on material. Move container from area if you can do so without risk. (EPA, 1998)
3154	2-AMINO-4-NITROPHENOL	1-AMINO-2-HYDROXY-5-NITROBENZENE|3-AMINO-4-HYDROXYNITROBENZENE|2-AMINO-4-NITROPHENOL|C.I. 76530|1-HYDROXY-2-AMINO-4-NITROBENZENE|2-HYDROXY-5-NITROANILINE|NCI-C55958|4-NITRO-2-AMINO-1-HYDROXYBENZENE|4-NITRO-2-AMINOPHENOL|5-NITRO-2-HYDROXYANILINE|P-NITRO-O-AMINOPHENOL|URSOL 4GL	99-57-0	PHYSICAL DESCRIPTION: Orange prisms or yellow powder. No odor. (NTP, 1992)	1.0	2.5	5.0	5026.0	505.0	1711.0	894.0	542.0	1433.0	149.0	491.0	272.0	149.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3155	2-AMINO-4-PHENYLTHIAZOLE HYDROBROMIDE MONOHYDRATE	2-AMINO-4-PHENYLTHIAZOLE HYDROBROMIDE MONOHYDRATE	52253-69-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5026.0	505.0	1711.0	894.0	542.0	1433.0	149.0	491.0	272.0	149.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3156	2-AMINO-5,6-DIMETHYLBENZOTHIAZOLE	2-AMINO-5,6-DIMETHYLBENZOTHIAZOLE|BENZOTHIAZOLE, 2-AMINO-5,6-DIMETHYL-;5,6-DIMETHYL-2-AMINOBENZOTHIAZOLE|5,6-DIMETHYL-2-BENZOTHIAZOLAMINE	29927-08-0	Off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5027.0	505.0	1711.0	894.0	542.0	1434.0	149.0	491.0	272.0	149.0	Call a physician in all cases. INHALATION: remove victim to fresh air; if he is not breathing, apply artificial respiration; give oxygen if breathing is difficult; do NOT induce vomiting. SKIN: flush with plenty of water for at least 15 min. while removing contaminated clothing and shoes. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes into irritating and toxic gases Behavior in Fire: Although nonflammable, it may ignite other combustibles. Contact with water AND metal produces explosive hydrogen gas. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3157	2-AMINOANTHRACENE	2-AMINOANTHRACENE|2-ANTHRACENAMIDE|ANTHRACENE AMINE|2-ANTHRACINE AMIDE|2-ANTHRACYLAMINE|2-ANTHRAMINE|2-ANTHRYLAMINE|BETA-AMINOANTHRACENE	613-13-8	PHYSICAL DESCRIPTION: Yellow to brownish-yellow powder or solid. (NTP, 1992)	1.0	2.5	5.0	5027.0	505.0	1712.0	894.0	542.0	1434.0	149.0	492.0	272.0	149.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3158	2-BIPHENYLAMINE HYDROCHLORIDE	2-AMINOBIPHENYL HCL|2-AMINOBIPHENYL HYDROCHLORIDE|2-BIPHENYLAMINE HCL|2-BIPHENYLAMINE HYDROCHLORIDE|2-BIPHENYLAMINE, HYDROCHLORIDE|HYDROCHLORIDE, 2-BIPHENYLAMINE|NCI-C50282|NTP-11205-A	2185-92-4	PHYSICAL DESCRIPTION: Pale yellow crystals or off-white chunky solid. (NTP, 1992)	1.0	2.5	5.0	5027.0	505.0	1712.0	894.0	542.0	1434.0	149.0	492.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3153	2-AMINO-3-METHYLIMIDAZO(4,5-F)QUINOLINE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Reaction with water is negligible unless acid strength is above 80-90% then heat from hydrolysis is extreme, may cause severe burns [Merck, 11th ed. 1989]. During sulfonation of mononitrobenzene by fuming sulfuric acid, a leak from an internal cooling coil permitted water to enter the reaction tank. A violent eruption occurred due to the heat of solution [MCA Case History 944 1963].	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																(USCG, 1999)	Not flammable			(EPA, 1998)		50.65	
3154	2-AMINO-4-NITROPHENOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Very slightly water soluble.	2,6-DIMETHYL MORPHOLINE reacts with oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2	(NTP, 1992)		112													(NTP, 1992)		-121	
3155	2-AMINO-4-PHENYLTHIAZOLE HYDROBROMIDE MONOHYDRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water	2,6-DIMETHYLPHENOL is incompatible with bases, acid chlorides, acid anhydrides, and oxidizing agents. Corrodes steel, brass, copper, and copper alloys. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0	(NTP, 1992)		165													(NTP, 1992)		120	
3156	2-AMINO-5,6-DIMETHYLBENZOTHIAZOLE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Acid-proof goggles or a rubber hood, long rubber gloves, rubber shoes, long rubber apron, shirt and trousers of wool or acrylic fiber, and a hat with a brim. For emergency use involving considerable exposure, a complete rubber suit with hood, gloves and boots of rubber should be used. In case of fire use self-contained breathing apparatus. (USCG, 1999)	Fumes in air. Reacts exothermically and violently with water producing sulfuric acid, hydrochloric acid, and large quantities of dense white acid fumes [Merck, 11th ed., 1989]. Contact with water and metal produces explosive hydrogen gas (USCG, 1999). Chlorosulfonic acid reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.04 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1754 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	2	2	No Water; Oxidizer															(USCG, 1999)	Not flammable			(USCG, 1999)		-112	
3157	2-AMINOANTHRACENE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
3158	2-BIPHENYLAMINE HYDROCHLORIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). If either of these are not available, wear a full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. However, note that full face chemical cartridge respirators provide a substantially lower protection level than do positive supplied-air or SCBA equipment. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)							0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3153	2-AMINO-3-METHYLIMIDAZO(4,5-F)QUINOLINE	(EPA, 1998)		1		294.8		mm Hg	(EPA, 1998)		3.4				(EPA, 1998)		1.841				(EPA, 1998)		554		760		(EPA, 1998)		98.08		(NIOSH, 2003)		15	mg/m3	(NIOSH, 2003)	Miscible				SFA	Corrosive	H2SO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3154	2-AMINO-4-NITROPHENOL								(NTP, 1992)		4				(NTP, 1992)		0.9346		68		(NTP, 1992)		297		760		(NTP, 1992)		115.18						(NTP, 1992)	at 66Â° F		greater than or equal to 0.1	mg/mL		Flammable Liquid|Poison	C6H13NO	Mineral-Based & Clay-Based Absorbents	9.0	0.0	3.0	1.0	1.0
3155	2-AMINO-4-PHENYLTHIAZOLE HYDROBROMIDE MONOHYDRATE														(NTP, 1992)		1.01		68		(NTP, 1992)		397		760		(NTP, 1992)		122.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H10O		2.0	0.0	3.0	1.0	1.0
3156	2-AMINO-5,6-DIMETHYLBENZOTHIAZOLE	(USCG, 1999)		1.55				mm Hg							(USCG, 1999)		1.75		68		(USCG, 1999)		311		760		(USCG, 1999)		116.53										CSA	Corrosive|Poison Inhalation Hazard	ClHO3S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0
3157	2-AMINOANTHRACENE																																								Non-Flammable Gas	C2HClF4\nC2H4O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3158	2-BIPHENYLAMINE HYDROCHLORIDE																													95.52												ClHClOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3159	2-BROMOETHYL ACRYLATE	ACRYLIC ACID, 2-BROMOETHYL ESTER|2-BROMOETHYL ACRYLATE|ETHANOL, 2-BROMO-, ACRYLATE|ETHYL 2-BROMOACRYLATE	4823-47-6	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5027.0	505.0	1712.0	894.0	542.0	1434.0	149.0	492.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3160	2-CHLORO-1,3-PROPANEDIOL	2-CHLORO-1,3-PROPANEDIOL|GLYCEROL BETA-CHLOROHYDRIN|GLYCEROL BETA-MONOCHLOROHYDRIN	497-04-1	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5028.0	505.0	1712.0	894.0	542.0	1435.0	149.0	492.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3161	2-CHLORO-1-PROPANOL	BETA-CHLOROPROPYL ALCOHOL|BETA-PROPYLENE CHLOROHYDRIN|2-CHLORO-1-PROPANOL|2-CHLOROISOPROPYL ALCOHOL|2-CHLOROPROPANOL|2-CHLOROPROPYL ALCOHOL|1-HYDROXY-2-CHLOROPROPANE|1-PROPANOL, 2-CHLORO-|PROPYLENE CHLOROHYDRIN|PROPYLENECHLOROHYDRIN	78-89-7	PHYSICAL DESCRIPTION: Clear colorless liquid with a pleasant odor. (NTP, 1992)	2.5	5.0	2.5	5029.0	505.0	1712.0	894.0	542.0	1436.0	149.0	492.0	272.0	149.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3162	2-DIAZO-1-NAPHTHOL-4-SULFONYL CHLORIDE	2-DIAZO-1-NAPHTHOL-4-SULFONYL CHLORIDE|2-DIAZO-1-NAPHTHOL-4-SULPHONYL CHLORIDE	36451-09-9		1.0	2.5	5.0	5030.0	505.0	1713.0	894.0	542.0	1437.0	149.0	493.0	272.0	149.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3163	2-DIAZO-1-NAPHTHOL-5-SULFONYL CHLORIDE	2-DIAZO-1-NAPHTHOL-5-SULFONYL CHLORIDE|2-DIAZO-1-NAPHTHOL-5-SULPHONYL CHLORIDE	3770-97-6	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5030.0	505.0	1714.0	894.0	542.0	1437.0	149.0	494.0	272.0	149.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3159	2-BROMOETHYL ACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	Weakly basic. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		320 to 356
3160	2-CHLORO-1,3-PROPANEDIOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	May be sensitive to air. (NTP, 1992).	ICR 191 reacts as a weak acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		520 to 523
3161	2-CHLORO-1-PROPANOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	IMAZALIL is an imidazole derivative. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
3162	2-DIAZO-1-NAPHTHOL-4-SULFONYL CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	1,1-DICHLORO-1,2,2,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
3163	2-DIAZO-1-NAPHTHOL-5-SULFONYL CHLORIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CHLOROTRIFLUOROMETHANE AND TRIFLUOROMETHANE AZEOTROPIC MIXTURE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3159	2-BROMOETHYL ACRYLATE																										(NTP, 1992)		527.54						(NTP, 1992)	Freely soluble					Poison	C20H37N3O13	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3160	2-CHLORO-1,3-PROPANEDIOL																										(NTP, 1992)		451.25													Poison	C19H21CI2N3O.2ClH	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3161	2-CHLORO-1-PROPANOL																																									Poison	C14H14CI2N2O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3162	2-DIAZO-1-NAPHTHOL-4-SULFONYL CHLORIDE																																									Class 9	C3HCl2F5		3.0	0.0	4.0	1.0	1.0
3163	2-DIAZO-1-NAPHTHOL-5-SULFONYL CHLORIDE																																									Non-Flammable Gas	CCIF3 (chlorotrifluoromethane)|CHF3 (trifluoromethane)		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3164	2-ETHOXYETHYL-P-METHOXYCINNAMATE	CINNAMIC ACID, P-METHOXY-, 2-ETHOXYETHYL ESTER|CINOXATE|ETHANOL, 2-ETHOXY-, P-METHOXYCINNAMATE|2-ETHOXYETHYL 4-METHOXYCINNAMATE|2-ETHOXYETHYL P-METHOXYCINNAMATE|2-ETHOXYETHYL-P-METHOXYCINNAMATE|GIVTAN F|GIVE-TAN|3-(4-METHOXYPHENYL)-2-PROPENOIC ACID 2-ETHOXYETHYL ESTER|P-METHOXYCINNAMIC ACID 2 ETHOXYETHYL ESTER|PHIASOL|SUN-DARE|SUNDARE	104-28-9	PHYSICAL DESCRIPTION: Viscous clear to pale yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5031.0	505.0	1715.0	894.0	542.0	1438.0	149.0	495.0	272.0	149.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3165	2-ETHYL-3-PROPYLACROLEIN	ALPHA-ETHYL-2-HEXENAL|ALPHA-ETHYL-BETA-N-PROPYLACROLEIN|ALPHA-ETHYL-BETA-PROPYLACROLEIN|CKB 1364|2-ETHYL-2-HEXEN-1-AL|2-ETHYL-2-HEXENAL|2-ETHYL-3-PROPYLACROLEIN|2-ETHYL-3-PROPYLACRYLALDEHYDE|3-FORMYLHEPT-3-ENE	645-62-5	Yellow liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5032.0	505.0	1715.0	894.0	542.0	1439.0	149.0	495.0	272.0	149.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
3166	2-ETHYLBUTANOL	ETHYL BUTANOL|2-ETHYL-1-BUTANOL|2-ETHYL-L-BUTANOL|ETHYLBUTANOL|2-ETHYLBUTANOL {2-ETHYLBUTRALDEHYDE}|2-ETHYLBUTANOL|2-ETHYLBUTYL ALCOHOL|3-METHYLOLPENTANE|PSEUDOHEXYL ALCOHOL|SEC-HEXYL ALCOHOL|SEC-PENTYLCARBINOL	97-95-0	Flash point of 137Â°F. Less dense than water and slightly soluble in water. Vapors are heavier than air. Used as a solvent and in the manufacture of pharmaceuticals.	2.5	5.0	2.5	5033.0	505.0	1716.0	894.0	542.0	1440.0	149.0	496.0	272.0	149.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3167	2-ETHYLBUTYL ACETATE	CAPROIC ACID ETHYL ESTER|ETHYL BUTYL ACETATE|ETHYL CAPROATE|ETHYL CAPRONATE|ETHYL HEXANOATE|ETHYLBUTYL ACETATE|2-ETHYLBUTYL ACETATE	10031-87-5	A clear colorless liquid. Denser than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5033.0	505.0	1716.0	894.0	542.0	1440.0	149.0	496.0	272.0	149.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3168	2-HYDROXY-4-(METHYLTHIO)-BUTANOIC ACID	ALIMET, DESMENIDOL,|BUTRYIC ACID, 2-HYDROXY-4-METHYLTHIO-|HSDB 5700|2-HYDROXY-4-(METHYLTHIO)-BUTANOIC ACID|METHIONINE HYDROXY ANALOG|MHA ACID|MHA-FA	583-91-5	Light brown liquid. (USCG, 1999)	2.5	5.0	2.5	5034.0	505.0	1717.0	894.0	542.0	1441.0	149.0	497.0	272.0	149.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3164	2-ETHOXYETHYL-P-METHOXYCINNAMATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Halogenated aliphatic compounds, such as IODOPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3165	2-ETHYL-3-PROPYLACROLEIN	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	May be pyrophoric in air at ambient temperature, [Bailar, 1973, vol. 3, 1008-1009].	IRON OXIDE, [SPENT] is iron oxide that has been converted to iron sulfide. A reducing agent. Can be regenerated to iron oxide by exposure to the air. Lliable to spontaneous heating.	Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		2849	
3166	2-ETHYLBUTANOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	1,1-DICHLORO-1,2,3,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3167	2-ETHYLBUTYL ACETATE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May react with water to give off hydrogen, a flammable gas. The heat from this reaction may ignite the hydrogen. The substance is said to be pyrophoric.	IRON, [POWDERED] is pyrophoric [Bretherick, 1979 p. 170-1]. A strong reducing agent and therefore incompatible with oxidizing agents. Burns in chlorine gas [Mellor 2, Supp. 1:380 1956]. Reacts with fluorine with incandescence [Mellor 13:314, 315, 1946-1947].	Strong Reducing Agent; Known Catalytic Activity; Water-Reactive; Pyrophoric	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3168	2-HYDROXY-4-(METHYLTHIO)-BUTANOIC ACID	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	ISOBUTYL FORMATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NFPA, 2010)		less than 70																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3164	2-ETHOXYETHYL-P-METHOXYCINNAMATE																																									Flammable Liquid	C3H7I		4.0	0.0	4.0	1.0	1.0
3165	2-ETHYL-3-PROPYLACROLEIN	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		5.24										(NIOSH, 2003)		159.7						(NIOSH, 2003)	Insoluble					Spontaneously Combustible	Fe2O3		3.0	0.0	4.0	1.0	1.0
3166	2-ETHYLBUTANOL																																								Class 9	C3HCl2F5		3.0	0.0	4.0	1.0	1.0
3167	2-ETHYLBUTYL ACETATE																																								Flammable Solid	Fe		2.0	0.0	4.0	1.0	1.0
3168	2-HYDROXY-4-(METHYLTHIO)-BUTANOIC ACID																																								Flammable Liquid	C5H10O2		5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3169	2-HYDROXY-7-NITROFLUORENE	FLUOREN-2-OL, 7-NITRO-|7-HYDROXY-2-NITROFLUORENE|2-HYDROXY-7-NITROFLUORENE|7-NITRO-9H-FLUOREN-2-OL|7-NITROFLUOREN-2-OL	6633-40-5	Solid.	1.0	2.5	5.0	5035.0	505.0	1717.0	894.0	542.0	1442.0	149.0	497.0	272.0	149.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3170	2-METHYL-1-BUTENE	GAMMA-ISOAMYLENE|1-ISOAMYLENE|2-METHYL-1-BUTENE	563-46-2	A colorless volatile liquid with a disagreeable odor. Insoluble in water and less dense than water. Vapors are heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5035.0	505.0	1718.0	894.0	542.0	1442.0	149.0	498.0	272.0	149.0	(BLOB)	Special Hazards of Combustion Products: Thermal decomposition may yield oxides of carbon. Behavior in Fire: Combustible liquid. Sealed containers may rupture explosively when exposed to heat, due to polymerization. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3171	2-METHYL-1-NITROANTHRAQUINONE	9,10-ANTHRACENEDIONE, 2-METHYL-1-NITRO-|ANTHRAQUINONE, 2-METHYL-1-NITRO-|2-METHYL-1-NITRO-9,10-ANTHRACENEDIONE|2-METHYL-1-NITROANTHRAQUINONE|NCI-C01923|1-NITRO-2-METHYLANTHRAQUINONE	129-15-7	PHYSICAL DESCRIPTION: Pale yellow needles or light yellow solid. (NTP, 1992)	1.0	2.5	5.0	5035.0	505.0	1718.0	894.0	542.0	1442.0	149.0	498.0	272.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3172	2-METHYL-1-PENTENE	ISO-HEXENE|2-METHYL PENTENE-1|2-METHYL-1-PENTENE|1-METHYL-1-PROPYLETHYLENE|4-METHYL-4-PENTENE	763-29-1	Colorless liquid. Flash point -15Â°F. Floats on water. Irritating vapor.	2.5	5.0	2.5	5035.0	505.0	1719.0	894.0	542.0	1442.0	149.0	499.0	272.0	149.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3173	2-METHYL-2-BUTENENITRILE	ALPHA,BETA-DIMETHYLACRYLONITRILE|ALPHA-METHYLCROTONONITRILE|CROTONONITRILE, 2-METHYL-|2-METHYL-2-BUTENENITRILE|2-METHYLCROTONONITRILE	4403-61-6	PHYSICAL DESCRIPTION: Clear amber liquid. (NTP, 1992)	2.5	5.0	2.5	5036.0	505.0	1719.0	895.0	542.0	1443.0	149.0	499.0	273.0	149.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may be formed in fire. Behavior in Fire: Vapor is heavier than air and may travel to a source of ignition and flash back. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3169	2-HYDROXY-7-NITROFLUORENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	This compound may be sensitive to prolonged exposure to air and/or light. Insoluble in water.	2-AMINO-4-CHLOROPHENOL may react with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)		284 to 286
3170	2-METHYL-1-BUTENE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Flammable. This compound is sensitive to heat, air and light.	ISOBUTYL METHACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound polymerizes readily. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		120																						
3171	2-METHYL-1-NITROANTHRAQUINONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to moisture. Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		279 to 282
3172	2-METHYL-1-PENTENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Viton North F-091 0.41 mm 18 min Butyl Rubber North B-174 0.69 mm 75 min Nitrile Edmont 37-155 0.61 mm 91 min PVA Edmont 29-250 0.53 mm 19 min PVC Edmont 34-100 0.15 mm 2 min (NTP, 1992)	Highly flammable. Insoluble in water. Slowly decomposes in water.	An oxidizing agent but can serve as a reducing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides, nitrides, ammonium salts, cyanides, and many fuels.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		-10		(NTP, 1992)	at 70Â° F	1.2		%	(NTP, 1992)	at 70Â° F	26.9		%								
3173	2-METHYL-2-BUTENENITRILE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; butyl rubber gloves; chemical face shield; butyl rubber apron (USCG, 1999)	Highly flammable. Soluble in water.	ISOBUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		15		(NTP, 1992)		3.4		%	(NTP, 1992)		9		%	(USCG, 1999)		712		(NTP, 1992)		-121	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3169	2-HYDROXY-7-NITROFLUORENE																										(NTP, 1992)		143.58						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H6ClNO		1.0	0.0	1.0	1.0	1.0
3170	2-METHYL-1-BUTENE														(USCG, 1999)		0.8858		68		(NTP, 1992)		311		760		(NTP, 1992)		142.2						(NTP, 1992)	Insoluble (<1mg/ml)				BMI	Flammable Liquid	C8H14O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	4.0	1.0	1.0
3171	2-METHYL-1-NITROANTHRAQUINONE																										(NTP, 1992)		164.22						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C8H8N2S	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3172	2-METHYL-1-PENTENE	(NTP, 1992)	; 17.80 mm Hg at 86Â° F	10		68		mm Hg	(NTP, 1992)			greater than 1			(NTP, 1992)		0.87		72		(NTP, 1992)		153		760		(NTP, 1992)		103.12						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C4H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3173	2-METHYL-2-BUTENENITRILE	(NTP, 1992)		100		65.8		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		0.739		68		(NTP, 1992)			154 to 156	760		(NTP, 1992)		73.16						(NTP, 1992)	Very soluble				IAM	Flammable Liquid|Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3174	2-METHYLBENZAMIDE	2-METHYLBENZAMIDE|O-METHYLBENZAMIDE|O-TOLUAMIDE|O-TOLUIC AMIDE|ORTHO-TOLUAMIDE|2-TOLUAMIDE	527-85-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5037.0	505.0	1719.0	895.0	542.0	1444.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3175	2-METHYLPENTAN-2-OL	2-METHYLPENTAN-2-OL|METHYLPENTANOL	590-36-3	A colorless liquid. Less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5037.0	505.0	1719.0	895.0	542.0	1444.0	149.0	499.0	273.0	149.0	Wash eyes and skin with plenty of water for at least 15 min. (USCG, 1999)		Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
3176	2-NAPHTHYL LACTATE	BETA-NAPHTHYL LACTATE|2-HYDROXYPROPANOIC ACID 2-NAPHTHALENYL ESTER|LACTIC ACID BETA-NAPHTHYL ESTER|LACTIC ACID, 2-NAPHTHYL ESTER|LACTOL|LACTONAPHTHOL|2-NAPHTHIOL LACTATE|2-NAPHTHOL, LACTATE|2-NAPHTHYL LACTATE	93-43-6	PHYSICAL DESCRIPTION: Crystals (from alcohol). Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3177	2-NITRO-1-BUTANOL	1-BUTANOL, 2-NITRO-|2-NITRO-1-BUTANOL|2-NITRO-N-BUTANOL|2-NITROBUTANOL	609-31-4	PHYSICAL DESCRIPTION: Colorless clear amber liquid. pH (0.1 molar solution) 4.51. (NTP, 1992)	2.5	5.0	2.5	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	Wash affected area with water for 15 min. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: Alcohol foam, dry chemicals or carbon dioxide (USCG, 1999)
3178	2-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	ALPHA,ALPHA,ALPHA-TRIFLUORO-O-NITROTOLUENE|1-NITRO-2(TRIFLUOROMETHYL)BENZENE|1-NITRO-2-(TRIFLUOROMETHYL)BENZENE|2-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|2-NITROBENZOTRIFLUORIDE|O-(TRIFLUOROMETHYL)NITROBENZENE|O-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE|O-NITROBENZOTRIFLUORIDE|TOLUENE, ALPHA,ALPHA,ALPHA-TRIFLUORO-O-NITRO-|2-(TRIFLUOROMETHYL)NITROBENZENE	384-22-5	PHYSICAL DESCRIPTION: Yellow crystals. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3179	2-NITROFLUORENE	FLUORENE, 2-NITRO-|2-NITRO-9H-FLUORENE|2-NITROFLUORENE	607-57-8	PHYSICAL DESCRIPTION: Cream-colored solid. (NTP, 1992)	1.0	2.5	5.0	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3174	2-METHYLBENZAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Is slowly oxidized by air at room temperature. Insoluble in water.	2-AMINO-5-NITROPHENOL is a reducing agent. Incompatible with strong oxidizing agents. Reacts slowly with oxygen in the air at room temperature. Stable at temperatures up to 140Â°F for two weeks when kept in the dark and under nitrogen. Stable under nitrogen for up to 24 weeks 77Â°F. Incompatible with strong bases (NTP, 1992). Incompatible with acid chlorides and acid anhydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)		388 to 396
3175	2-METHYLPENTAN-2-OL		Protective clothing; chemical goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ISODECALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.							0		(USCG, 1999)		185																					
3176	2-NAPHTHYL LACTATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2-AMINO-5-NITROTHIAZOLE may be sensitive to light. Incompatible with nitric acid and sulfuric acid. Also incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides. A preparative hazard (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)	396	
3177	2-NITRO-1-BUTANOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Chemical goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		220																				(USCG, 1999)		less than 140
3178	2-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air (NTP, 1992). Insoluble in water.	2-AMINO-6-CHLORO-4-NITROPHENOL HYDROCHLORIDE behaves as a weak acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) can be generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases.						0																							(NTP, 1992)	Decomposes		
3179	2-NITROFLUORENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																							(NTP, 1992)			322 to 325

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3174	2-METHYLBENZAMIDE																										(NTP, 1992)		154.13						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	4.0	1.0	1.0
3175	2-METHYLPENTAN-2-OL	(USCG, 1999)		1.55				mm Hg							(USCG, 1999)	(est.)	0.84		15								(USCG, 1999)		156.28											IDA		C10H20O	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3176	2-NAPHTHYL LACTATE																										(NTP, 1992)		145.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C3H3N3O2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3177	2-NITRO-1-BUTANOL														(USCG, 1999)		0.841		68		(USCG, 1999)		428		760	(USCG, 1999)		158.29											ISA	Class 9	C10H22O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3178	2-NITRO-ALPHA,ALPHA,ALPHA-TRIFLUOROTOLUENE																										(NTP, 1992)		224.57						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C6H5ClN2O3.ClH	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3179	2-NITROFLUORENE																										(NTP, 1992)		194.25						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C9H10N2OS	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3180	2-NITRONAPHTHALENE	B-NITRONAPHTHALENE|BETA-NITRONAPHTHALENE|BETA-,-NITRONAPHTHALENE|2-NITRONAPHTHALENE	581-89-5	Yellow crystalline solid. Mp: 76Â°C; bp: 315Â°C. Insoluble in water. Very soluble in ethyl alcohol and in diethyl ether. Toxic to aquatic organisms, may cause long-term adverse effects in the environment.	1.0	2.5	5.0	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
3181	2-NITROPROPANE	DIMETHYLNITROMETHANE|ISO-NITROPROPANE|ISONITROPROPANE|NIPAR S-20|NIPAR S-30|NITROISOPROPANE|2-NITROPROPANE|NITROPROPANES (2-NITROPANE)|2-NP|SEC-NITROPROPANE	79-46-9	Colorless liquid with a mild fruity odor. May float on or sink in water. (USCG, 1999)	2.5	5.0	2.5	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point for this chemical is 121 C (249.8 F). It is combustible. (NTP, 1992)	Fires involving this compound can be controlled with carbon dioxide, dry chemical or Halon extinguishers. (NTP, 1992)
3182	2-PENTENE, (E)-	2-PENTENE, (E)-	646-04-8	Colorless liquid with a hydrocarbon odor. Usually in technical grade as a mixture of isomers. Used as a solvent, in organic synthesis, and as a polymerization inhibitor.	2.5	5.0	2.5	5038.0	505.0	1719.0	895.0	542.0	1445.0	149.0	499.0	273.0	149.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3183	2-PENTENE, (Z)-	2-PENTENE, (Z)-	627-20-3	A colorless liquid with a hydrocarbon odor. Usually found as a technical grade consisting of a mixture of isomers. Insoluble in water. Used as a solvent in organic synthesis and as a polymerization inhibitor.	2.5	5.0	2.5	5039.0	505.0	1719.0	895.0	542.0	1446.0	149.0	499.0	273.0	149.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3184	2-PENTENENITRILE	1-CYANO-1-BUTENE|2-PENTENENITRILE	13284-42-9	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5039.0	505.0	1719.0	895.0	542.0	1446.0	149.0	499.0	273.0	149.0	(BLOB)	May burn but will not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Forms hydrogen fluoride in presence of moisture; decomposes in water at pH about 2.5. Keep away from sources of heat. Anhydrous compounds or oil solutions are stable in glass containers at room temperature. (EPA, 1998)	Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorous Pesticide, n.o.s.) Dry chemical, carbon dioxide, water spray, or foam. For large fires, water spray, fog, or foam. Fight fire from maximum distance. Dike fire control water for later disposal. (EPA, 1998)
3185	2-PHENYL-2-ETHYLMALONDIAMIDE	2-ETHYL-2-PHENYLMALONAMIDE|2-ETHYL-2-PHENYLMALONDIAMIDE|2-ETHYL-2-PHENYLPROPANEDIAMIDE|ETHYLPHENYLMALONDIAMIDE|MALONAMIDE, 2-ETHYL-2-PHENYL-|PEMA|PEMA (AMIDE)|2-PHENYL-2-ETHYLMALONAMIDE|2-PHENYL-2-ETHYLMALONDIAMIDE|PHENYLETHYLMALONAMIDE|PHENYLETHYLMALONDIAMIDE	7206-76-0	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5039.0	505.0	1719.0	895.0	542.0	1446.0	149.0	499.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3186	3,3'-(1,4-PHENYLENE)BIS-2-PROPENOIC ACID	P-BENZENEDIACRYLIC ACID|P-PHENYLENEBIS(ACRYLIC ACID)|P-PHENYLENEBIS[ACRYLIC ACID]|P-PHENYLENEDIACRYLIC ACID|3,3'-(1,4-PHENYLENE)BIS-2-PROPENOIC ACID|1,4-PHENYLENEDIACRYLIC ACID|2-PROPENOIC ACID, 3,3'-(1,4-PHENYLENE)BIS-	16323-43-6	PHYSICAL DESCRIPTION: Yellow powder or solid. (NTP, 1992)	1.0	2.5	5.0	5039.0	505.0	1719.0	895.0	542.0	1446.0	149.0	499.0	273.0	149.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorine containing compounds. Violent reaction with lithium, nitrogen. Incompatible with strong oxidizers. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3180	2-NITRONAPHTHALENE	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as CHLORTHIOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3181	2-NITROPROPANE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ISODECYL METHACRYLATE may react vigorously with oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, can undergo very exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides.	Polymerizable					0		(NTP, 1992)		249.8																			
3182	2-PENTENE, (E)-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	[[Details on specifics of reactivity not yet available.]]			(NFPA, 2010)		2	2	0	2		(NTP, 1992)		235																(NTP, 1992)		14	
3183	2-PENTENE, (Z)-	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed by alkali solution.	Organothiophosphates, such as ISOFENPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3184	2-PENTENENITRILE	When handling in open containers, protect the eyes, nose, and mouth with a suitable mask, and avoid contact with skin. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water spray to reduce vapors. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Forms hydrogen fluoride in presence of moisture; decomposes in water at pH about 2.5.	Organophosphates, such as ISOFLUORPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		-116	
3185	2-PHENYL-2-ETHYLMALONDIAMIDE	STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic [Merck.] Insoluble in water.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																									
3186	3,3'-(1,4-PHENYLENE)BIS-2-PROPENOIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	The rate of solution for water is extremely slow, pH of 0.2 M. aqueous solution is 2.4.	When heated to decomposition, CHROMIC CHLORIDE emits toxic fumes of chlorine containing compounds. Violent reaction with lithium, nitrogen. Incompatible with strong oxidizers. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																								(EPA, 1998)		2106	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3180	2-NITRONAPHTHALENE	(EPA, 1998)		0.0004		77		mm Hg							(EPA, 1998)		1.345		68		(EPA, 1998)			307 to 316		0.013	(EPA, 1998)		361.25													Poison	C11H15Cl2O3PS2		1.0	0.0	1.0	1.0	1.0
3181	2-NITROPROPANE														(NTP, 1992)		0.878		68		(NTP, 1992)			259		10	(NTP, 1992)		226.4						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C14H26O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	4.0	1.0	1.0
3182	2-PENTENE, (E)-	(NTP, 1992)		0.02		77		mm Hg							(NTP, 1992)		1.08		77		(NTP, 1992)			511		760	(NTP, 1992)		164.2						(NTP, 1992)	Slightly soluble						C10H12O2	Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3183	2-PENTENE, (Z)-																																								Poison	C15H24NO4PS	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3184	2-PENTENENITRILE	(EPA, 1998)		0.579		68		mm Hg							(EPA, 1998)		1.055				(EPA, 1998)			144		9	(EPA, 1998)		184.15												Poison	C6H14FO3P	Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3185	2-PHENYL-2-ETHYLMALONDIAMIDE																																			(NTP, 1992)	Insoluble						C27H47N	Mineral-Based & Clay-Based Absorbents	5.0	0.0	5.0	1.0	1.0
3186	3,3'-(1,4-PHENYLENE)BIS-2-PROPENOIC ACID														(EPA, 1998)		2.87				(EPA, 1998)	Dissociates above 1300C					(EPA, 1998)		158.35		(NIOSH, 2003)	[as Cr(III)]	25	mg/m3							Corrosive	Cl3Cr		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3187	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE|3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [TECHNICALLY PURE]	22397-33-7		2.5	5.0	2.5	5040.0	505.0	1720.0	895.0	542.0	1447.0	149.0	500.0	273.0	149.0	(BLOB)	Special Hazards of Combustion Products: When heated to decomposition emits highly toxic fumes to phosgene. Behavior in Fire: Explosion hazard (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3188	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% IN SOLUTION]	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE|3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% IN SOLUTION]	22397-33-7		2.5	5.0	2.5	5041.0	505.0	1720.0	895.0	542.0	1448.0	149.0	500.0	273.0	149.0	Call a doctor. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. EYES: Flush with running water for 15 minutes. SKIN: Wash thoroughly with soap and water. INGESTION: Gastric lavage or emesis and catharsis. (USCG, 1999)	Special Hazards of Combustion Products: Emits fumes of phosgene (USCG, 1999)	Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical. (USCG, 1999)
3189	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% WITH INERT SOLID]	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE|3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% WITH INERT SOLID]	22397-33-7		2.5	5.0	2.5	5042.0	505.0	1720.0	895.0	542.0	1449.0	149.0	500.0	273.0	149.0	INHALATION: remove to fresh air; use artificial respiration if necessary. EYES: get medical attention if liquid has entered eyes. SKIN: soak in lukewarm water (for frostbite). (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen fluoride fumes may form in fire. Behavior in Fire: Containers may explode. Vapors are heavier than air and may travel a considerable distance to an ignition source and flash back. (USCG, 1999)	(BLOB)
3190	3,3-DICHLORO-1,1,1,2,2-PENTAFLUOROPROPANE	3,3-DICHLORO-1,1,1,2,2-PENTAFLUOROPROPANE|HCFC-225CA	422-56-0	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5042.0	505.0	1720.0	895.0	542.0	1449.0	149.0	500.0	273.0	149.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3191	3,3'-DICHLOROBENZIDINE	BENZIDINE, 3,3'-DICHLORO-|C.I. 23060|CURITHANE C 12614,4'-DIAMINO-3,3'-DICHLOROBIPHENYL|3,3'-DICHLORO-4,4'-BIPHENYLDIAMINE|3,3'-DICHLORO-4,4'-DIAMINOBIPHENYL|DICHLOROBENZIDINE|3,3'-DICHLOROBENZIDINE (AND ITS SALTS)|DICHLOROBENZIDINE BASE|3,3'-DICHLOROBENZIDINE|3,3'-DICHLOROBIPHENYL-4,4'-DIAMINE|O,O'-DICHLOROBENZIDINE	91-94-1	Gray to purple crystalline powder. Insoluble in water. Very toxic. Used in the dye industry, curing agent for isocyanate terminated resins.	1.0	2.5	5.0	5043.0	505.0	1720.0	895.0	542.0	1450.0	149.0	500.0	273.0	149.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3192	3,3'-DIHYDROXYBENZIDINE	3,3'-BIPHENYLDIOL, 4,4'-DIAMINO-|[1,1'-BIPHENYL]-4,4'-DIAMINE, 3,3'-DIHYDROXY-|4,4'-DIAMINO-(1,1'-BI-PHENYL)-3,3'-DIOL|4,4'-DIAMINO-3,3'-BIPHENYLDIOL|6,6'-DIAMINO-M,M'-BIPHENOL|3,3'-DIHYDROXY-4,4'-DIAMINOBIPHENYL|3,3'-DIHYDROXYBENZIDINE|3,3'-DIOXYBENZIDINE|M,M'-BIPHENOL, 6,6'-DIAMINO-	2373-98-0	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	5043.0	505.0	1720.0	895.0	542.0	1450.0	149.0	500.0	273.0	149.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3187	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	1,1-DICHLOROETHANE can react vigorously with oxidizing materials. It is incompatible with strong bases. Contact with strong caustics will cause formation of flammable and toxic gas. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		22		(NTP, 1992)		5.6		%	(NTP, 1992)		11.4		%	(USCG, 1999)		856		(NTP, 1992)		-143	
3188	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% IN SOLUTION]	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber gloves, self-contained breathing apparatus, coveralls or laboratory coat. (USCG, 1999)	Highly flammable.	Halogenated aliphatic compounds, such as 1,1-DICHLOROPROPANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(est.)	70		(USCG, 1999)	(est.)	3.4		%	(USCG, 1999)	(est.)	14.5		%	(USCG, 1999)		1035					
3189	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% WITH INERT SOLID]	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Individual breathing devices with air supply; neoprene gloves; protective clothing; eye protection (USCG, 1999)	Highly flammable.	Halogenated aliphatic compounds, such as 1,1-DIFLUOROETHANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure [Chem. Eng. News 39(27):44(1961)].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0						(USCG, 1999)		3.7		%	(USCG, 1999)		18		%					(USCG, 1999)		-179	
3190	3,3-DICHLORO-1,1,1,2,2-PENTAFLUOROPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to air and light. Absorbs insignificant amounts of moisture at 77Â°F at relative humidities up to approximately 90%. Water soluble. Dust can be explosive when suspended in air at specific concentrations.	ISONIAZID is incompatible with chloral, aldehydes, iodine, hypochlorites and ferric salts. It is also incompatible with oxidizers. It may react with sugars and ketones. It can react as a weak acid or a weak base. It can be decomposed by oxidative and reductive reactions. (NTP, 1992)						0		(NTP, 1992)		374																(NTP, 1992)		340.5	
3191	3,3'-DICHLOROBENZIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3192	3,3'-DIHYDROXYBENZIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amide, and acidic salt. In aqueous solution, behaves as a weak acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3187	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE	(NTP, 1992)	; 182 mm Hg at 68Â° F	234		77		mm Hg	(NTP, 1992)		3.44				(USCG, 1999)		1.174		68		(NTP, 1992)		135.1		760		(NTP, 1992)		98.96		(NIOSH, 2003)		3000	ppm	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	DCH	Flammable Liquid	C2H4Cl2		2.0	0.0	2.0	1.0	1.0
3188	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% IN SOLUTION]														(USCG, 1999)		1.1321		68		(USCG, 1999)		190.6		760		(USCG, 1999)		112.99											DPB	Combustible Liquid	C3Cl2H6		2.0	0.0	2.0	1.0	1.0
3189	3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXOCYCLONONANE, [<= 52% WITH INERT SOLID]														(USCG, 1999)		0.95		68		(USCG, 1999)		52.3		760		(USCG, 1999)		66.05											DFE	Flammable Gas	C2H4F2		2.0	0.0	2.0	1.0	1.0
3190	3,3-DICHLORO-1,1,1,2,2-PENTAFLUOROPROPANE	(NTP, 1992)	Negligible																								(NTP, 1992)		137.14					(NTP, 1992)	at 77Â° F		greater than or equal to 100	mg/mL			C6H7N3O	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3191	3,3'-DICHLOROBENZIDINE																												109		(NIOSH, 2003)	[as Cr(III)]	25	mg/m3						Corrosive	CrF3 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3192	3,3'-DIHYDROXYBENZIDINE																										(NTP, 1992)		186.64					(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C8H10N2O.ClH		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3193	3,3'-IMINODIPROPIONITRILE	BBCE|BETA,BETA'-IMINODIPROPIONITRILE|BIS(2-CYANOETHYL)AMINE|BIS(BETA-CYANOETHYL)AMINE|BIS(CYANOETHYL)AMINE|DI(2-CYANOETHYL)AMINE|DIETHYLAMINE, 2,2-DICYANO-|ETHANAMINE, 2-CYANO-N-(2-CYANOETHYL)-|IDPN|IMINOBIS(PROPIONITRILE)|3,3'-IMINOBIS(PROPIONITRILE)|3-3'-IMINOBIS[PROPANENITRILE]|3,3'-IMINODIPROPIONITRILE|N,N-BIS(2-CYANOETHYL)AMINE|PROPANENITRILE, 3,3'-IMINOBIS-|PROPIONITRILE, 3,3'-IMINODI-	111-94-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5044.0	505.0	1721.0	895.0	542.0	1451.0	149.0	501.0	273.0	149.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3194	3,4,5,6-TETRABROMO-O-XYLENE	O-TETRABROMOXYLENE|3,4,5,6-TETRABROMO-1,2-DIMETHYLBENZENE|3,4,5,6-TETRABROMO-O-DIMETHYLBENZENE|3,4,5,6-TETRABROMO-O-XYLENE|TETRABROMODIMETHYLBENZENE|TETRABROMOXYLENE	36059-21-9	PHYSICAL DESCRIPTION: Off-white solid. (NTP, 1992)	1.0	2.5	5.0	5045.0	505.0	1721.0	895.0	542.0	1452.0	149.0	501.0	273.0	149.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3195	3,4,5-TRICHLOROPHENOL	PHENOL, 3,4,5-TRICHLORO-|3,4,5-TRICHLORO-1-HYDROXYBENZENE|3,4,5-TRICHLOROPHENOL	609-19-8	PHYSICAL DESCRIPTION: Needles (from ligroin) or off-white solid. (NTP, 1992)	1.0	2.5	5.0	5045.0	505.0	1721.0	895.0	542.0	1452.0	149.0	501.0	273.0	149.0	(BLOB)	Flash point data for this material are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with carbon dioxide, dry chemical, or Halon extinguishers. (NTP, 1992)
3196	3,4,6-TRICHLORO-2-NITROPHENOL	DOWLAP|2-NITRO-3,4,6-TRICHLOROPHENOL|3,4,6-TRICHLORO-2-NITROPHENOL|2,4,5-TRICHLORO-6-NITROPHENOL	82-62-2	PHYSICAL DESCRIPTION: Pale yellow crystals or powder. Formerly used as a pesticide.	1.0	2.5	5.0	5046.0	505.0	1721.0	895.0	542.0	1453.0	149.0	501.0	273.0	149.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Vapors are very irritating to eyes and mucous membranes. May increase severity of fire. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3197	3,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE	ALPHA,ALPHA,ALPHA,3,4-PENTACHLOROTOLUENE|3,4 ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE|3,4 ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE|1,2 DICHLORO-4-(TRICHLOROMETHYL)BENZENE|3,4-DICHLOROBENZOTRICHLORIDE|3,4-DICHLOROPHENYLTRICHLOROMETHANE|3,4-DICHLOROTRICHLOROMETHYLBENZENE|TOLUENE, ALPHA,ALPHA,ALPHA,3,4-PENTACHLORO-	13014-24-9	PHYSICAL DESCRIPTION: Slightly opaque pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5047.0	505.0	1722.0	895.0	542.0	1454.0	149.0	502.0	273.0	149.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3193	3,3'-IMINODIPROPIONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ISONONYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3194	3,4,5,6-TETRABROMO-O-XYLENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2-AMINOBIPHENYL neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)			greater than 235										(NTP, 1992)		842		(NTP, 1992)			122 to 127
3195	3,4,5-TRICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to prolonged exposure to air. Insoluble in water.	2-AMINO FLUORENE forms salts with acids and can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)			257 to 261
3196	3,4,6-TRICHLORO-2-NITROPHENOL	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Fumes in moist air. Hydrolyzes exothermically and vigorously on contact with water to generate chromic acid, hydrochloric acid and some chlorine [Merck, 11th ed., 1989]. Chromium oxychloride reacts with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 10 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney. Argonne National Laboratory, Argonne, Illinois, June 2009.	CHROMIUM OXYCHLORIDE is a powerful and often violent oxidizing agent. Reacts readily with many inorganic and organic materials in the absence of a dilutent. Contact with hydrogen sulfide or phosphine can cause ignition. Contact with phosphorus tribromide, acetone, ethanol, ether, and turpentine causes ignition. Contact with moist phosphorus or with phosphorus trichloride leads to explosive reaction. Contact with ammonia causes incandescence. Reacts with sodium azide to form chromyl azide, which is explosive in the absence of a dilutent. Causes ignition of flowers of sulfur and of urea on contact. [Bretherick, 1979, p. 822-823].	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1758 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																					(USCG, 1999)		-141.7	
3197	3,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ISOOCTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)			less than 20																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3193	3,3'-IMINODIPROPIONITRILE																																								Combustible Liquid	C11H22O2		3.0	0.0	4.0	1.0	1.0
3194	3,4,5,6-TETRABROMO-O-XYLENE								(NTP, 1992)		5.8										(NTP, 1992)		570		760		(NTP, 1992)		169.23						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C12H11N		1.0	0.0	1.0	1.0	1.0
3195	3,4,5-TRICHLOROPHENOL																										(NTP, 1992)		181.24						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL		Poison	C13H11N		1.0	0.0	1.0	1.0	1.0
3196	3,4,6-TRICHLORO-2-NITROPHENOL	(NIOSH, 2003)		20				mm Hg							(USCG, 1999)		1.96		68		(USCG, 1999)		241		760		(USCG, 1999)		154.9		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Reacts with water				CMC	Corrosive	Cl2CrO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3197	3,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE																																								Flammable Liquid	C8H16	Dirt/Earth	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3198	3,4-DINITROTOLUENE	3,4-DINITROTOLUENE|3,4-DNT|TOLUENE, 3,4-DINITRO-	610-39-9	Yellow to red solid or heated liquid with a slight odor. Solidifies in cool water. Solid and liquid sink in water . (USCG, 1999)	1.0	2.5	5.0	5047.0	505.0	1722.0	895.0	542.0	1454.0	149.0	502.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3199	3-AMINO-4-ETHOXYACETANILIDE	ACETAMIDE, N-(3-AMINO-4-ETHOXYPHENYL)-|ACETANILIDE, 3'-AMINO-4'-ETHOXY-|ACETANILIDE, 3-AMINO-4-ETHOXY-|5-(ACETYLAMINO)-2-ETHOXYANILINE|5'-AMINO-4'-ETHOXYACETANILIDE|3-AMINO-4-ETHOXYACETANILIDE|N-(3-AMINO-4-ETHOXYPHENYL)ACETAMIDE|NCI-C01887|P-ACETOPHENETIDIDE, 3'-AMINO-	17026-81-2	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	5047.0	505.0	1722.0	895.0	542.0	1454.0	149.0	502.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3200	3-AMINO-5-SULFOSALICYLIC ACID	3-AMINO-2-HYDROXY-5-SULFOBENZOIC ACID|3-AMINO-5-SULFOSALICYLIC ACID|SALICYLIC ACID, 3-AMINO-5-SULFO-	6201-86-1	Crystalline solid. Used in the spectrofluorimetric determination of aluminum.	1.0	2.5	5.0	5048.0	505.0	1722.0	895.0	542.0	1455.0	149.0	502.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3201	3-BROMO-2,2-BIS(BROMOMETHYL)PROPANOL	2,2-BIS(BROMOMETHYL)-3-BROMO-1-PROPANOL|3-BROMO-2,2-BIS(BROMOMETHYL)-1-PROPANOL|3-BROMO-2,2-BIS(BROMOMETHYL)PROPANOL|3-BROMO-2,2-BIS(BROMOMETHYL)PROPYL ALCOHOL|FR 1360|PENTAERYTHRITOL TRIBROMIDE|PENTAERYTHRITOL TRIBROMOHYDRIN|TRIBROMONEOPENTYL ALCOHOL|2,2,2-TRIS(BROMOMETHYL)ETHANOL	1522-92-5	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5048.0	505.0	1722.0	895.0	542.0	1455.0	149.0	502.0	273.0	149.0	Call a physician. EYES: Flush with running water for at least 15 minutes. SKIN: remove contaminated clothing and shoes. Flush affected areas with plenty of running water. Wash with soap and water. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: If victim is conscious, have victim drink water and have victim induce vomiting. If victim is unconscious, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of Br Behavior in Fire: May form explosive mixtures with air in a fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3202	3-CHLORO-1,1,1-TRIFLUOROPROPANE	3-CHLORO-1,1,1-TRIFLUOROPROPANE|HCFC-253FB	460-35-5	A colorless odorless nonflammable liquid. Poisonous by inhalation. Emits toxic fumes of chlorine and fluorine when heated to decomposition.	2.5	5.0	2.5	5049.0	505.0	1722.0	895.0	542.0	1456.0	149.0	502.0	273.0	149.0	INHALATION: Move victim to fresh air; call emergency medical care. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush with running water for at least 15 minutes; hold eyelids open if appropriate. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. INGESTION: If swallowed and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3203	3-ETHOXY-1-PROPANOL	BETA-PROPYLENE GLYCOL MONOETHYL ETHER|3-ETHOXY-1-PROPANOL|ETHOXYPROPANOL|3-ETHOXYPROPANOL|PROPYLENE GLYCOL BETA-MONOETHYL ETHER|PROPYLENE GLYCOL MONOETHYL ETHER	111-35-3	A clear colorless liquid, with a mild odor. Less dense than water. Contact may slightly irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	5050.0	505.0	1723.0	895.0	542.0	1457.0	149.0	503.0	273.0	149.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3198	3,4-DINITROTOLUENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air and moisture.	TETRACHLOROPHTHALIC ANHYDRIDE reacts exothermically with water. This reaction is expected to be slow, but can become vigorous if local heating accelerates it. Reaction with water is accelerated by acids. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		491 to 494
3199	3-AMINO-4-ETHOXYACETANILIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		greater than 572
3200	3-AMINO-5-SULFOSALICYLIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CHRYSOPHANIC ACID is incompatible with strong oxidizing agents. (NTP, 1992)						0																						(NTP, 1992)	(sublimes)	385
3201	3-BROMO-2,2-BIS(BROMOMETHYL)PROPANOL	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical-resistant gloves, safety goggles, other protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as 2-BROMOBUTANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Gives toxic fumes of bromine when burned.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		70																		(USCG, 1999)		-169.4	
3202	3-CHLORO-1,1,1-TRIFLUOROPROPANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear rubber overclothing, gloves, goggles, and self-contained breathing apparatus. (USCG, 1999)	Soluble in water. Flash Point 234 F. Melting point 50 F. Reacts with carbon dioxide from the air to form deposits around vents (Roger Patrick, DuPont Engineer).	ISOPHORONE DIAMINE is an amine. Amines are chemical bases. They neutralize acids to form salts. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides (Roger Patrick, DuPont Engineer). Corrodes aluminum and steel in the presence of moisture and carbon dioxide (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		230																		(USCG, 1999)		50	
3203	3-ETHOXY-1-PROPANOL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3198	3,4-DINITROTOLUENE														(NTP, 1992)		1.49		527		(NTP, 1992)	(sublimes)	700		760		(NTP, 1992)		285.9						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C8Cl4O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	3.0	1.0	1.0
3199	3-AMINO-4-ETHOXYACETANILIDE																									(NTP, 1992)		176.2						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C8H8N4O	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0
3200	3-AMINO-5-SULFOSALICYLIC ACID																									(NTP, 1992)		254.25						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C15H10O4		2.0	0.0	2.0	1.0	1.0
3201	3-BROMO-2,2-BIS(BROMOMETHYL)PROPANOL														(USCG, 1999)		1.258		68		(USCG, 1999)		196.5		760		(USCG, 1999)		137.04											BBT	Flammable Liquid	C4H9Br		5.0	0.0	5.0	1.0	1.0
3202	3-CHLORO-1,1,1-TRIFLUOROPROPANE														(USCG, 1999)		0.924		68		(USCG, 1999)		477		760		(USCG, 1999)		170.3											IPI	Corrosive	C10H22N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3203	3-ETHOXY-1-PROPANOL																									(NTP, 1992)		84.12												Combustible Liquid	C5H8O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3204	3-ETHYLAMINOPHENOL	3-(ETHYLAMINO)PHENOL|3-ETHYLAMINOPHENOL|M-(ETHYLAMINO)PHENOL|M-ETHYLAMINOPHENOL|META-ETHYLAMINOPHENOL|N-ETHYL-M-AMINOPHENOL|PHENOL, M-(ETHYLAMINO)-	621-31-8	PHYSICAL DESCRIPTION: Very viscous deep orange liquid. (NTP, 1992)	2.5	5.0	2.5	5050.0	505.0	1723.0	895.0	542.0	1457.0	149.0	503.0	273.0	149.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated Behavior in Fire: May polymerize in containers and explode (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3205	3-IODO-1,2-PROPANEDIOL	ALIVAL|ALPHA-IODOHYDRIN GLYCEROL|ALPHA-MONOIODOHYDRIN GLYCEROL|DL-1-DEOXY-1-IODOGLYCEROL|DL-GLYCEROL IODOHYDRIN|GLYCEROL ALPHA-IODOHYDRIN|GLYCEROL ALPHA-MONOIODOHYDRIN|GLYCERYL IODIDE|3-IODO-1,2-DIHYDROXYPROPANE|3-IODO-1,2-PROPANEDIOL|1-IODO-2,3-DIHYDROXYPROPANE|1-IODO-2,3-PROPANEDIOL	554-10-9	PHYSICAL DESCRIPTION: Crystals or light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5050.0	506.0	1723.0	897.0	543.0	1457.0	150.0	503.0	275.0	150.0	(BLOB)	Flash point data for this chemical are not available, however literature sources indicate that this material is flammable. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3206	3-METHYL-1-BUTENE	ALPHA-ISOAMYLENE|3,3-DIMETHYLPROPENE|ISOPROPYLETHENE|ISOPROPYLETHYLENE|3-METHYL-1-BUTENE|2-METHYL-3-BUTENE	563-45-1	A colorless volatile liquid with a disagreeable odor. Insoluble in water and less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5050.0	506.0	1724.0	897.0	543.0	1457.0	150.0	504.0	275.0	150.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3207	3-METHYLCHOLANTHRENE	BENZ(J)ACEANTHRYLENE, 1,2-DIHYDRO-3-METHYL-|CHOLANTHRENE, 3-METHYL-(1,2-DIHYDRO-3-METHYLBENZ(J)ACEANTHRYLENE|MC|20-MC|3-MC|MCA|3-MCA|3-MECA|METHYLCHOLANTHRENE|20-METHYLCHOLANTHRENE|3-METHYLCHOLANTHRENE	56-49-5	PHYSICAL DESCRIPTION: Yellow crystals or solid. (NTP, 1992)	1.0	2.5	5.0	5050.0	506.0	1724.0	897.0	543.0	1457.0	150.0	504.0	275.0	150.0	(BLOB)	Flash point data for this material are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
3208	3-METHYLNITROSOAMINOPROPIONITRILE	3-(METHYLNITROSAMINO)PROPIONITRILE|3-METHYLNITROSOAMINOPROPIONITRILE|3-(N-NITROSOMETHYLAMINO)PROPIONITRILE,PROPIONITRILE, 3-(METHYLNITROSAMINO)-	60153-49-3	PHYSICAL DESCRIPTION: Light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5051.0	506.0	1725.0	897.0	543.0	1458.0	150.0	505.0	275.0	150.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3204	3-ETHYLAMINOPHENOL	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Vapor-proof goggles; self-contained breathing apparatus; leather or rubber safety shoes; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	ISOPRENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. May undergo exothermic addition polymerization in the presence of various catalysts (such as acids) or initiators. Undergoes autoxidation upon exposure to the air to form explosive peroxides. Mixing isoprene in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid (70%), oleum, sulfuric acid (90%) [NFPA 1991].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	2	6		(NTP, 1992)		-65		(NTP, 1992)		2		%	(NTP, 1992)		8.9		%	(USCG, 1999)		743		(NTP, 1992)		-184	
3205	3-IODO-1,2-PROPANEDIOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Insoluble in water.	CIS-1,3-DICHLORO-1-PROPENE may be sensitive to light. Reacts with aluminum, aluminum alloys, other active metals and some metal salts and halogens. Can react vigorously with oxidizing materials. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3206	3-METHYL-1-BUTENE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	TALLOW ALKYL AMINE dissolved in ISOPROPANOL neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Incompatible with strong oxidizing agents and strong reducing agents.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for isopropanol, CAS number 67 63-0.	1	3	0	3																								
3207	3-METHYLCHOLANTHRENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)						0																				(NTP, 1992)		372 to 374
3208	3-METHYLNITROSOAMINOPROPIONITRILE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ISOPROPYL CHLOROPROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3204	3-ETHYLAMINOPHENOL	(NTP, 1992)	; 493 mm Hg at 68Â° F	400		59.7		mm Hg	(NTP, 1992)		2.35				(USCG, 1999)		0.681		68		(NTP, 1992)		93		760		(NTP, 1992)		68.11						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL	IPR	Flammable Liquid	C5H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3205	3-IODO-1,2-PROPANEDIOL	(NTP, 1992)		43		77		mm Hg							(NTP, 1992)		1.217		68		(NTP, 1992)		219.7		760		(NTP, 1992)		110.97						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Flammable Liquid	C3H4Cl2	Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3206	3-METHYL-1-BUTENE																																							Flammable Liquid|Corrosive	C3H8O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3207	3-METHYLCHOLANTHRENE																											(NTP, 1992)		300.48						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C20H28O2	Dirt/Earth	5.0	0.0	5.0	1.0	1.0
3208	3-METHYLNITROSOAMINOPROPIONITRILE																																							Flammable Liquid	C6H11ClO2		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3209	3-NITRO-9-FLUORENONE	FLUOREN-9-ONE, 3-NITRO-|3-NITRO-9-FLUORENONE|3-NITRO-9H-FLUOREN-9-ONE|3-NITROFLUOREN-9-ONE|3-NITROFLUORENONE	42135-22-8	PHYSICAL DESCRIPTION: Solid. (NTP, 1992)	1.0	2.5	5.0	5052.0	506.0	1725.0	897.0	543.0	1459.0	150.0	505.0	275.0	150.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3210	3-NITRO-P-ACETOPHENETIDE	4-ACETAMINO-2-NITROPHENETOLE|N-(4-ETHOXY-3-NITRO)PHENYLACETAMIDE|N-(4-ETHOXYPHENYL)-3'-NITROACETAMIDE|NCI-C01978|3'-NITRO-P-ACETOPHENETIDE|3-NITRO-P-ACETOPHENETIDE|5-NITRO-P-ACETOPHENETIDIDE|3'-NITRO-P-ACETOPHENETIDIN|3-NITROPHENACETIN|P-ACETOPHENETIDE, 3'-NITRO-|P-ACETOPHENETIDIDE, 3'-NITRO-|P-ACETOPHENETIDIDE, 3-NITRO-	1777-84-0	PHYSICAL DESCRIPTION: Beige powder. (NTP, 1992)	1.0	2.5	5.0	5053.0	506.0	1726.0	897.0	543.0	1460.0	150.0	506.0	275.0	150.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, foam, or Halon extinguisher. (NTP, 1992)
3211	3-NITROPROPIONIC ACID	BETA-NITROPROPIONIC ACID|BNP|BOVINOCIDIN|HIPTAGENIC ACID|NCI-C03076|3-NITROPROPANOIC ACID|3-NITROPROPIONIC ACID|PROPANOIC ACID, 3-NITRO-|PROPIONIC ACID, 3-NITRO-	504-88-1	PHYSICAL DESCRIPTION: Golden crystals (from chloroform). (NTP, 1992)	1.0	2.5	5.0	5053.0	506.0	1726.0	897.0	543.0	1460.0	150.0	506.0	275.0	150.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3212	3-PROPYLIDENE PHTHALIDE	PHTHALIDE, 3-PROPYLIDENE-|PROPYLIDENE PHTHALIDE|3-PROPYLIDENE PHTHALIDE|3-PROPYLIDENE 1(3H)-ISOBENZOFURANONE|3-PROPYLIDENE-1(3H)-ISOBENZOFURAZONE|PROPYLIDENEPHTHALIDE|3-PROPYLIDENEPHTHALIDE	17369-59-4	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5054.0	506.0	1726.0	897.0	543.0	1461.0	150.0	506.0	275.0	150.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3213	4-(2-NAPHTHYLAMINO)PHENOL	4-HYDROXYPHENYL-BETA-NAPHTHYLAMINE|N-(4-HYDROXYPHENYL)-2-NAPHTHYLAMINE|N-(P-HYDROXYPHENYL)-2-NAPHTHYLAMINE|N-(P-HYDROXYPHENYL)-BETA-NAPHTHYLAMINE|N-P-HYDROXYPHENYL-2-NAPHTHYLAMINE|N-P-HYDROXYPHENYL-BETA-NAPHTHYLAMINE|4-(2-NAPHTHALENYLAMINO)PHENOL|4-(2-NAPHTHYLAMINO)PHENOL|P-(2-NAPHTHYLAMINO)PHENOL|P-(BETA-NAPHTHYLAMINO)PHENOL|P-HYDROXYNEOZON|P-HYDROXYNEOZONE|P-HYDROXYPHENYL-2-NAPHTHYLAMINE|P-HYDROXYPHENYL-BETA-NAPHTHYLAMINE|P-OXINOZON|PARAOXYNEOZONE|PHENOL, P-(2-NAPHTHYLAMINO)-	93-45-8	PHYSICAL DESCRIPTION: Purple solid. (NTP, 1992)	1.0	2.5	5.0	5054.0	506.0	1726.0	897.0	543.0	1461.0	150.0	506.0	275.0	150.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3209	3-NITRO-9-FLUORENONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear an impervious full-body suit equipped with an air line respirator or a self-contained breathing apparatus. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	2-CHLORO-4-NITROANILINE can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		225 to 228
3210	3-NITRO-P-ACETOPHENETIDE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). If either of these are not available, wear a full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. However, note that full face chemical cartridge respirators provide a substantially lower protection level than do positive supplied-air or SCBA equipment. (NTP, 1992)	Highly flammable.	2-CHLOROACRYLONITRILE readily polymerizes, and copolymerizes with other unsaturated monomers (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		44																	(NTP, 1992)		-85	
3211	3-NITROPROPIONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is moisture and light sensitive. Slightly water soluble.	2-CHLOROBENZALDEHYDE reacts with iron and strong oxidizers, strong bases and strong reducing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		190																	(NTP, 1992)		743		(NTP, 1992)		54.3	
3212	3-PROPYLIDENE PHTHALIDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	ISOPROPYL CHLOROACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
3213	4-(2-NAPHTHYLAMINO)PHENOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Insoluble in water.	2-CHLOROETHYL ACRYLATE may be sensitive to light and heat (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3209	3-NITRO-9-FLUORENONE																										(NTP, 1992)		172.57														Poison	C6H5ClN2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3210	3-NITRO-P-ACETOPHENETIDE																				(NTP, 1992)			190 to 192	760		(NTP, 1992)		87.51												Flammable Liquid	C3H2ClN	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3211	3-NITROPROPIONIC ACID	(NTP, 1992)		2.2		122		mm Hg							(NTP, 1992)		1.248		68		(NTP, 1992)		413.4		760		(NTP, 1992)		140.57						(NTP, 1992)	at 75Â° F		1 to 5	mg/mL		Corrosive	C7H5ClO	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3212	3-PROPYLIDENE PHTHALIDE																																								Flammable Liquid	C5H9ClO2		2.0	0.0	3.0	1.0	1.0
3213	4-(2-NAPHTHYLAMINO)PHENOL														(NTP, 1992)		1.1404				(NTP, 1992)			124 to 127	760		(NTP, 1992)		134.56						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)					Flammable Liquid|Poison	C5H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3214	4'-(CHLOROACETYL)ACETANILIDE	ACETAMIDE, N-(4-(CHLOROACETYL)PHENYL)-|1-ACETAMIDO-4-CHLOROACETYLBENZENE|4-ACETAMIDOPHENACYL CHLORIDE|ACETANILIDE, 4'-(CHLOROACETYL)-|1-ACETYLAMINO-4-CHLOROACETYLBENZENE|4-ACETYLAMINOPHENACYL CHLORIDE|4'-CHLOROACETYL(ACETANILIDE)|4'-(CHLOROACETYL)ACETANILIDE|NCI-C03770|P-(ACETYLAMINO)PHENACYL CHLORIDE|P-ACETAMIDOPHENACYL CHLORIDE	140-49-8	PHYSICAL DESCRIPTION: Odorless yellow-orange solid or brown powder. (NTP, 1992)	1.0	2.5	5.0	5054.0	506.0	1726.0	897.0	543.0	1461.0	150.0	506.0	275.0	150.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3215	4-(N-NITROSO-N-METHYLAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK)	KETONE, 3-PYRIDYL 3-(N-METHYL-N-NITROSAMINO)PROPYL|4-(METHYLNITROSAMINO)-1-(3-PYRIDYL)-1-BUTANONE|4-(METHYLNITROSOAMINO)-1(3-PYRIDINYL)-1-BUTANONE|4-(METHYLNITROSOAMINO)-1(3-PYRIDYL)-1-BUTANONE|4-(N-METHYL-N-NITROSAMINO)-1-(3-PYRIDYL)-1-BUTANONE|4-(N-METHYL-N-NITROSAMINO)-4-(3-PYRIDYL)-1-BUTANONE|3-(N-METHYL-N-NITROSAMINO)PROPYL 3-PYRIDYL KETONE|N-METHYL-N-NITROSO-4-OXO-4-(3-PYRIDYL)BUTYLAMINE|4-(N-METHYL-N-NITROSOAMINO)-4-(3-PYRIDYL)-1-BUTANONE|4-(N-NITROSO-N-METHYLAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK)|4-(N-NITROSO-N-METHYLAMINO)-1-(3-PYRIDYL)-1-BUTANONE|4-	64091-91-4	PHYSICAL DESCRIPTION: Pale yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5054.0	506.0	1726.0	897.0	543.0	1461.0	150.0	506.0	275.0	150.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3216	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID, DISODIUM SALT	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID DISODIUM SALT|4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID, DISODIUM SALT|DISODIUM 4,4'-DIAMINO-2,2'-STILBENEDISULFONATE|DISODIUM 4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID|DISODIUM 4,4'-DIAMINOSTILBENE-2,2'DISULFONATE|2,2'-(1,2-ETHENEDIYL)BIS(5-AMINOBENZENESULFONIC ACID), DISODIUM SALT|FLAVONIC ACID, DISODIUM SALT|2,2'-STILBENEDISULFONIC ACID, 4,4'-DIAMINO-, DISODIUM SALT	7336-20-1	PHYSICAL DESCRIPTION: Odorless light yellow crystals or powder. (NTP, 1992)	1.0	2.5	5.0	5055.0	506.0	1727.0	897.0	543.0	1462.0	150.0	507.0	275.0	150.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3217	4,4'-DIBROMOOCTAFLUOROBIPHENYL	BIPHENYL, 4,4'-DIBROMO-2,2',3,3',5,5',6,6'-OCTAFLUORO|BIPHENYL, 4,4'-DIBROMOOCTAFLUORO-|4,4'DIBROMOOCTAFLUOROBIPHENYL|4,4'-DIBROMOPERFLUOROBIPHENYL|P,P'-DIBROMOOCTAFLUOROBIPHENYL|P,P'-DIBROMOPERFLUOROBIPHENYL	10386-84-2	Colorless oily liquid.	2.5	5.0	2.5	5055.0	506.0	1727.0	897.0	543.0	1462.0	150.0	507.0	275.0	150.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors and gases, such as carbon monoxide, may be released in a fire. Behavior in Fire: Vapors can flow along surfaces to remote ignition source and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, carbon dioxide or alcohol foam. (USCG, 1999)
3218	4,4'-DIISOCYANATODIPHENYL ETHER	4,4'-DIISOCYANATODIPHENYL ETHER	4128-73-8		2.5	5.0	2.5	5056.0	506.0	1727.0	899.0	543.0	1463.0	150.0	507.0	277.0	150.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3219	4,6-DINITRO-O-CRESOL	ANTINONIN|ANTINONNIN|ARBOROL|CAPSINE|CHEMSECT DNOC|DEGRASSAN|DEKRYSIL|DETAL|DILLEX|DINITRO|3,5-DINITRO-2-HYDROXYTOLUENE|4,6-DINITRO-2-METHYLPHENOL|2,4-DINITRO-6-METHYLPHENOL|4,6-DINITRO-O-CRESOL AND SALTS|2,6-DINITRO-O-CRESOL|3,5-DINITRO-O-CRESOL|4,6-DINITRO-O-CRESOL|DINITROCRESOL|DINITRODENDTROXAL|DINITROL|DINITROMETHYL CYCLOHEXYLTRIENOL|DINITROSOL|DINOC|DINURANIA|DITROSOL|DN-DRY MIX NO. 2|DNC|DNOC|EFFUSAN|EFFUSAN 3436|ELGETOL|ELGETOL 30|ELPOL|ENT 154|EXTRAR|FLAVIN-SANDOZ|HEDOLIT|HEDOLITE|K III|K IV|KRENITE|KREOZAN|KRES	534-52-1	A yellow solid. Emits toxic oxides of nitrogen fumes when heated to decomposition. Toxic by skin absorption, inhalation or ingestion. Soluble in alcohol, acetone, ether and solutions of sodium or potassium hydroxides.	1.0	2.5	5.0	5056.0	506.0	1727.0	899.0	544.0	1463.0	150.0	507.0	277.0	151.0	Remove victim from contaminated area and wash exposed skin with soap and water. Administer oxygen if respiratory problems develop. Refer to a doctor. (USCG, 1999)	Special Hazards of Combustion Products: Can detonate or explode when heated under confinement. (USCG, 1999)	Fire Extinguishing Agents: Water, dry chemical, carbon dioxide, foam (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3214	4'-(CHLOROACETYL)ACETANILIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to air and light [Lancaster]. Insoluble in water.	CIS-STILBENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.							0																			(NTP, 1992)			41 to 43
3215	4-(N-NITROSO-N-METHYLAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	CITRAL is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. This compound can react with alkalis and strong acids. It can readily isomerize. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		215																				
3216	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID, DISODIUM SALT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to moisture. Insoluble in water.	CITRAL DIETHYL ACETAL may be sensitive to prolonged exposure to moisture. It will decompose on heating. (NTP, 1992)	Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				
3217	4,4'-DIBROMOOCTAFLUOROBIPHENYL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		92																				
3218	4,4'-DIISOCYANATODIPHENYL ETHER	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Reacts with water to form CO2	Isocyanates and thioisocyanates, such as 1,1-METHYLENE BIS(4-ISOCYANATOCYCLOHEXANE), are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer(1969)].	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		greater than 395																	(NIOSH, 2003)			less than 14
3219	4,6-DINITRO-O-CRESOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus; butyl rubber gloves; goggles; lab coat; protective shoes. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		225	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3214	4'-(CHLOROACETYL)ACETANILIDE																				(NTP, 1992)		293		13		(NTP, 1992)		180.24														C14H12	Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3215	4-(N-NITROSO-N-METHYLAMINO)-1-(3-PYRIDYL)-1-BUTANONE (NNK)	(NTP, 1992)	; 1 mm Hg at 143.1Â° F; 760 mm Hg at 442Â° F	5		194		mm Hg							(NTP, 1992)			0.891 to 0.897	59		(NTP, 1992)	(Decomposes)	444		760		(NTP, 1992)		152.24						(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL		Poison	C10H16O	Cellulose-Based Absorbents	Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3216	4,4'-DIAMINO-2,2'-STILBENEDISULFONIC ACID, DISODIUM SALT	(NTP, 1992)	; 30.7 mm Hg at 86.0Â° F	19.1		64.4		mm Hg							(NTP, 1992)		0.866		70								(NTP, 1992)		226.4						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Combustible Liquid	C14H26O2	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3217	4,4'-DIBROMOOCTAFLUOROBIPHENYL	(NTP, 1992)		9.4		77		mm Hg							(USCG, 1999)		0.92				(NTP, 1992)		261		760		(NTP, 1992)		116.18		(NIOSH, 2003)		400	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	IGE	Flammable Liquid	C6H12O2	Mineral-Based & Clay-Based Absorbents	Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3218	4,4'-DIISOCYANATODIPHENYL ETHER	(NIOSH, 2003)		0.001		77		mm Hg							(NIOSH, 2003)		1.07		77								(NTP, 1992)		262.39						(NIOSH, 2003)	Reacts with water					Poison	C15H22N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3219	4,6-DINITRO-O-CRESOL																										(USCG, 1999)		266.25										DCY	Poison	C12H14N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3220	4-AMINO-2-NITROPHENOL	4-AMINO-2-NITROPHENOL|1-AMINO-3-NITRO-4-HYDROXYBENZENE|C.I. 76555|C.I. OXIDATION BASE 25|FOURRINE 57|FOURRINE BROWN PR|FOURRINE BROWN PRO|NCI-C03632-NITRO-4-AMINOPHENOL|3-NITRO-4-HYDROXYANILINE|O-NITRO-P-AMINOPHENOL|OXIDATION BASE 25|P-AMINO-O-NITROPHENOL	119-34-6	PHYSICAL DESCRIPTION: Dark red plates, needles or reddish-purple powder. Melting point 125-127Â°C.	1.0	2.5	5.0	5057.0	506.0	1727.0	899.0	544.0	1464.0	150.0	507.0	277.0	151.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3221	4-AMINO-4'-HYDROXY-3-METHYLDIPHENYLAMINE	4-[(4-AMINO-3-METHYLPHENYL)AMINO]PHENOL|4-AMINO-4'-HYDROXY-3-METHYLDIPHENYLAMINE|C.I. 76565|KAYAKU SULPHUR BLUE RP|PHENOL, P-(4-AMINO-M-TOLUIDINO)-|THIONAL INDONE BLUE RN|URSOL BLUE GREY OM	6219-89-2	PHYSICAL DESCRIPTION: Black crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5058.0	506.0	1727.0	900.0	544.0	1465.0	150.0	507.0	278.0	151.0	(BLOB)	Literature sources indicate that the dust of this chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. Dry sand, dry dolomite or dry graphite powder may also be used. (NTP, 1992)
3222	4-BUTYLOXYBENZAL-4-ETHYLANILINE	ANILINE, N-(P-BUTOXYBENZYLIDENE)-P-ETHYL-|BENZENAMINE, N-((4-BUTOXYPHENYL)METHYLENE)-4-ETHYL-|4-BUTOXYBENZALDEHYDE N-(4-EHTYLPHENYL)IMINE|4-BUTOXYBENZALDEHYDE N-(4-ETHYLPHENYL)IMINE|4-BUTOXYBENZYLIDENE-4'-ETHYLANILINE|4-BUTYLOXYBENZAL-4'-ETHYLANILINE|4-BUTYLOXYBENZAL-4-ETHYLANILINE|N-(4-BUTOXYBENZAL)-4-ETHYLANILINE|N-(P-N-BUTOXYBENZYLIDENE)-P-ETHYLANILINE|P-BUTOXYBENZYLIDENE-P'-ETHYLANILINE|P-BUTOXYBENZYLIDENE-P-ETHYLANILINE	29743-15-5	PHYSICAL DESCRIPTION: Off-white powder. (NTP, 1992)	1.0	2.5	5.0	5059.0	506.0	1727.0	900.0	544.0	1466.0	150.0	507.0	278.0	151.0	(BLOB)	Special Hazards of Combustion Products: May contain toxic gases including ammonia (incomplete combustion) and NOx. Behavior in Fire: Produces gaseous nitrogen compounds that are highly toxic and irritating. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3223	4-METHOXY-4-METHYLPENTAN-2-ONE	ME 6K|4-METHOXY-4-METHYLPENTAN-2-ONE|METHOXYMETHYLPENTANONE|4-METHYL-4-METHOXY-2-PENTANONE|4-METHYL-4-METHOXYPENTAN-2-ONE|PENT-OXONE|PENT-OXONE SOLVENT|PENTOXONE	107-70-0	A clear colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Flash point near 140Â°F. Used as a solvent.	2.5	5.0	2.5	5060.0	506.0	1727.0	901.0	544.0	1467.0	150.0	507.0	279.0	151.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Burning isopropylamine is difficult to control because of the ease of reignition of the vapor. Vapors are heavier than air and may travel to a source of ignition and flash back. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3224	4-METHOXYBENZYLIDINE-4'-N-BUTYLANILINE	ANILINE, P-BUTYL-N-(P-METHOXYBENZYLIDENE)-|BENZENEAMINE 4-BUTYL-N[(4-METHOXYPHENYL)METHYLENE)]1-BUTYL-4-[(P-METHOXYBENZYLIDENE)AMINO]BENZENE|4-BUTYL-N-(4-METHOXYBENZYLIDENE)ANILINE|4-BUTYL-N-(P-METHOXYBENZYLIDENE)ANILINE|DL 1047 N|MBBA|4'-METHOXYBENZYLIDENE-4-BUTYLANILINE|4-METHOXYBENZYLIDINE-4'-N-BUTYLANILINE|N-(4-METHOXYBENZAL)-4-BUTYLANILINE|N-(4-METHOXYBENZYLIDENE)-4-BUTYLANILINE|N-(P-METHOXYBENZYLIDENE)-P'-N-BUTYLANILINE|N-(P-METHOXYBENZYLIDENE)-P-BUTYLANILINE|N-(P-METHOXYBENZYLIDENE)-P-N-BUTYLANILINE|N-ANISYLIDENE-P-BUTYLANILINE|P-	26227-73-6	PHYSICAL DESCRIPTION: Cloudy light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5061.0	506.0	1727.0	903.0	544.0	1468.0	150.0	507.0	281.0	151.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3220	4-AMINO-2-NITROPHENOL	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. 2-DIAZO-1-NAPHTHOL-4-SULFOCHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3221	4-AMINO-4'-HYDROXY-3-METHYLDIPHENYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and away from acids and oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Burns brilliantly when exposed to air [Mellor 14:453(1946-1947)]. Insoluble in water.	Pyrophoric COBALT is a reducing agent. Decomposes acetylene in the cold as the metal becomes incandescent [Mellor 14:513(1946-1947)]. Incompatible with oxidizing agents such as ammonium nitrate, bromine pentafluoride, and nitryl fluoride.	Known Catalytic Activity; Pyrophoric	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		2723	
3222	4-BUTYLOXYBENZAL-4-ETHYLANILINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Flammable. Partially soluble in water and less dense than water.	DIMETHYLAMINOETHANOL is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound may react vigorously with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		105		(USCG, 1999)		1.6		%	(USCG, 1999)		11.9		%	(USCG, 1999)		563		(NTP, 1992)		-74	
3223	4-METHOXY-4-METHYLPENTAN-2-ONE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	ISOPROPYLAMINE is a colorless, alkaline liquid, very volatile, moderately toxic, highly flammable. Dangerous fire hazard when exposed to heat, flame, sparks, or strong oxidizers. When heated to decomposition it emits toxic fumes of oxides of nitrogen [M. K.]. A mixture of isopropylamine and perchloryl fluoride resulted in an uncontrolled oxidation and/or explosion, [J. Org. Chem., 1980, 45, 4036]. The reaction of 1-chloro-2,3-epoxypropane and the amine and most probably other nitrogen bases, yields a violent exotherm, [Chem. & Ind., 1971, 994].	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(NTP, 1992)		-35		(NTP, 1992)		2		%	(NTP, 1992)		10.4		%	(USCG, 1999)		756		(NTP, 1992)		-150	
3224	4-METHOXYBENZYLIDINE-4'-N-BUTYLANILINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable.	ISOPROPYLAMINE is a colorless, alkaline liquid, very volatile, moderately toxic, highly flammable. Dangerous fire hazard when exposed to heat, flame, sparks, or strong oxidizers. When heated to decomposition it emits toxic fumes of oxides of nitrogen [M. K.]. A mixture of isopropylamine and perchloryl fluoride resulted in an uncontrolled oxidation and/or explosion, [J. Org. Chem., 1980, 45, 4036]. The reaction of 1-chloro-2,3-epoxypropane and the amine and most probably other nitrogen bases, yields a violent exotherm, [Chem. & Ind., 1971, 994].	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(NIOSH, 2003)		-35																(NIOSH, 2003)		-150	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3220	4-AMINO-2-NITROPHENOL																																								Flammable Solid		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3221	4-AMINO-4'-HYDROXY-3-METHYLDIPHENYLAMINE	(NTP, 1992)		0		68		mm Hg							(NTP, 1992)		8.9		68		(NTP, 1992)		5198		760		(NTP, 1992)		58.93		(NIOSH, 2003)	(as Co)	20	mg/m3	(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Solid	Co		2.0	0.0	2.0	1.0	1.0
3222	4-BUTYLOXYBENZAL-4-ETHYLANILINE	(NTP, 1992)	: 18.8 mm Hg at 103.1Â° F; 77.5 mm Hg at 155.3Â° F	7.8		72		mm Hg	(NTP, 1992)		3.03				(USCG, 1999)		0.887		68		(NTP, 1992)		275		758		(NTP, 1992)		89.14						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	DMB	Corrosive|Flammable Liquid	C4H11NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3223	4-METHOXY-4-METHYLPENTAN-2-ONE	(USCG, 1999)		940.94				mm Hg							(USCG, 1999)	(est.)	0.691		68		(NTP, 1992)		90.3		760		(NTP, 1992)		59.11		(NIOSH, 2003)		750	ppm	(NTP, 1992)	Very soluble				IPP	Flammable Liquid|Corrosive	C3H9N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3224	4-METHOXYBENZYLIDINE-4'-N-BUTYLANILINE	(NIOSH, 2003)		460				mm Hg							(NIOSH, 2003)		0.69				(NIOSH, 2003)		91		760		(NIOSH, 2003)		59.1		(NIOSH, 2003)		750	ppm	(NIOSH, 2003)	Miscible					Corrosive|Flammable Liquid	C3H9N	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3225	4-METHOXYBENZYLIDINE-4'-N-BUTYLAZOXYBENZENE	BMAB|BMAOB|4-BUTYL-4'-METHOXYAZOXYBENZENE|(4-BUTYLPHENYL)(4-METHOXYPHENYL)DIAZENE MONOXIDE|LICRISTAL 4|LICRISTAL IV|LICRISTAL PHASE 4|LICRISTAL PHASE IV|MBABA|MERCK 4|MERCK IV|MERCK NEMATIC PHASE IV|MERCK PHASE 4|4-METHOXY-4'-BUTYLAZOXYBENZENE|4-METHOXYBENZYLIDINE-4'-N-BUTYLAZOXYBENZENE|METHOXYBUTYLAZOXYBENZENE|4-N-BUTYL-4'-METHOXYAZOXYBENZENE|NEMATIC PHASE 4|NEMATIC PHASE IV|P-BUTYL-P'-METHOXYAXOXYBENZENE|P-BUTYL-P'-METHOXYAZOXYBENZENE|P-METHOXY-P'-BUTYLAZOBENZENE N-OXIDE|P-METHOXY-P'-BUTYLAZOXYBENZENE|(P-METHOXYPHENYL)-P-BUTYLPHENYLDIAZENE N-	11106-54-0		2.5	5.0	2.5	5061.0	506.0	1727.0	903.0	545.0	1468.0	150.0	507.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3226	4-METHYL-1-PENTENE	4-METHYL-1-PENTENE	691-37-2	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5061.0	506.0	1727.0	903.0	545.0	1468.0	150.0	507.0	281.0	152.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3227	4-NITROPHTHALHYDRAZIDE	2,3-DIHYDRO-6-NITRO-1,4-PHTHALAZINEDIONE|4-NITROPHTHALHYDRAZIDE|6-NITROPHTHALHYDRAZIDE	3682-19-7	PHYSICAL DESCRIPTION: Light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5061.0	506.0	1727.0	903.0	545.0	1468.0	150.0	507.0	281.0	152.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3228	5-AMINO-3-SULFOSALICYLIC ACID	5-AMINO-2-HYDROXY-3-SULFOBENZOIC ACID|5-AMINO-3-SULFOSALICYLIC ACID|3-AMINO-6-HYDROXY-5-SULFOBENZOIC ACID|SALICYLIC ACID, 5-AMINO-3-SULFO-	6201-87-2	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	5061.0	506.0	1727.0	903.0	545.0	1468.0	150.0	507.0	281.0	152.0	(BLOB)	This chemical is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3229	5-FLUORO-2'-DEOXYCYTIDINE	2'-DEOXY-5-FLUOROCYTIDINE|FCDR|5-FLUORO-2'-DEOXYCYTIDINE|5-FLUORODEOXYCYTIDINE|RO 5-1090	10356-76-0	PHYSICAL DESCRIPTION: Fine white powder. (NTP, 1992)	1.0	2.5	5.0	5062.0	506.0	1727.0	903.0	545.0	1469.0	150.0	507.0	281.0	152.0	INHALATION: Move to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. INGESTION: DO NOT INDUCE VOMITING. If victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain toxic fluoride fumes. Behavior in Fire: Container may explode in heat of fire. Vapor may travel to a source of ignition and flashback. Vapor explosion hazard indoors, outdoors or in sewer. Toxic fluoride fumes may be produced. (USCG, 1999)	Fire Extinguishing Agents: Dry chemical, CO 2 , or foam (USCG, 1999)
3230	5-METHYLCHRYSENE	5-METHYLCHRYSENE	3697-24-3	Purple crystals. Water insoluble.	1.0	2.5	5.0	5062.0	506.0	1727.0	903.0	545.0	1469.0	150.0	507.0	281.0	152.0	EYES: Flush with plenty of water for at least 15 minutes. SKIN: Remove contaminated clothing. Flush with plenty of water. (USCG, 1999)		Fire Extinguishing Agents: Water spray, alcohol foam, dry chemical, carbon dioxide. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3225	4-METHOXYBENZYLIDINE-4'-N-BUTYLAZOXYBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound should be stored under refrigeration at 41Â° F. Only your most experienced personnel should be allowed access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: It is recommended that you wear two dissimilar glove types when working with this chemical. (NTP, 1992)	Insoluble in water.	1,2,3,4,6,7,9-HEPTACHLORODIBENZO-P-DIOXIN may be sensitive to prolonged exposure to light. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3226	4-METHYL-1-PENTENE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	SOPROPYLCUMYL HYDROPEROXIDE is an alkyl hydroperoxide. Most alkyl monohydroperoxides are liquid, the explosivity of the lower members (e.g., methyl hydroperoxide, are possibly due to traces of the dialkyl peroxides) decreasing with increasing chain length and branching, [Bretherick 2nd ed., p10, 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3227	4-NITROPHTHALHYDRAZIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Highly flammable. This compound may be sensitive to prolonged exposure to air and to heat. Insoluble in water.	2-ETHYLHEXENAL is an aldehyde. It is incompatible with oxidizers, oxygen, peroxide, ammonia, reducing agents, ketones, amines, sulfuric acid, nitric acid, and caustics. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		110																			
3228	5-AMINO-3-SULFOSALICYLIC ACID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Decomposes in water to form HCl with generation of heat (NTP, 1992)	2-FLUOROBENZOYL CHLORIDE is sensitive to moisture. Incompatible with water, alcohol, bases (including amines) and with oxidizing agents (NTP, 1992). May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		180																(NTP, 1992)		39		
3229	5-FLUORO-2'-DEOXYCYTIDINE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	2-FLUOROTOLUENE is of generally low reactivity. Reacts with strong oxidizing agents and strong reducing agents. Also may be incompatible with many amines, nitriles, azo/diazo compounds, alkali metals, and epoxides (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		55		(USCG, 1999)		1.3		%								(USCG, 1999)		-79.6		
3230	5-METHYLCHRYSENE	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate solution. Flush with water. (USCG, 1999)	Wear approved respirator with full face piece, chemical resistant gloves and clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	(BLOB)								0		(USCG, 1999)		250												(USCG, 1999)		320					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3225	4-METHOXYBENZYLIDINE-4'-N-BUTYLAZOXYBENZENE																										(NTP, 1992)		425.28						(NTP, 1992)	Insoluble					Poison	C12HCl7O2		3.0	0.0	3.0	1.0	1.0
3226	4-METHYL-1-PENTENE																																										Organic Peroxide	C12H18O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3227	4-NITROPHTHALHYDRAZIDE																										(NTP, 1992)		126.22						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C8H14O	Cellulose-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3228	5-AMINO-3-SULFOSALICYLIC ACID															(NTP, 1992)		1.304		68		(NTP, 1992)		403		760	(NTP, 1992)		158.56						(NTP, 1992)	Decomposes					Corrosive	C7H4ClFO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3229	5-FLUORO-2'-DEOXYCYTIDINE	(USCG, 1999)		47.05				mm Hg								(USCG, 1999)		1.0041		55.4		(USCG, 1999)		237.2		760	(USCG, 1999)		110.13											FLT	Flammable Liquid	C7H7F		4.0	0.0	5.0	1.0	1.0
3230	5-METHYLCHRYSENE															(USCG, 1999)			1.21 to 1.23								(USCG, 1999)		150.2											HBA		C5H10O3S	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3231	5-NITROACENAPHTHENE	ACENAPHTHENE, 5-NITRO-|1,2-DIHYDRO-5-NITROACENAPHTHYLENE|5-NAN|NCI-C01967|5-NITROACENAPHTHENE|5-NITROACENAPTHENE|5-NITRONAPHTHALENE ETHYLENE	602-87-9	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	5062.0	506.0	1727.0	903.0	545.0	1469.0	150.0	507.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3232	5-NITROBENZOTRIAZOL	5-NITROBENZOTRIAZOL	11106-54-0	A solid or liquid. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	2.5	5.0	2.5	5062.0	506.0	1727.0	903.0	545.0	1469.0	150.0	507.0	281.0	152.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3233	6-AMINONICOTINAMIDE	6-AMINO-3-PYRIDINECARBOXAMIDE|6-AMINO-3-PYRIDINECARBOXYLIC ACID AMIDE|2-AMINO-5-CARBAMOYLPYRIDINE|AMINONICOTINAMIDE|6-AMINONICOTINAMIDE|6-AMINONICOTINIC ACID AMIDE|6-AN|6-ANA|FDA 0121|NICOTINAMIDE, 6-AMINO-|NSC 21206|SR 4388|U-8774	329-89-5	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5063.0	506.0	1727.0	903.0	545.0	1470.0	150.0	507.0	281.0	152.0	Call a physician. INHALATION: Remove from exposure. EYES: Flush with copious amounts of water. SKIN: Wash with copious amounts of water. INGESTION: Dilute with water or milk, induce vomiting, give egg whites and other demulcents. Replace fluids with 5% dextrose in saline. (USCG, 1999)		
3234	6-AZACYTIDINE	5-AMINO-1,2,4-TRIAZIN-3-ONE 2-BETA-D-RIBOFURANOSIDE|5-AMINO-2-BETA-D-RIBOFURANOSYL-1,2,4-TRIAZIN-3(2H)ONE|5-AMINO-2-BETA-D-RIBOFURANOSYL-AS-TRIAZIN-3(2H)-ONE|AS-TRIAZIN-3(2H)-ONE, 5-AMINO-2-BETA-D-RIBOFURANOSYL-|6-AZACYTIDINE	3131-60-0	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5064.0	506.0	1727.0	903.0	545.0	1471.0	150.0	507.0	281.0	152.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÃ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3235	6-HYDROXYDOPAMINE HYDROCHLORIDE	5-(2-AMINOETHYL)-1,2,4-BENZENETRIOL HYDROCHLORIDE|6-HYDROXYDOPAMINE CHLORIDE|6-HYDROXYDOPAMINE HYDROCHLORIDE|OXIDOPAMINE HYDROCHLORIDE|2,4,5-TRIHYDROXYPHENETHYLAMINE HYDROCHLORIDE	28094-15-7	PHYSICAL DESCRIPTION: Beige solid. (NTP, 1992)	1.0	2.5	5.0	5065.0	506.0	1728.0	903.0	545.0	1472.0	150.0	508.0	281.0	152.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3231	5-NITROACENAPHTHENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																				(NTP, 1992)		151	
3232	5-NITROBENZOTRIAZOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)							0		(NTP, 1992)			greater than 235															(NTP, 1992)		129	
3233	6-AMINONICOTINAMIDE		Rubber gloves, safety glasses, and laboratory coat. (USCG, 1999)	Mixes slowly with water.	COPPER BROMIDE (OUS) has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.							0																				(USCG, 1999)		939.2	
3234	6-AZACYTIDINE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Deliquescent. Water soluble	COPPER CHLORATE is an oxidizing agent, particularly in the presence of strong acid. Avoid contact with organic material [Merck]. Heating with a dibasic organic acid liberates chlorine dioxide and carbon dioxide; mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick, 1979 p. 806].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3235	6-HYDROXYDOPAMINE HYDROCHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as 2-METHYL-1-BUTENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NFPA, 2010)		less than 20																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3231	5-NITROACENAPHTHENE																				(NTP, 1992)			302 to 320	5		(NTP, 1992)		228.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H12O3		2.0	0.0	3.0	1.0	1.0
3232	5-NITROBENZOTRIAZOL	(NTP, 1992)	; 5 mm Hg at 345Â° F; 760 mm Hg at 604Â° F	1		288		mm Hg							(NTP, 1992)		0.8622		129		(NTP, 1992)		482.9		100		(NTP, 1992)		228.38						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C14H28O2		3.0	0.0	3.0	1.0	1.0
3233	6-AMINONICOTINAMIDE														(USCG, 1999)		4.72		77		(USCG, 1999)		2453		760		(USCG, 1999)	286.91 for dimer (Cu 2 Br 2)	143.46										CBD		BrCu		3.0	0.0	5.0	1.0	1.0
3234	6-AZACYTIDINE																																								Oxidizer	Cu(ClO3)2.6H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3235	6-HYDROXYDOPAMINE HYDROCHLORIDE																																								Flammable Liquid	C5H10	Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3236	6-METHYLMERCAPTOPURINE RIBOSIDE	BETA-D-RIBOSYL-6-METHYLTHIOPURINE\9H-PURINE, 6-(METHYLTHIO)-9-BETA-D-RIBOFURANOSYL-\6-METHYL-9-RIBOFURANOSYL-PURINE-6-THIOL\6-(METHYLMERCAPTO)-9-(BETA-D-RIBOFURANOSYL)PURINE\6-(METHYLMERCAPTO)PURINE RIBONUCLEOSIDE\6-METHYLMERCAPTOPURINE RIBONUCLEOSIDE\6-METHYLMERCAPTOPURINE RIBOSIDE\6-(METHYLTHIO)-9-BETA-D-RIBOFURANOSYL-9H-PURINE\6-(METHYLTHIO)-9-BETA-D-RIBOFURANOSYLPURINE\6-(METHYLTHIO)PURINE RIBONUCLEOSIDE\METHYLTHIOINOSINE\6-METHYLTHIOINOSINE\6-METHYLTHIOPURINE RIBOSIDE\6-MMPR\NSC 40774\SQ 21977	342-69-8	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5066.0	506.0	1728.0	903.0	545.0	1473.0	150.0	508.0	281.0	152.0	Call a doctor. INHALATION: Remove from contaminated atmosphere. If respiration is labored, administer oxygen. If unconscious, administer artificial respiration. EYES: Flush with clear tap water for 15 min. SKIN: Wash with soap and water. INGESTION: Do not induce vomiting. Physician may remove by cuffed tube lavage. (USCG, 1999)	Behavior in Fire: Can react vigorously with oxidizing materials. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical. (USCG, 1999)
3237	6-NITROCHRYSENE	CHRYSENE, 6-NITRO-\6-NITROCHRYSENE	7496-02-8	PHYSICAL DESCRIPTION: Chrome-red thick prismatic crystals or orange-yellow needles (recrystallized from pyridine or xylene). (NTP, 1992)	1.0	2.5	5.0	5067.0	506.0	1729.0	903.0	545.0	1474.0	150.0	509.0	281.0	152.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3238	7,12-DIMETHYLBENZ[A]ANTHRACENE	BENZ(A)ANTHRACENE, 7,12-DIMETHYL-\DBA\7,12-DIMETHYL-1,2-BENZANTHRACENE\9,10-DIMETHYL-1,2-BENZANTHRACENE\9,10-DIMETHYL-1,2-BENZ[A]ANTHRACENE\1,4-DIMETHYL-2,3-BENZPHENANTHRENE\9,10-DIMETHYL-BENZANTHRACENE\DIMETHYLBENZ(A)ANTHRACENE\9,10-DIMETHYLBENZ(A)ANTHRACENE\DIMETHYLBENZANTHRACENE\7,12-DIMETHYLBENZANTHRANCENE\DIMETHYLBENZANTHRENE\7,12-DIMETHYLBENZO(A)ANTHRACENE\7,12-DIMETHYLBENZ[A]ANTHRACENE\DMBA\7,12-DMBA\NCI-C03918	57-97-6	PHYSICAL DESCRIPTION: Yellow to greenish-yellow crystals or a yellow solid. Odorless. Maximum fluorescence at 440 nm. Bluish-violet fluorescence in UV light. (NTP, 1992)	1.0	2.5	5.0	5068.0	506.0	1729.0	903.0	545.0	1475.0	150.0	509.0	281.0	152.0	Call a doctor. INHALATION: Remove from exposure. EYES: Flush with copious amounts of water. SKIN: Wash with soap and water. INGESTION: Dilute with water or milk, induce vomiting, or remove by gastric lavage. (USCG, 1999)		Fire Extinguishing Agents: Water (USCG, 1999)
3239	7H-DIBENZO(C,G)CARBAZOLE	7H-DIBENZO(C,G)CARBAZOLE	194-59-2	Crystalline solid.	1.0	2.5	5.0	5069.0	506.0	1729.0	903.0	545.0	1476.0	150.0	509.0	281.0	152.0	INHALATION: move to fresh air. INGESTION: give large amounts of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen iodide or iodine vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3240	9,10-EPOXYOCTADECANOIC ACID, 2-ETHYLHEXYL ESTER	9,10-EPOXYOCTADECANOIC ACID, 2-ETHYLHEXYL ESTER\9,10-EPOXYSTEARIC ACID, 2-ETHYLHEXYL ESTER\2-ETHYLHEXYL 9,10-EPOXYOCTADECANOATE\2-ETHYLHEXYL EPOXYSTEARATE\OCTADECANOIC ACID, 9,10-EPOXY-, 2-ETHYLHEXYL ESTER\OXIRANOCTANOICACID, 3-OCTYL, 2-ETHYLHEXYL ESTER	141-38-8	PHYSICAL DESCRIPTION: Clear amber viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5070.0	506.0	1729.0	903.0	545.0	1477.0	150.0	509.0	281.0	152.0	INHALATION: remove victim to fresh air; apply artificial respiration if required; get medical attention. EYES: flush with water for at least 15 min. SKIN: wipe off, wash well with soap and water. INGESTION: induce vomiting; get medical attention. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3236	6-METHYLMERCAPTOPURINE RIBOSIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Rubber or neoprene gloves, splash goggles and NIOSH approved self-contained breathing apparatus. (USCG, 1999)	Highly flammable. Insoluble in water.	2-METHYL-1-PENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)	(est.)	-15								(USCG, 1999)		1.2		%	(USCG, 1999)		572		(USCG, 1999)		-212.3	
3237	6-NITROCHRYSENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in an explosion-proof freezer. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	Nitriles, such as 2-METHYL-2-BUTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		less than 67																			
3238	7,12-DIMETHYLBENZ[A]ANTHRACENE		NIOSH approved respirator if needed, rubberized fabric gloves, chemical dust goggles. (USCG, 1999)	Water soluble.	Salts, basic, such as COPPER FORMATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																							
3239	7H-DIBENZO(C,G)CARBAZOLE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	COPPER IODIDE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		1121	
3240	9,10-EPOXYOCTADECANOIC ACID, 2-ETHYLHEXYL ESTER	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves; air mask or self-contained breathing apparatus for high vapor concentrations. (USCG, 1999)	Highly flammable.	ISOVALERALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)	(est.)	55																		(USCG, 1999)		-60	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3236	6-METHYLMERCAPTOPURINE RIBOSIDE														(USCG, 1999)		0.685		59		(USCG, 1999)		143.8		760		(USCG, 1999)		84.156														Flammable Liquid	C6H12	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3237	6-NITROCHRYSENE	(NTP, 1992)	; 148.2 mm Hg at 111Â° F; 293.8 mm Hg at 149Â° F	74.3		75		mm Hg							(NTP, 1992)		0.817		65.3								(NTP, 1992)		81.12						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Flammable Liquid|Poison	C5H7N	Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3238	7,12-DIMETHYLBENZ[A]ANTHRACENE														(USCG, 1999)		1.831			15 to 68.0							(USCG, 1999)		153.58											CUF		C[2]O2 . I[2] Cu		4.0	0.0	4.0	1.0	1.0
3239	7H-DIBENZO(C,G)CARBAZOLE														(USCG, 1999)		5.62		68		(USCG, 1999)		2354		760		(USCG, 1999)		190.4											CID	Class 9	CuI		4.0	0.0	5.0	1.0	1.0
3240	9,10-EPOXYOCTADECANOIC ACID, 2-ETHYLHEXYL ESTER														(USCG, 1999)		0.785		68		(USCG, 1999)		198.5		760		(USCG, 1999)		86.1											IVA	Flammable Liquid	C5H10O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3241	9-AMINOACRIDINE	9AA|9-ACRIDINAMINE|ACRIDINE, 9-AMINO-|AMINACRIN|AMINACRINE|10-AMINO-5-AZAANTHRACENE|AMINOACRIDINE|5-AMINOACRIDINE|9-AMINOACRIDINE|ZOACRIDINA|MONACRIN	90-45-9	PHYSICAL DESCRIPTION: Yellow needles. Free soluble in alcohol.	1.0	2.5	5.0	5071.0	506.0	1730.0	903.0	545.0	1478.0	150.0	510.0	281.0	152.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3242	9-METHYLFLUORENE	FLUORENE, 9-METHYL-|9H-FLUORENE,9-METHYL-|9-METHYL-9H-FLUORENE|9-METHYLFLUORENE	2523-37-7	PHYSICAL DESCRIPTION: Prisms. (NTP, 1992)	1.0	2.5	5.0	5072.0	506.0	1731.0	903.0	545.0	1479.0	150.0	511.0	281.0	152.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3243	ABIETIC ACID	7,13-ABIETADIEN-18-OIC ACID|ABIETIC ACID(-)-ABIETIC ACID|ABIETINIC ACID|13-ISOPROPYLPODOCARPA-7,13-DIEN-15-OIC ACID|L-ABIETIC ACID|1-PHENANTHRENECARBOXYLIC ACID, 1,2,3,4,4A,4B,5,6,10,10A-DECAHYDRO-1,4A-DIMETHYL-7-(1-METHYLETHYL)-, [1R-(1ALPHA,4ABETA,4BALPHA,10A.ALPHA)]-|PODOCARPA-7,13-DIEN-15-OIC ACID, 13-ISOPROPYL-|SYLVIC ACID	514-10-3	PHYSICAL DESCRIPTION: Yellowish resinous powder. (NTP, 1992)	1.0	2.5	5.0	5072.0	506.0	1731.0	903.0	545.0	1479.0	150.0	511.0	281.0	152.0	(BLOB)		A fire in your laboratory involving this chemical may produce dangerous vapors. Please evacuate the area immediately. As a firefighter, you should be equipped with full-body protective clothing and a self-contained breathing apparatus. You should extinguish this fire with a dry chemical, carbon dioxide or halon extinguisher. You should avoid using a water or foam extinguisher as they may cause spattering. (NTP, 1992)
3244	ACETALDEHYDE AMMONIA	ACETALDEHYDE AMMONIA|ALDEHYDE AMMONIA|ALPHA-AMINOETHYL ALCOHOL|1-AMINOETHANOL	75-39-8	A white crystalline solid. Melting point 97Â°C. Boiling point 110Â°C (with some decomposition). An addition product between acetaldehyde and ammonia. Presents moderate fire and explosion hazard when exposed to heat or flame. Moderately toxic by ingestion and inhalation and a strong irritant. Used to make other chemicals, vulcanize rubber.	1.0	2.5	5.0	5072.0	506.0	1731.0	903.0	545.0	1479.0	150.0	511.0	281.0	152.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3245	ACETALDEHYDE OXIME	ACETALDEHYDE OXIME|ACETALDOXIME|ACETOALDOXIME|ALDOXIME|ETHANAL OXIME|ETHYLIDENEHYDROXYLAMINE	107-29-9	A colorless liquid with a pungent odor. Has two crystalline modifications, one melting at 12Â°C and the other at 46.5Â°C.	2.5	5.0	2.5	5072.0	506.0	1731.0	903.0	545.0	1479.0	150.0	511.0	281.0	152.0	INGESTION: induce vomiting and call a doctor; if necessary, support respiration. EYES AND SKIN: flush with copious amounts of water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
3246	ACETOHEXAMIDE	ACETOHEXAMID|ACETOHEXAMIDE|4-ACETYL-N-((CYCLOHEXYLAMINO)CARBONYL)BENZENESULFONAMIDE|1-(4-ACETYLBENZENESULFONYL)-3-CYCLOHEXYLUREA|BENZENESULFONAMIDE, 4-ACETYL-N-((CYCLOHEXYLAMINO)CARBONYL)-|CYCLAMIDE|3-CYCLOHEXYL-1-(P-ACETYLPHENYLSULFONYL)UREA|DIMELIN|DIMELIN (ANTIDIABETIC)|DIMELOR|DYMELOR|GAMADIABET|HYPOGLICIL|METAGLUCINA|MINORAL|N-(4-ACETYLBENZENESULFONYL)-N'-CYCLOHEXYLUREA|N-(P-ACETYLBENZENESULFONYL)-N'-CYCLOHEXYLUREA|N-(P-ACETYLPHENYLSULFONYL)N'-CYCLOHEXYLUREA|NCI-C03247|ORDIMEL|1-(P-ACETYLBENZENESULFONY	968-81-0	PHYSICAL DESCRIPTION: White fluffy crystalline powder with almost no odor. (NTP, 1992)	1.0	2.5	5.0	5072.0	506.0	1731.0	903.0	545.0	1479.0	150.0	511.0	281.0	152.0	None (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3241	9-AMINOACRIDINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	1,2,3,6-TETRAHYDROBENZALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		135																				
3242	9-METHYLFLUORENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	1,2,3,6-TETRAHYDROPYRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3243	ABIETIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations. Insoluble in water.	2'-METHYL-4-DIMETHYLAMINOAZOBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																			(NTP, 1992)		153 to 156
3244	ACETALDEHYDE AMMONIA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly effloresces in air. Water soluble.	COPPER SULFATE PENTAHYDRATE can be dehydrated by heating. Serves as a weak oxidizing agent. Causes hydroxylamine to ignite. Gains water readily. The hydrated salt is vigorously reduced by hydroxylamine [Mellor 8:292(1946-1947)]. Both forms are incompatible with finely powdered metals. Both are incompatible with magnesium, corrode steel and iron, may react with alkalis, phosphates, acetylene gas, hydrazine, or nitromethane, and may react with beta-naphthol, propylene glycol, sulphathiazole and triethanolamine if the pH exceeds 7 (NTP, 1992). Both act as acidic salts, corrode metals and irritate tissues.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)	(dehydrates)	297	
3245	ACETALDEHYDE OXIME		Goggles or face shield. (USCG, 1999)	Insoluble in water.	TETRADECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			(NFPA, 2010)		0	1	0	1	(USCG, 1999)		285													(USCG, 1999)		99.7	
3246	ACETOHEXAMIDE		None (USCG, 1999)	Water soluble.	A weak reducing agent.							0																	(USCG, 1999)	Not flammable						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3241	9-AMINOACRIDINE																																								Flammable Liquid	C7H10O	Cellulose-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3242	9-METHYLFLUORENE																																								Flammable Liquid	C5H9N	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3243	ABIETIC ACID																										(NTP, 1992)		239.32						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C15H17N3	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3244	ACETALDEHYDE AMMONIA															(NTP, 1992)		2.284			(NTP, 1992)	(decomposes)	1207		760		(NTP, 1992)		249.68						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	CuSO4.5H2O		4.0	0.0	4.0	1.0	1.0
3245	ACETALDEHYDE OXIME															(USCG, 1999)		0.824		100.4	(USCG, 1999)		505.8		760		(USCG, 1999)		214.38										TTN		C14H30O	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3246	ACETOHEXAMIDE															(USCG, 1999)		1.4		98.6																				CSY			Cellulose-Based Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3247	ACETYL CYCLOHEXANESULFONYL PEROXIDE, [<= 82%, WETTED WITH >= 12% WATER]	ACETYL CYCLOHEXANEPERSULFONATE|ACETYL CYCLOHEXANESULFONYL PEROXIDE|ACETYL CYCLOHEXANESULFONYL PEROXIDE, [<= 82%, WETTED WITH >= 12% WATER]|ACETYL CYCLOHEXANESULPHONYL PEROXIDE|ACETYL CYCLOHEXYLSULFONYL PEROXIDE|LUPERSOL 228Z|PERHEXA ACS|TRIGONOX ACS-M 28	3179-56-4	This liquid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a water slurry.	2.5	5.0	2.5	5073.0	506.0	1732.0	903.0	545.0	1480.0	150.0	512.0	281.0	152.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3248	ACETYL PEROXIDE SOLUTION, [<= 25% PEROXIDE]	ACETYL PEROXIDE SOLUTION|ACETYL PEROXIDE SOLUTION, [<= 25% PEROXIDE]|DIACETYL PEROXIDE SOLUTION|DIACETYL PEROXIDE {ACETYL PEROXIDE, SOLUTION <=25% PEROXIDE}	110-22-5	Colorless liquid with a sharp odor. Consists of a solution of acetyl peroxide in dimethyl phthalate. Sinks in water.	2.5	5.0	2.5	5074.0	506.0	1732.0	903.0	545.0	1481.0	150.0	512.0	281.0	152.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3249	ACRONYCINE	ACRONIN|ACRONINE|ACRONYCIN|ACRONYCINE|3,12-DIHYDRO-6-METHOXY-3,3,12-TRIMETHYL-7H-PYRANO(2,3-C)ACRIDIN-7-ONE|NCI-CO1536	7008-42-6	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
3250	ADIPAMIDE	ADIPAMIDE|ADIPIC ACID AMIDE|ADIPIC ACID DIAMIDE|ADIPIC DIAMIDE|1,4-BUTANEDICARBOXAMIDE|HEXANEDOIC ACID, DIAMIDE|NCI-C02095	628-94-4	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. INGESTION: Give the victim large quantity of water. After swallowing the water, induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide. (USCG, 1999)
3251	AF-2	AF 2|AF 2 (PRESERVATIVE)|AF-2|ALPHA-((5-NITRO-2-FURANYL)METHYLENE)-2-FURANACETAMIDE|ALPHA-(FURYL)-BETA-(5-NITRO-2-FURYL)ACRYLIC AMIDE|ALPHA-2-FURYL-5-NITRO-2-FURANACRYLAMIDE|2-FURANACETAMIDE, ALPHA-((5-NITRO-2-FURANYL)METHYLENE)-|2-FURANACRYLAMIDE, ALPHA-2-FURYL-5-NITRO-|2-FURANACRYLAMIDE, ALPHA-2-FURYL-5-NITRO|2-(2-FURYL)-3-(5-NITRO-2-FURYL)ACRYLAMIDE|2-(2-FURYL)-3-(5-NITRO-2-FURYL)ACRYLIC ACID AMIDE|FURYLAMIDE|FURYLFURAMIDE|TOFURON	3688-53-7	PHYSICAL DESCRIPTION: Bright orange crystals. (NTP, 1992)	1.0	2.5	5.0	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3247	ACETYL CYCLOHEXANESULFONYL PEROXIDE, [<= 82%, WETTED WITH >= 12% WATER]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	LACTOFEN is a diphenyl ether derivative. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3248	ACETYL PEROXIDE SOLUTION, [<= 25% PEROXIDE]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Water soluble.	Aqueous solutions of LANTHANUM CHLORIDE contain moderate concentrations of hydrogen ions and react as acids to neutralize bases. Does not usually react as either oxidizing agents or reducing agents but such behavior is not impossible. May catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3249	ACRONYCINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. Insoluble in water.	2-METHYL-6-NITROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates, and strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		199 to 205
3250	ADIPAMIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Impervious clothing and gloves should be used to prevent skin contact. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	2-METHYLCYCLOHEXANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of these materials with alkali metals, nitrides, and strong reducing agents. Contact with strong oxidizers may cause fires and explosions. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. They exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon monoxide, may be formed when involved in fire (USCG, 1999).		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		138												(USCG, 1999)		565		(USCG, 1999)		less than -6
3251	AF-2	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	2-METHYLGLYCIDYL ACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Polymerizable					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3247	ACETYL CYCLOHEXANESULFONYL PEROXIDE, [<= 82%, WETTED WITH >= 12% WATER]																																								Class 9	C19H15CIF3NO7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3248	ACETYL PEROXIDE SOLUTION, [<= 25% PEROXIDE]																																							Corrosive	LaCl3.7H2O		2.0	0.0	2.0	1.0	1.0
3249	ACRONYCINE														(NTP, 1992)		1.19		212								(NTP, 1992)		152.16						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3250	ADIPAMIDE														(USCG, 1999)		0.93				(USCG, 1999)			325.4 to 330.8	760		(USCG, 1999)		114.2										MHX	Flammable Liquid	C7H14O	Cellulose-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3251	AF-2																										(NTP, 1992)		142.16													C7H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3252	AFLATOXIN G2	AFLATOXIN G2|DIHYDROAFLATOXIN G1|1H,12H-FURO(3',2':4,5)FURO(2,3-H)PYRANO(3,4-C)(1)BENZOPYRAN-1,12-DIONE,|1H,12H-FURO[3',2':4,5]FURO[2,3-H]PYRANO[3,4-C][1]BENZOPYRAN-1,12-DIONE, 3,4,7A,9,10,10A-HEXAHYDRO-5-METHOXY-, (7AR-CIS)-|1H,12H-FURO[3',2':4,5]FURO[2,3-H]PYRANO[3,4-C][1]BENZOPYRAN-1,12-DIONE, 3,4,7AALPHA,9,10,10AALPHA-HEXAHYDRO-5-METHOXY-	7241-98-7	PHYSICAL DESCRIPTION: Very light and fluffy crystalline solid. Exhibits green-blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Combustible. POISONOUS GASES MAY BE PRODUCED IN FIRE. Flammable toxic vapors given off in a fire. Sealed closed containers can build up pressure if exposed to heat. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3253	a-LACTONITRILE	ACETALDEHYDE CYANOHYDRIN|ACETALDEHYDE, CYANOHYDRIN|ACETOCYANOHYDRIN|ALPHA-HYDROXYPROPIONITRILE|D-LACTONITRILE|ETHYLIDENE CYANOHYDRIN|ETHYLIDENECYANOHYDRIN|(.+-.)-2-HYDROXYPROPANENITRILE|2-HYDROXYPROPANENITRILE |2-HYDROXYPROPANOIC ACID, NITRILE|(.+-.)-2-HYDROXYPROPIONITRILE|2-HYDROXYPROPIONITRILE|LACTONITRILE|LACTONITRILE SOLUTION (80% OR LESS)|PROPANENITRILE, 2-HYDROXY-|PROPANOIC ACID, 2-HYDROXY-, NITRILE	78-97-7	Straw colored liquid. Used as a solvent /intermediate in production of ethyl lactate and lactic acid. (EPA, 1998)	2.5	5.0	2.5	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3254	ALDICARB OXIME	ALDICARB OXIME|2-METHYL-2-(METHYLTHIO)PROPANAL OXIME|2-METHYL-2-(METHYLTHIO)PROPANALOXIME|2-METHYL-2-(METHYLTHIO)PROPIONALDEHYDE OXIME|2-METHYL-2-(METHYLTHIO)PROPIONALDOXIME|2-(METHYLTHIO)-2-METHYLPROPIONALDEHYDE OXIME|PROPANAL, 2-METHYL-2-(METHYLTHIO)-, OXIME|PROPIONALDEHYDE, 2-METHYL-2-(METHYLTHIO) , OXIME|TEMIK OXIME	1646-75-9	PHYSICAL DESCRIPTION: Clear colorless,viscous liquid with an unpleasant sulfurous or musty odor. (NTP, 1992)	2.5	5.0	2.5	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3255	ALDICARB SULFONE	ALDICARB SULFONE|ALDOXYCARB	1646-88-4	White crystalline solid. Insecticide.	1.0	2.5	5.0	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Special Hazards of Combustion Products: Wear full body and respiratory protection. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
3256	ALDOL	ACETALDOL|ALDOL,|BETA-HYDROXYBUTYRALDEHYDE|3-BUTANOLAL|BUTYRALDEHYDE, 3-HYDROXY-|3-HYDROXYBUTANAL|3-HYDROXYBUTYRALDEHYDE	107-89-1	A clear white to yellow syrupy liquid. Denser than water. Contact may irritate skin and eyes. Moderately toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3257	ALKYLSULFURIC ACIDS	ALKYLSULFURIC ACIDS|ALKYLSULPHURIC ACIDS|ETHYL HYDROGEN SULFATE|ETHYL SULFATE|ETHYLSULFURIC ACID|ETHYLSULPHURIC ACID|MONOETHYL SULFATE|SULFETHYLIC ACID|SULFOVINIC ACID	540-82-9	Alkylsulfuric acids are colorless, oily liquids. They are soluble in water and weigh more than water. Contact with the material may cause severe irritation to skin, eyes, and mucous membranes. It may be toxic by ingestion, inhalation and skin absorption. It is used to make other chemicals.	2.5	5.0	2.5	5075.0	506.0	1732.0	903.0	545.0	1482.0	150.0	512.0	281.0	152.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3252	AFLATOXIN G2	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear goggles and self-contained breathing apparatus. (USCG, 1999)	Insoluble in water.	Mixing CRESOL in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid, oleum, [NFPA 1991].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		187		(USCG, 1999)	For ortho; 1.1 meta or para.	1.4		%						(USCG, 1999)			1038 to 1110				
3253	a-LACTONITRILE	(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	OXAZEPAM is stable in light and is non hygroscopic. It is stable in neutral solution. This chemical is hydrolyzed by acids and bases. (NTP, 1992)					0																		(NTP, 1992)			401 to 403
3254	ALDICARB OXIME	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	LAURYL ETHANOLAMIDE is a very weak base. Reacts with azo and diazo compounds to generate toxic gases. Flammable gases are formed with strong reducing agents. Reacts with dehydrating agents such as P2O5 or SOCl2. Combustion generates mixed oxides of nitrogen.					0																					
3255	ALDICARB SULFONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials, mineral acids and bases. (NTP, 1992)	Organic canister mask or air pack; rubber gloves; goggles or face shield; body covering clothing. (USCG, 1999)	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water.	(BLOB)	Polymerizable; Peroxidizable Compound					0		(NTP, 1992)		150		less than 200														
3256	ALDOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	LAURYL GLYCIDYL ETHER is a ether-epoxide derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones.					0																					
3257	ALKYLSULFURIC ACIDS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Flammable. Slightly water soluble.	L-CAMPHOR may be sensitive to heat and direct sunlight. Incompatible with strong oxidizing agents, strong reducing agents and chlorinated solvents. Also incompatible with potassium permanganate. Salts of any kind should not be added to it in water. Reacts violently with chromic anhydride (NTP, 1992).		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		150		(NTP, 1992)		0.6		%	(NTP, 1992)		3.5		%	(NTP, 1992)		871		(NTP, 1992)		353.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3252	AFLATOXIN G2	(USCG, 1999)		0.88		80		mm Hg	(NTP, 1992)		3.72				(USCG, 1999)			1.03 to 1.07	68		(USCG, 1999)			greater than 350	760		(NTP, 1992)		108.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CRS	Poison|Corrosive	C7H8O		4.0	0.0	4.0	1.0	1.0
3253	a-LACTONITRILE																										(NTP, 1992)		286.73						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C15H11CIN2O2	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3254	ALDICARB OXIME																																			(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H29NO2	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3255	ALDICARB SULFONE														(USCG, 1999)		1.09		68		(USCG, 1999)	(approx.)	498		760		(NTP, 1992)		164.2						(NTP, 1992)	Insoluble (less than of equal to 1 mg/mL at 70Â° F)				CGE		C10H12O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3256	ALDOL																										(NTP, 1992)		242.41						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C15H30O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3257	ALKYLSULFURIC ACIDS	(NTP, 1992)		1		106.7		mm Hg	(NTP, 1992)		5.24				(NTP, 1992)		0.992		77		(NTP, 1992)	(sublimes)	399		760		(NTP, 1992)		152.24						(NTP, 1992)	at 77Â° F	1		g/800 mL		Flammable Solid	C10H16O		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3258	ALLYL ACETATE	ACETIC ACID, ALLYL ESTER|3-ACETOXY-1-PROPENE|3-ACETOXYPROPENE|ALLYL ACETATE|ALLYL ALCOHOL, ACETATE|2-PROPEN-1-OL ACETATE	591-87-7	A liquid. Insoluble in water and slightly less dense than water. Hence floats on water. Poisonous by ingestion and moderately toxic by inhalation and skin contact. Irritating to skin and eyes.	2.5	5.0	2.5	5076.0	506.0	1732.0	903.0	545.0	1483.0	150.0	512.0	281.0	152.0	(BLOB)	Special Hazards of Combustion Products: Irritating acid fumes may be formed in fires. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3259	ALLYL ANTHRANILATE	ALLYL 2-AMINOBENZOATE|ALLYL ANTHRANILATE|2-AMINOBENZOIC ACID, ALLYL ESTER|ANTHRANILIC ACID, ALLYL ESTER	7493-63-2	PHYSICAL DESCRIPTION: Clear golden liquid. (NTP, 1992)	2.5	5.0	2.5	5077.0	506.0	1732.0	903.0	545.0	1484.0	150.0	512.0	281.0	152.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3260	ALLYL ETHYL ETHER	ALLYL ETHYL ETHER|ETHER, ALLYL ETHYL|3-ETHOXY-1-PROPENE|ETHYL 2-PROPENYL ETHER|ETHYL ALLYL ETHER	557-31-3	A liquid. Insoluble in water and less dense than water. Hence floats on water. Emits acrid irritating fumes when heated to high temperature. Used to make other chemicals.	2.5	5.0	2.5	5078.0	506.0	1732.0	903.0	545.0	1485.0	150.0	512.0	281.0	152.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3261	ALLYL FORMATE	ALLYL ALCOHOL, FORMATE|ALLYL FORMATE|FORMIC ACID, ALLYL ESTER	1838-59-1	A colorless liquid. Soluble in water. Highly toxic by ingestion, inhalation and skin contact.	2.5	5.0	2.5	5078.0	506.0	1732.0	903.0	545.0	1485.0	150.0	512.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3262	ALLYL ISOVALERATE	ALLYL 3-METHYLBUTYRATE|ALLYL ISOVALERATE|ALLYL ISOVALERIANATE|FEMA NO. 2045|ISOVALERIC ACID, ALLYL ESTER|3-METHYLBUTANOIC ACID, 2-PROPENYL ESTER|3-METHYLBUTANOIC ACID, ALLYL ESTER|3-METHYLBUTYRIC ACID, ALLYL ESTER|NCI-C54717|2-PROPENYL 3-METHYLBUTANOATE|2-PROPENYL ISOVALERATE	2835-39-4	PHYSICAL DESCRIPTION: Clear colorless to pale yellow liquid with overripe fruit odor and an apple taste. (NTP, 1992)	2.5	5.0	2.5	5079.0	506.0	1732.0	903.0	545.0	1486.0	150.0	512.0	281.0	152.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 mg magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES or SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3258	ALLYL ACETATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask and protective gloves (USCG, 1999)	Soluble in water.	LEAD ACETATE is incompatible with acids, soluble sulfates, citrates, tartrates, chlorides, carbonates, alkalis, tannin, phosphates, resorcinol, salicylic acid, phenol, chloral hydrate, sulfites, vegetable infusions, and tinctures. It is reactive at high temperatures and pressures. It explodes when in contact with KBrO3. Lead acetate-Lead bromate may be formed during the manufacture of this compound, and is explosive and very sensitive to friction. It takes up CO2 from the air and becomes incompletely soluble. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	167Â° F when heated rapidly	536	
3259	ALLYL ANTHRANILATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	LEAD ARSENITE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
3260	ALLYL ETHYL ETHER	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water and gradually decomposed by water evolving poisonous and flammable hydrogen cyanide.	LEAD CYANIDE is decomposed by acids to give off hydrogen cyanide, a flammable poisonous gas. Tends to explosive instability. Capable of violent oxidation: fusion with metal chlorates, perchlorates, nitrates or nitrites can cause explosions [Beetherick, 1979 p. 101]. Reacts with incandescence with magnesium [Mellor, 1940, Vol. 4, 271].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
3261	ALLYL FORMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids. Insoluble in water.	LEAD DIMETHYLDITHIOCARBAMATE is a organometallic with thio carbamate chelating group. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides. Organometallics are strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.						0																												(NTP, 1992)		590	
3262	ALLYL ISOVALERATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly water soluble.	LEAD IODIDE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Light sensitive		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3258	ALLYL ACETATE														(USCG, 1999)		2.55		68		(NTP, 1992)	At temperatures over 200Â° F it begins to lose acetic acid, decomposes completely above 400Â° F					(NTP, 1992)		325.28						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	LAC	Poison	C2H4O2.1/2Pb(C2H4O2.xPb		3.0	0.0	5.0	1.0	1.0
3259	ALLYL ANTHRANILATE																																									Poison	AsHO2.1/2Pb		1.0	0.0	3.0	1.0	1.0
3260	ALLYL ETHYL ETHER																																								Poison	Pb(CN)2		3.0	0.0	3.0	1.0	1.0
3261	ALLYL FORMATE														(NTP, 1992)		2.43										(NTP, 1992)		447.63						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL			C6H12N2PbS4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3262	ALLYL ISOVALERATE														(USCG, 1999)		6.16		68								(USCG, 1999)		461.03										LID	Poison	PbI2		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3263	ALLYL PROPYL DISULFIDE	ALLYL PROPYL DISULFIDE|DISULFIDE, ALLYL PROPYL|4,5-DITHIA-1-OCTENE|ONION OIL|2-PROPENYL PROPYL DISULFIDE|PROPYL ALLYL DISULFIDE	2179-59-1	PHYSICAL DESCRIPTION: Clear pale yellow liquid with a pungent odor. (NTP, 1992)	2.5	5.0	2.5	5080.0	506.0	1732.0	903.0	545.0	1487.0	150.0	512.0	281.0	152.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Increases the intensity of a fire when in contact with burning material. Use plenty of water to cool containers or spilled material. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3264	ALLYL UREA	ALLYL UREA|ALLYLCARBAMIDE|ALLYLUREA|1-ALLYLUREA|MONOALLYLUREA|N-2-PROPENYLUREA|N-ALLYLUREA|2-PROPENYLUREA|UREA, ALLYL-	557-11-9	PHYSICAL DESCRIPTION: Cream colored powder. (NTP, 1992)	1.0	2.5	5.0	5080.0	506.0	1732.0	903.0	545.0	1487.0	150.0	512.0	281.0	152.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3265	ALLYLTRICHLOROSILANE, STABILIZED	ALLYL TRICHLOROSILANE|ALLYLSILICONE TRICHLORIDE|ALLYLTRICHLOROSILANE|ALLYLTRICHLOROSILANE, STABILIZED|PROPEN-3-YLTRICHLOROSILANE|SILANE, ALLYLTRICHLORO-	107-37-9	A colorless liquid with a pungent odor. Flash point of 95Â°F. Corrosive to metals and tissue.	2.5	5.0	2.5	5081.0	506.0	1732.0	903.0	545.0	1488.0	150.0	512.0	281.0	152.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3266	ALPHA,ALPHA,2,6-TETRACHLOROTOLUENE	ALPHA,ALPHA,2,6-TETRACHLOROTOLUENE|2,6,ALPHA,ALPHA-TETRACHLOROTOLUENE|1,3-DICHLORO-2-(DICHLOROMETHYL)-BENZENE|2,6-DICHLOROBENZAL CHLORIDE|2,6-DICHLOROBENZODICHLORIDE|2,6-DICHLOROBENZYLIDENE CHLORIDE|TOLUENE, ALPHA,ALPHA,2,6-TETRACHLORO-	81-19-6	Colorless liquid.	2.5	5.0	2.5	5082.0	506.0	1733.0	903.0	545.0	1489.0	150.0	513.0	281.0	152.0	Call a physician. INHALATION: Remove from the source of exposure. Keep victim quiet and warm. EYES: Wash with water for 15 to 20 minutes. SKIN: Wash with soap and water. INGESTION: Call a physician at once. Induce vomiting, give milk and magnesium sulfate (epsom salts). (USCG, 1999)	Special Hazards of Combustion Products: At high temperature toxic fumes are emitted. Behavior in Fire: Possibility of explosion exists under dusty conditions (USCG, 1999)	Fire Extinguishing Agents: Chemical, foam, CO 2 , water (fog) (USCG, 1999)
3267	ALPHA-BHC	1A,2A,3B,4A,5B,6B-HEXACHLOROCYCLOHEXANE|A-BHC|ALPHA-1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE|ALPHA-666|ALPHA-BENZENE HEXACHLORIDE|ALPHA-BENZENEHEXACHLORIDE|ALPHA-BENZOHEXACHLORIDE|ALPHA-BHC|ALPHA-HCH[(.+-.)-ALPHA-HCH|ALPHA-HEXACHLORAN|ALPHA-HEXACHLORANE|ALPHA-HEXACHLORCYCLOHEXANE|ALPHA-HEXACHLOROCYCLOHEXANE|(.+-.)-ALPHA-HEXACHLOROCYCLOHEXANE|ALPHA-LINDANE|BENZENE-TRANS-HEXACHLORIDE|CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, ALPHA-|ENT 9,232|1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE, ALPHA ISOMER	319-84-6	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5083.0	506.0	1733.0	903.0	545.0	1490.0	150.0	513.0	281.0	152.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3263	ALLYL PROPYL DISULFIDE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Dust mask and protective gloves (USCG, 1999)	Water soluble.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode because of the formation of alkyl nitrates; mixtures of nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick 1979. p. 108-109]. An explosion of guanidine nitrate demolished an autoclave built to withstand 50 atmospheres, in which it was being made from ammonium thiocyanate and lead nitrate [C. Angew. Chem. 49:23. 1936].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3264	ALLYL UREA	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 2-NITRO-1,1'-BIPHENYL, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.					0		(NTP, 1992)		290													(NTP, 1992)		356		(NTP, 1992)			97 to 100
3265	ALLYLTRICHLOROSILANE, STABILIZED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water, soluble in acids and alkalis.	Salts, basic, such as LEAD PHOSPHATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3266	ALPHA,ALPHA,2,6-TETRACHLOROTOLUENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust and/or fume respirator, gloves, goggles or safety glasses, coveralls, and cap. (USCG, 1999)	Insoluble in water.	LEAD STEARATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 450																	(USCG, 1999)		240.3	
3267	ALPHA-BHC		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CRUFOMATE is combustible; liquid formulations containing organic solvents may be flammable. Incompatible with strongly basic and strongly acidic materials. Unstable over long periods in aqueous preparations or above 140Â° F. Emits toxic fumes of POx, Cl2 and NOx when heated to decomposition (Hazardous Chemicals Desk Reference p. 272 (1987)).						0																					(NIOSH, 2003)		140	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3263	ALLYL PROPYL DISULFIDE														(USCG, 1999)		4.53		68								(USCG, 1999)		331.2												LNT	Oxidizer|Poison	HNO3.1I2Pb	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3264	ALLYL UREA	(NTP, 1992)		2		284		mm Hg	(NTP, 1992)		5.9				(NTP, 1992)		1.203		77		(NTP, 1992)		608		760		(NTP, 1992)		199.21						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C12H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3265	ALLYLTRICHLOROSILANE, STABILIZED																																								Poison	P2Pb3O8		1.0	0.0	3.0	1.0	1.0
3266	ALPHA,ALPHA,2,6-TETRACHLOROTOLUENE														(USCG, 1999)		1.34 to 1.4										(USCG, 1999)		774.17											LSA	Poison	Pb(C18H35O2)2		3.0	0.0	3.0	1.0	1.0
3267	ALPHA-BHC	(NIOSH, 2003)		0.01		243		mm Hg							(NIOSH, 2003)		1.16				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		291.7						(NIOSH, 2003)	Insoluble						C12H19Cl3NO3P	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3268	ALPHA-BROMO-ALPHA-ETHYLBUTYRYLUREA	ADALIN|ADDISOMNOL|ALPHA-BROMO-ALPHA-ETHYLBUTYRYL)UREA|ALPHA-BROMO-ALPHA-ETHYLBUTYRYL)CARBAMIDE|(ALPHA-BROMO-ALPHA-ETHYLBUTYRYL)UREA|ALPHA-BROMO-ALPHA-ETHYLBUTYRYLUREA|ALPHA-ETHYL-ALPHA-BROMOBUTYRYLUREA|BROMACETOCARBAMIDE|BROMADAL|BROMADEL|BROMDIETHYLACETYLUREA|2-BROMO-2-ETHYLBUTYRYLUREA|1-BROMO-ETHYL-BUTYRYL-UREA|BROMODIETHYLACETYLCARBAMIDE|BROMODIETHYLACETYLUREA|CARBROMAL|DIACID|DORMITURIN|FYDALIN|HOGGAR|KARBROMAL|KARTRYL|N-(AMINOCARBONYL)-2-BROMO-2-ETHYLBUTANAMIDE|NCI-C03805|NENESIN|NYCTAL|PARKOSED|PELIDORM|PIANADALIN|PLANADALIN|TILDIN|U	77-65-6	PHYSICAL DESCRIPTION: Odorless tasteless white crystalline powder. Saturated solution in water neutral to litmus. (NTP, 1992)	1.0	2.5	5.0	5083.0	506.0	1733.0	903.0	545.0	1490.0	150.0	513.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3269	ALUMINUM CARBIDE	ALUMINUM CARBIDE|TETRAALUMINUM TRICARBIDE	1299-86-1	A yellow powder or crystals. Used to make other chemicals.	1.0	2.5	5.0	5083.0	506.0	1733.0	903.0	545.0	1490.0	150.0	513.0	281.0	152.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3270	AMINOPTERIN	A-NINOPTERIN|4-AMINO-4-DEOXYPTEROYLGLUTAMATE|4-AMINO-PGA|4-AMINOFOLIC ACID|AMINOPTERIDINE|AMINOPTERIN|AMINOPTERINE|4-AMINOPTEROYLGLUTAMIC ACID|APGA|ENT-26079|FOLIC ACID, 4-AMINO-|GLUTAMIC ACID, N-(P-(((2,4-DIAMINO-6-PTERIDINYL)METHYL)AMINO)BENZOYL)-, L-|GLUTAMIC ACID, N-[P-[[(2,4-DIAMINO-6-PTERIDINYL)METHYL]AMINO]BENZOYL]-, L-|L-GLUTAMIC ACID, N-[4-[(DIAMINO-6-PTERIDINYL)METHYL] AMINO]BENZOYL]-N-(4-((2,4-DIAMINO-6-PTERIDINYL)METHYL)AMINO)BENZOYL)-L-GLUTAMIC ACID|NSC 739|PTERAMINA	54-62-6	Clusters of yellow needles. Used as a rodenticide, medicine and rodenticide. Not registered as a rodenticide in the U.S. (EPA, 1998)	5.0	1.0	1.0	5084.0	506.0	1733.0	903.0	545.0	1491.0	150.0	513.0	281.0	152.0	(BLOB)	Behavior in Fire: Containers may explode in fire. Use water to cool container from safe distance. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
3271	AMMONIUM ARSENATE	AMMONIUM ACID ARSENATE|AMMONIUM ARSENATE|AMMONIUM ARSENATE ((NH4)2ASHO4)|AMMONIUM ARSENATE ((NH4)2HASO4)|AMMONIUM ARSENATE, [SOLID]|DIAMMONIUM ARSENATE|DIAMMONIUM HYDROGEN ARSENATE|DIAMMONIUM MONOHYDROGEN ARSENATE|DIBASIC AMMONIUM ARSENATE|SECONDARY AMMONIUM ARSENATE	7784-44-3	A white crystalline solid. Toxic by ingestion.	1.0	2.5	5.0	5084.0	506.0	1733.0	903.0	545.0	1491.0	150.0	513.0	281.0	152.0	INGESTION: induce vomiting and administer gastric lavage; give a saline cathartic, fluid therapy, and transfusions if required; calcium disodium EDTA has been found moderately effective. SKIN AND EYES: wash affected tissues with water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3272	AMMONIUM HYDROSULFIDE, SOLUTION	AMMONIUM BISULFIDE|AMMONIUM HYDROGEN SULFIDE|AMMONIUM HYDROGEN SULFIDE (NH4HS)|AMMONIUM HYDROSULFIDE|AMMONIUM HYDROSULFIDE SOLUTION|AMMONIUM HYDROSULFIDE, SOLUTION|AMMONIUM HYDROSULPHIDE, SOLUTION|AMMONIUM MERCAPTAN|AMMONIUM SULFHYDRATE|AMMONIUM SULFIDE ((NH4)(HS))|AMMONIUM SULFIDE (NH4HS)|AMMONIUM SULFIDE (NH4SH)|MONOAMMONIUM SULFIDE	12124-99-1	Clear, yellowish liquid. Kept basic with NaOH, as acid will release hydrogen sulfide gas. Technical grade is 40-44%. Used in photography, textiles, synthetic flavors, coloring brasses, bronzes, and iron control.	2.5	5.0	2.5	5084.0	506.0	1733.0	903.0	545.0	1491.0	150.0	513.0	281.0	152.0	(BLOB)	Behavior in Fire: Melts and decomposes, generating ammonia. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3268	ALPHA-BROMO-ALPHA-ETHYLBUTYRYLUREA	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CRYSTAL VIOLET LACTONE may be sensitive to excessive light and heat. [[Details on specifics of reactivity not yet available.]]							0																		(NTP, 1992)		356	
3269	ALUMINUM CARBIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	Mixing CUMENE in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid, oleum, NFPA 1991.		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(USCG, 1999)	96		(USCG, 1999)		0.9		%	(USCG, 1999)		6.5		%	(USCG, 1999)		797		(USCG, 1999)		-140.9	
3270	AMINOPTERIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Clean protective clothing; rubber gloves; chemical worker's goggles; self-contained breathing apparatus (USCG, 1999)	Highly flammable. Soluble in water and may decompose upon contact with water.	Epoxides, such as 1,2-BUTYLENE OXIDE, are highly reactive. They polymerize in the presence of catalysts or when heated. Contact with anhydrous metal halides; amino, hydroxyl and carboxyl functions; inorganic acids and charcoal may cause polymerization. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(NTP, 1992)		10		(NTP, 1992)		1.5		%	(NTP, 1992)		18.3		%	(USCG, 1999)		959		(NTP, 1992)		-76	
3271	AMMONIUM ARSENATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Filtering masks to minimize inhalation of dust. (USCG, 1999)	Soluble in water.	Anhydrous CUPRIC SULFATE serves as a weak oxidizing agent. Causes hydroxylamine to ignite. Gains water readily. The hydrated salt is vigorously reduced by hydroxylamine [Mellor 8:292(1946-1947)]. Both forms are incompatible with finely powdered metals. Both are incompatible with magnesium, corrode steel and iron, may react with alkalis, phosphates, acetylene gas, hydrazine, or nitromethane, and may react with beta-naphthol, propylene glycol, sulphathiazole and triethanolamine if the pH exceeds 7 (NTP, 1992). Both act as acidic salts, corrode metals and irritate tissues.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																(USCG, 1999)	Not flammable					
3272	AMMONIUM HYDROSULFIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	Goggles or face shield; dust mask. (USCG, 1999)	Water soluble.	(BLOB)						0																(USCG, 1999)	Not flammable			(NTP, 1992)		275	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3268	ALPHA,BROMO-ALPHA-ETHYLBUTYRYLUREA																									(NTP, 1992)		415.54						(NTP, 1992)	at 72.5Â°F		less than 1	mg/mL					3.0	0.0	3.0	1.0	1.0
3269	ALUMINUM CARBIDE	(USGG, 1999)	25.85					mm Hg							(USGG, 1999)		0.866		59		(USGG, 1999)	306.3		760		(USGG, 1999)		120.19			Based on 10% of the lower explosive limit.	900	ppm	(NIOSH, 2003)	Insoluble						CUM	Flammable Liquid	C9H12		1.0	0.0	1.0	1.0	1.0
3270	AMINOPTERIN	(NTP, 1992)	1 - 215 mm Hg at 70.0Â° F	160		55		mm Hg	(NTP, 1992)		2.49				(USGG, 1999)		0.826		77		(NTP, 1992)	145		760		(USGG, 1999)		72.11						(NIOSH, 2003)	at 63Â° F		greater than or equal to 100	mg/mL			BTO	Flammable Liquid	C4H8O	Mineral-Based & Clay-Based Absorbents(Dirt Earth	4.0	0.0	4.0	1.0	1.0
3271	AMMONIUM ARSENATE														(USGG, 1999)		2.29		59		(USGG, 1999)					(USGG, 1999)		249.7													CSF	Poison	CaSO4		2.0	3.0	1.0	1.0
3272	AMMONIUM HYDROSULFIDE, SOLUTION														(USGG, 1999)		1.34		68		(NTP, 1992)	Decomposes				(NTP, 1992)		60.07						(NTP, 1992)	Soluble						URE		CH4N2O		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3273	AMMONIUM LIGNINSULFONATE	AMMONIUM LIGNINSULFONATE|AMMONIUM LIGNOSULFONATE|BORRESPERSE NH|HANSA AM-S|LIGNIN SULFONATE|LIGNOSITE 17|LIGNOSOL NST 150|LIGNOSOL TSD|LIGNOSOL TSF|LIGNOSOL TSF 65|LIGNOSULFONIC ACID, AMMONIUM SALT|NH 6L|NH 7L|NORLIG TSF1,ORZAN A|ORZAN AL 50|ORZAN P|PERITAN NH4|PETROLIGERA 27|TOTANIN|TREX LTA|TSSL|WANIN AM|ZEWA DIS-TR	8061-53-8	PHYSICAL DESCRIPTION: Odorless light tan to dark brown powder. Viscosity reported to be similar to that of motor oil. (NTP, 1992)	1.0	2.5	5.0	5084.0	506.0	1733.0	903.0	545.0	1491.0	150.0	513.0	281.0	152.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3274	AMMONIUM OLEATE	AMMONIA SOAP|AMMONIUM OLEATE|OLEIC ACID, AMMONIUM SALT	544-60-5	Yellow-brown paste with a weak odor of ammonia. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	5085.0	506.0	1733.0	903.0	545.0	1492.0	150.0	513.0	281.0	152.0	(BLOB)	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3275	AMMONIUM POLYSULFIDE, SOLUTION	AMMONIA POLYSULFIDE|AMMONIUM POLYSULFIDE|AMMONIUM POLYSULFIDE ((NH4)2SX)|AMMONIUM POLYSULFIDE SOLUTION|AMMONIUM POLYSULFIDE, SOLUTION|AMMONIUM POLYSULPHIDE, SOLUTION|AMMONIUM SULFIDE ((NH4)2SX)|DIAMMONIUM POLYSULFIDE	9080-17-5	A red liquid with an odor like rotten eggs or ammonia. Corrosive. Irritating to tissue. Long-term exposure to low concentrations or short-term exposure to high concentrations may have ill effects. Used as an analytical reagent and an insecticide spray.	2.5	5.0	2.5	5085.0	506.0	1733.0	903.0	545.0	1492.0	150.0	513.0	281.0	152.0	Remove victim to open air. If he is overcome by gas, apply artificial resuscitation. (USCG, 1999)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3276	AMOBARBITAL	AMAL|AMASUST|AMITAL|AMOBARBITAL|AMOBARBITONE|AMOSPAN|AMYBAL|AMYLBARBITONE|AMYLOBARBITAL|AMYLOBARBITONE|AMYTAL|BARBAMIL|BARBAMYL|BARBAMYL ACID|BARBITURIC ACID, 5-ETHYL-5-ISOPENTYL-|BINOCTAL|DORLOTYN|DORMYTAL|5-ETHYL-5-(3-METHYLBUTYL)-2,4,6(1H,3H,5H)-PYRIMIDINETRIONE|5-ETHYL-5-(3-METHYLBUTYL)BARBITURIC ACID|5-ETHYL-5-ISOAMYLBARBITURIC ACID|5-ETHYL-5-ISOAMYLMALONYL UREA|5-ETHYL-5-ISOPENTYLBARBITURIC ACID|ETHYLISOPENTYLBARBITURIC ACID|EUNOCTAL|EUROCTAL|ISOAMYETHYLBARBITURIC ACID|5-ISOAMYL-5-ETHYLBARBITURIC ACID|ISOAMYLETHYLBARBI	57-43-2	PHYSICAL DESCRIPTION: White crystalline solid with no odor and a slightly bitter taste. (NTP, 1992)	1.0	2.5	5.0	5086.0	506.0	1734.0	903.0	545.0	1493.0	150.0	514.0	281.0	152.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3277	AMPHETAMINE	(BLOB)	300-62-9	Colored liquid with an amine odor. Used as a pharmaceutical, a central nervous system stimulant. (EPA, 1998)	2.5	5.0	2.5	5086.0	506.0	1734.0	903.0	545.0	1493.0	150.0	514.0	281.0	152.0	In case of accidental contact with the skin, wipe off excess with a dry paper towel. Wash the affected area with a large volume of water to prevent localized heating of the skin. (USCG, 1999)	Behavior in Fire: Decomposes at 257Â°F to form hydrogen gas. The heat generated may cause ignition and/or explosion. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3273	AMMONIUM LIGNINSULFONATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 3,3,6,6,9,9-HEXAMETHYL-1,2,4,5-TETRAOXACYCLONONANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Decomposes in contact with many metals and acids (USCG, 1999).		Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3274	AMMONIUM OLEATE	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Flammable. Soluble in water. Hydrolyzed in alkali.	1,2-DIBROMO-3-CHLOROPROPANE reacts with chemically active metals such as aluminum, magnesium, tin and their alloys. It will attack some rubber materials and coatings. (NTP, 1992)		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		170												(NTP, 1992)		43			
3275	AMMONIUM POLYSULFIDE, SOLUTION	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Self-contained breathing apparatus; protective clothing if exposed to liquid. (USCG, 1999)	Highly flammable.	Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4					(USCG, 1999)		5.3		%	(USCG, 1999)		14		%	(USCG, 1999)		999		(USCG, 1999)		-296	
3276	AMOBARBITAL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOHEPTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3277	AMPHETAMINE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Rubberized gloves; full face shield. (USCG, 1999)	Reacts with water vigorously attaining incandescence and ignition of evolved hydrogen [Kelen, Cahiers, 1977, (86), 100]. Reactions with water or moist air (or heated air) are violent and may be explosive [Schmidt, D.L., et al. Inorg. Synth. 1973. p. 14, 51].	LITHIUM ALUMINUM HYDRIDE is a powerful reducing agent. React violently on contact with many oxidizing agents. Ignites by friction, especially if powdered. Reacts vigorously with hydroxy compounds such as water, alcohols, carboxylic acids [Mellor 2 Supp. 2:142. 1961]. Caused a violent explosion when used to dry diethylene glycol dimethyl ether: Ignition may have been caused by heat from reaction with impurity water or perhaps decomposition of peroxides in the ether. About 75% of the ether had been removed when the explosion occurred [MCA Case History 1494. 1968]. Reduces carbon dioxide or sodium hydrogen carbonate to methane and ethane at elevated temperatures. These flammable or explosive gases can form when CO2 extinguishers are used to fight hydride fires. Forms explosive complexes with ether, dimethylamine and various tetrazoles. Tetrazoles include, 2-methyl, 2-ethyl, 5-ethyl, 2-methyl-5-vinyl, 5-amino-2-ethyl [US Pat. 3 396 170, 1968].	Strong Reducing Agent; Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for lithium aluminum hydride, CAS number 1302-30-3.	3	2	2	4	No Water																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3273	AMMONIUM LIGNINSULFONATE																																								Organic Peroxide	C11H22O4 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3274	AMMONIUM OLEATE	(NTP, 1992)		0.8		70		mm Hg							(NTP, 1992)		2.08		68		(NTP, 1992)		385		760		(NTP, 1992)		236.35		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C3H5Br2Cl		1.0	0.0	3.0	1.0	1.0
3275	AMMONIUM POLYSULFIDE, SOLUTION														(USCG, 1999)			0.415 to 0.45	-259.6		(USCG, 1999)		-258		760		(USCG, 1999)				greater than 16									LNG	Flammable Gas	CH4		5.0	0.0	5.0	1.0	1.0
3276	AMOBARBITAL																																								Flammable Liquid	C7H12	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3277	AMPHETAMINE														(USCG, 1999)		0.917		59								(USCG, 1999)		37.94											LAH	Dangerous When Wet	LiAlH4		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3278	AMYL ACID PHOSPHATE	AMYL ACID PHOSPHATE|AMYL HYDROGEN PHOSPHATE|AMYL PHOSPHATE	12789-46-7	A colorless liquid. Burns, though difficult to ignite. Denser than water and is insoluble in water. Hence, sinks in water. Corrosive to metals and tissue. Vapors are heavier than air. Used as a curing agent in paints and plastics and in the manufacture of synthetic fibers.	2.5	5.0	2.5	5087.0	506.0	1734.0	903.0	545.0	1494.0	150.0	514.0	281.0	152.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
3279	AMYL MERCAPTAN	AMYL HYDROSULFIDE|AMYL MERCAPTAN|AMYL SULFHYDRATE|AMYL THIOALCOHOL|MERCAPTOPENTANE|1-MERCAPTOPENTANE|N-AMYL MERCAPTAN|N-AMYLTHIOL|N-PENTANETHIOL|1-N-PENTANETHIOL|N-PENTYL MERCAPTAN|N-PENTYLTHIOL|PENTANETHIOL|1-PENTANETHIOL|PENTANETHIOLS {AMYL PERCAPTAN}|PENTYL MERCAPTAN|1-PENTYL MERCAPTAN|PENTYLTHIOL|1-PENTYLTHIOL	110-66-7	A clear colorless to light-yellow liquid with an offensive odor. Flash point 65Â°F. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. May be toxic by inhalation.	2.5	5.0	2.5	5087.0	506.0	1734.0	903.0	545.0	1494.0	150.0	514.0	281.0	152.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3280	AMYLTRICHLOROSILANE	AMYL TRICHOROSILANE|AMYLTRICHLOROSILANE|N-AMYLTRICHLOROSILANE|PENTYLSILICON TRICHLORIDE|PENTYLTRICHLOROSILANE|TRICHLOROAMYLSILANE|TRICHLOROPENTYLSILANE	107-72-2	A colorless to yellow liquid with a pungent odor. It is combustible and has a flash point of 145Â°F. Corrosive to metals and tissue.	2.5	5.0	2.5	5088.0	506.0	1734.0	903.0	545.0	1495.0	150.0	514.0	281.0	152.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3281	ANILAZINE	ANILAZIN|ANILAZINE|ANIYALINE|B 622|B-622|BORTRYSAN|2-CHLORO-N-(4,6-DICHLORO-1,3,5-TRIAZIN-2-YL)ANILINE|2,4-DICHLORO-6-(2-CHLOROANILINO)-1,3,5-TRIAZINE|2,4-DICHLORO-6-(O-CHLOROANILINO)-S-TRIAZINE|2,4-DICHLORO-6-O CHLORANILINO-S-TRIAZINE|4,6-DICHLORO-N-(2-CHLOROPHENYL)-1,3,5-TRIAZIN-2-AMINE|DIREX|DIREZ|DYRENE|DYRENE 50W|DYRENE FLUSSIG|ENT 26,058|KEMATE|NCI-C08684|(O-CHLOROANILINO)DICHLOROTRIAZINE|S-TRIAZINE, 2,4-DICHLORO-6-(O-CHLOROANILINO)-|TRIASYN|TRIAZIN|TRIAZINE|TRIAZINE (PESTICIDE)|ZINOCHLOR	101-05-3	PHYSICAL DESCRIPTION: White to tan crystals or white powder. Moderately soluble in organic solvents. Insoluble in water. Melting point 159Â°C.	1.0	2.5	5.0	5088.0	506.0	1734.0	903.0	545.0	1495.0	150.0	514.0	281.0	152.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3282	ANTIMYCIN A	ANTIMYCIN A|ANTIPIRICULLIN|FINTROL|VIROSIN	1397-94-0	Solid. Specific uses for Antimycin A were not found. Antimycin A1,and Antimycin A3 are reported as antibiotics produced by Streptomyces for use as a fungicide and possibly as an insecticide and miticide. Registered only as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5089.0	506.0	1734.0	903.0	545.0	1496.0	150.0	514.0	281.0	152.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3278	AMYL ACID PHOSPHATE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Likely to ignite when moistened with water [Lab. Gov. Chemist 1965].	LITHIUM BOROHYDRIDE is a strong reducing agent may be easily ignited and burns vigorously once ignited. The powder reacts on contact with water or acids to form hydrogen gas and corrosive products. Reaction with limited amounts of water or moisture may cause ignition after a delay [Gaylord, 1965, p. 22].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3279	AMYL MERCAPTAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very hygroscopic. Very soluble in water.	These materials have weak oxidizing or reducing powers. Redox reactions can however still occur. For example, CO2, which is often regarded as chemically inert, vigorously oxidizes the strong reducing agent Mg if the two are heated together. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Some do react with acids: carbonates generate carbon dioxide and heat when treated with acids; fluorides, sulfites and sulfides generate toxic gases (hydrogen fluoride, sulfur dioxide and hydrogen sulfide, respectively) when treated with acids.						0																								(NTP, 1992)		1121	
3280	AMYLTRICHLOROSILANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water; heat of dissolution may generate steam and cause spattering.	LITHIUM HYDROXIDE MONOHYDRATE neutralizes acids exothermically to form salts plus water. Reacts with certain metals (such as aluminum and zinc) to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. May serve as a catalyst. Reacts when heated above about 84ÂºC with aqueous solutions of reducing sugars other than sucrose to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].	Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3281	ANILAZINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Less dense than water and slightly soluble in water.	CYCLOHEXANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. Violent reaction with nitric acid. Incompatible with strong oxidizers (chromium trioxide, nitric acid, etc.). (NTP, 1992)		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		154												(USCG, 1999)		572		(NTP, 1992)		73	
3282	ANTIMYCIN A	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	3,3'-IMINODIPROPYLAMINE neutralize acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound can react with oxidizing materials (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		175																(NTP, 1992)		5.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3278	AMYL ACID PHOSPHATE																																								Dangerous When Wet	BH4.Li		3.0	0.0	4.0	1.0	1.0
3279	AMYL MERCAPTAN														(NTP, 1992)		2.068		77		(NTP, 1992)			2417 to 2480	760		(NTP, 1992)		42.39						(NTP, 1992)	Very soluble						ClLi		4.0	0.0	5.0	1.0	1.0
3280	AMYLTRICHLOROSILANE																																								Corrosive	LiOH.H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0
3281	ANILAZINE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.947		68		(NTP, 1992)			322	760		(NTP, 1992)		100.18		(NIOSH, 2003)		400	ppm	(NTP, 1992)	Soluble				CHN	Flammable Liquid|Poison	C6H12O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3282	ANTIMYCIN A								(NTP, 1992)		4.52				(NTP, 1992)		0.9307		68		(NTP, 1992)			465.1	760		(NTP, 1992)		131.22						(NTP, 1992)	Soluble (>=10 mg/ml)					Corrosive	C6H17N3	Mineral-Based & Clay-Based Absorbents	2.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3283	ARSENIC IODIDE, SOLID	ARSENIC IODIDE (ASI3)|ARSENIC IODIDE, SOLID|ARSENIC IODIDE, [SOLID]|d ARSENIC TRIIODIDE|ARSENOUS IODIDE|TRIIODOARSINE	7784-45-4	Orange-red rhombohedral crystals (from acetone). Density 4.69 g / cm3. Melting point 285.6Â°F (140.9Â°C). Red as a liquid.	1.0	2.5	5.0	5090.0	506.0	1734.0	903.0	545.0	1497.0	150.0	514.0	281.0	152.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3284	ASBESTOS	ACTINOLITE|ACTINOLITE ASBESTOS|AMOSITE (CUMMINGTONITE-GRUNERITE)|ANTHOPHYLLITE|ANTHOPHYLLITE ASBESTOS|ASBESTOS|ASBESTOS (FRIABLE)|ASBESTOS FIBER|AT 7-1|BK 6-20|BP 3-50|BP 5-65|CALIDRIA HPP|CALIDRIA R-G 244|CAREY 4T|CHLOROBESTOS 25|CHRYSOTILE|CROCIDOLITE (RIEBECKITE)|FAPM 410-120|FERODO C3C|FIBERS, MINERAL, ASBESTOS|HPO (MINERAL)|K 6-20|LITAFLEX|M 3-60|M 4-5|M 5-60|M 6-40|MOUNTAIN CORK|MOUNTAIN LEATHER|MOUNTAIN WOOD|MTM|7N05|P 5-50|PRZH 2-30|7R-F9|7RF10|SEPIOLEX 3|SEPIOLEX 5|SM 1 (MINERAL)|SM 2 (MINERAL)|T 135|4T04|TREMOLITE|TREMOLITE ASBESTOS	1332-21-4	Any of a group of impure magnesium silicate minerals that occur as slender, strong, flexible fibers. Colors range from white to gray, green, brown. Resistant to fire and most solvents. Breathing of asbestos dust causes asbestosis and lung cancer. Used as a heat resistant material, in cement, furnace bricks, and in brake linings.	1.0	2.5	5.0	5091.0	506.0	1735.0	903.0	545.0	1498.0	150.0	515.0	281.0	152.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3285	ASYM-DIPHENYLUREA	ACARDIT I|ACARDITE|ACARDITE I|AKARDIT I|AKARDITE I|ASYM-DIPHENYLUREA|1,1-DIPHENYLUREA|N,N-DIPHENYLUREA|UNSYM-DIPHENYLCARBAMIDE|UREA, 1,1-DIPHENYL-	603-54-3	PHYSICAL DESCRIPTION: Needles or white crystals. (NTP, 1992)	1.0	2.5	5.0	5091.0	507.0	1735.0	903.0	546.0	1498.0	151.0	515.0	281.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3286	AZINPHOS-METHYL	(BLOB)	86-50-0	Azinphos methyl is a colorless brown, waxy or white crystalline solid dissolved in a liquid carrier. It is used as a pesticide. It is added to water to create a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. It is heavier than and insoluble in water. In case of damage to, leaking from containers of this material contact CHEMTREC, 800-424-9300.	1.0	2.5	5.0	5092.0	507.0	1735.0	904.0	546.0	1499.0	151.0	515.0	282.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
3287	AZOXYBENZENE	AZOBENZENE, OXIDE|AZOXYBENZENE|AZOXYBENZIDE|AZOXYDIBENZENE|DIPHENYLDIAZENE 1-OXIDE|DIPHENYLDIAZENE OXIDE|FENAZOX|FENTOXAN|ORDINARY AZOXYBENZENE	495-48-7	PHYSICAL DESCRIPTION: Bright yellow crystals or yellowish-brown solid. (NTP, 1992)	1.0	2.5	5.0	5093.0	507.0	1736.0	906.0	546.0	1500.0	151.0	516.0	284.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3283	ARSENIC IODIDE, SOLID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TETRAETHYL DITHIOPYROPHOSPHATE is incompatible with the following: Strong oxidizers, iron [Note: Corrosive to iron.] (NIOSH, 1997). Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3284	ASBESTOS	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	1,2-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3285	ASYM-DIPHENYLUREA	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to prolonged exposure to heat, light and air. Darkens in storage. Insoluble in water.	3,4-DICHLOROANILINE is incompatible with oxidizing agents, acids, acid chlorides and acid anhydrides. It can decompose at low pH. Hydrochloric acid accelerates decomposition. Reacts at temperatures above 356Â° F in the presence of ferric chloride (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		331		(NTP, 1992)	at 307Â° F	2.8		%	(NTP, 1992)	at 354Â° F	7.2		%	(NTP, 1992)		509		(NTP, 1992)		162	
3286	AZINPHOS-METHYL		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	TIN(IV) OXIDE is non-flammable and non-combustible. Reacts vigorously with strong reducing agents. Incompatible with chlorine trifluoride.					0																			(NIOSH, 2003)	(Decomposes)	2966	
3287	AZOXYBENZENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	CYCLOPENTANE is incompatible with strong oxidizing agents such as chlorine, bromine, fluorine. (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		less than 20	(USCG, 1999)	(approx.)	1.1		%	(USCG, 1999)	(approx.)	8.7		%	(USCG, 1999)		682		(USCG, 1999)		-137	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3283	ARSENIC IODIDE, SOLID																														(NIOSH, 2003)	(as TEDP)	10	mg/m3							Poison	C8H20O5P2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3284	ASBESTOS																																									Class 9	C3HCl2F5		1.0	0.0	1.0	1.0	1.0
3285	ASYM-DIPHENYLUREA	(NTP, 1992)		1		178		mm Hg	(NTP, 1992)		5.59				(NTP, 1992)		1.33		185		(NTP, 1992)		522		760		(NTP, 1992)		162.02						(NTP, 1992)	at 70.7Â°F		less than 1	mg/mL		Poison	Cl2C6H3(NH2)		2.0	0.0	2.0	1.0	1.0
3286	AZINPHOS-METHYL	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		6.95				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		150.7						(NIOSH, 2003)	Insoluble						SnO2		4.0	0.0	4.0	1.0	1.0
3287	AZOXYBENZENE	(NIOSH, 2003)		400		88		mm Hg							(USCG, 1999)		0.74		68		(USCG, 1999)		120.7		760		(USCG, 1999)		70.1						(NIOSH, 2003)	Insoluble				CYP	Flammable Liquid	C5H10		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3288	AZOXYMETHANE	AOM|AZOXYMETHANE|DIMETHYLDIAZINE-1-OXIDE|METHANE, AZOXY	25843-45-2	PHYSICAL DESCRIPTION: Clear oily liquid. (NTP, 1992)	2.5	5.0	2.5	5093.0	507.0	1736.0	906.0	546.0	1500.0	151.0	516.0	284.0	153.0	(BLOB)	Flash point data for this compound are not available. However, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3289	BARIUM AZIDE, [DRY OR WETTED WITH < 50 % WATER]	BARIUM AZIDE, [DRY OR WETTED WITH < 50 % WATER]	18810-58-7	A slurry of white crystals. Considered a flammable solid despite the water content.	1.0	2.5	5.0	5093.0	507.0	1736.0	906.0	546.0	1500.0	151.0	516.0	284.0	153.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3290	BARIUM AZIDE, WETTED WITH NOT LESS THAN 50% WATER	BARIUM AZIDE|BARIUM AZIDE, WETTED WITH NOT LESS THAN 50% WATER|BARIUM AZIDE, [WET, >= 50% WATER]	18810-58-7	A slurry of white crystals. When dry, a high explosive that easily ignited and quick to burn vigorously. Wetting reduces sensitivity to shock and heat. Generates toxic oxides of nitrogen when burned.	1.0	2.5	5.0	5093.0	507.0	1736.0	906.0	546.0	1500.0	151.0	516.0	284.0	153.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam, or Halon extiguisher. (NTP, 1992)
3291	BARIUM BROMATE	BARIUM BROMATE	13967-90-3	A white crystalline solid or powder. Slightly soluble in water and denser than water. Very toxic by ingestion or inhalation. Fire hazard when in contact with organic materials and may explode when heated above 300Â°F. Used as a corrosion inhibitor and to manufacture other chemicals.	1.0	2.5	5.0	5094.0	507.0	1736.0	906.0	546.0	1501.0	151.0	516.0	284.0	153.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes at 210Â° to carbon dioxide and pyrogallol, which can form irritating vapors. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
3292	BARIUM CYANIDE	BARIUM CYANIDE|BARIUM CYANIDE SOLID|BARIUM CYANIDE, [SOLID]|BARIUM DICYANIDE	542-62-1	A white crystalline solid. Toxic by skin absorption through open wounds, by ingestion, and by inhalation of hydrogen cyanide from decomposition. Toxic oxides of nitrogen are produced in fires involving this material.	1.0	2.5	5.0	5094.0	507.0	1736.0	906.0	546.0	1501.0	151.0	516.0	284.0	153.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
3293	BARIUM PERMANGANATE	BARIUM PERMANGANATE	7787-36-2	A purplish colored crystalline solid. Noncombustible, but accelerates burning of combustible material. Finely divided combustible materials may be explosive. May spontaneously ignite on contact with combustible liquids. Contact with sulfuric acid may result in fires or explosions. Used as a disinfectant and to make other permanganates.	1.0	2.5	5.0	5095.0	507.0	1736.0	906.0	546.0	1502.0	151.0	516.0	284.0	153.0	(BLOB)	Literature sources indicate that this chemical is noncombustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3294	BEMEGRIDE	AGIPNON|AHYPNON|ANTIBARBI|BEMEGRID|BEMEGRIDE|BEMIGRIDE|BENEGRID|BENEGRIDE|BETA-ETHYL-BETA-METHYLGLUTARIMIDE|BETA-METHYL-BETA-ETHYLGLUTARIMIDE|2,6-DIOXO-4-METHYL-4-ETHYLPIPERIDINE|3-ETHYL-3-METHYLGLUTARIMIDE|4-ETHYL-4-METHYL-2,6-PIPERIDINEDIONE|ETIMID|EUKRATON|GLUTARIMIDE, -ETHYL-3-METHYL-|GLUTARIMIDE, 3-ETHYL-3-METHYL-|MALYSOL|MAYLUSOL|MEGIBAL|MEGIMID|MEGIMIDE|METHETHARIMIDE|3-METHYL-3-ETHYLGLUTARIMIDE|MIKEDIMIDE|NP 13|NP13|ZENTRALEPTIN	64-65-3	PHYSICAL DESCRIPTION: White crystalline solid. Sublimes at 212Â°F and 200 mm pressure. (NTP, 1992)	1.0	2.5	5.0	5096.0	507.0	1737.0	906.0	546.0	1503.0	151.0	517.0	284.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3288	AZOXYMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]								0																						
3289	BARIUM AZIDE, [DRY OR WETTED WITH < 50 % WATER]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as CYCLOPENTAPHENANTHRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.				0																					(NTP, 1992)		241	
3290	BARIUM AZIDE, WETTED WITH NOT LESS THAN 50% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to air and light, and store it under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble (NTP, 1992).	Light sensitive. Incompatible with heat, air, iron salts, and alkalis. (NTP, 1992). An organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Incompatible with heat, air, iron salts, and alkalis. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0																					(NTP, 1992)		412 to 414	
3291	BARIUM BROMATE		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Water soluble. Gradually darkens on exposure to air and/or light	TANNIC ACID decomposes at 210Â° C to carbon dioxide and pyrogallol, which can form irritating vapors (USCG, 1999). Incompatible with salts of heavy metals, alkaloids, gelatin, albumin, starch, oxidizing substances-e.g., permanganates, chlorates; lime water [Merck].			(NFPA, 2010)		1	1	0	1																	(USCG, 1999)		980				
3292	BARIUM CYANIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and moisture. Keep it away from oxidizing materials and store it under refrigerated temperatures. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Sensitive to moisture and light. Aqueous solutions may be kept for a few hours above room temperature, but hydrolysis occurs at temperatures above 86Â°F. It undergoes both specific acid and specific base catalysis at extreme pHs. Spontaneous hydrolysis in aqueous solutions.	Polymerization can occur at temperatures > 120Â° F. CYCLOPHOSPHAMIDE MONOHYDRATE reacts with strong oxidizing agents, strong acids and strong bases. Benzyl alcohol increases rate of hydrolysis. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0		(NTP, 1992)		greater than 230																(NTP, 1992)		121 to 127	
3293	BARIUM PERMANGANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	TITANIUM DIOXIDE is incompatible with strong oxidizers and strong acids. Violent or incandescent reactions may occur with metals (e.g. aluminum, calcium, magnesium, potassium, sodium, zinc and lithium). (NTP, 1992).								0																	(NTP, 1992)	(decomposes)	3380	
3294	BEMEGRIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Insoluble in water.	CYCLOTRIMETHYLENE TRINITRAMINE is incompatible with strong oxidizing agents, combustible materials and heat. Detonates on contact with mercury fulminate (NIOSH, 1997). Danger of explosion when dry. The self heating and explosive decomposition of the explosive and aqueous alkali (calcium hydroxide) has been studied, [Chem Abs., 1988, 109, 112968].	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)								0		(NIOSH, 2003)	Explodes													(NIOSH, 2003)		401	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3288	AZOXYMETHANE																										(NTP, 1992)	approximately	310000						(NTP, 1992)	at 68Â° F		less than 1	mg/mL				Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3289	BARIUM AZIDE, [DRY OR WETTED WITH < 50 % WATER]																			(NTP, 1992)		667		760		(NTP, 1992)		190.25						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C15H10		3.0	0.0	5.0	1.0	1.0
3290	BARIUM AZIDE, WETTED WITH NOT LESS THAN 50% WATER																									(NTP, 1992)		183.21						(NTP, 1992)	Sparingly soluble				Poison	C9H13NO3	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0
3291	BARIUM BROMATE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		1701											TNA		C76H52O46		3.0	0.0	5.0	1.0	1.0
3292	BARIUM CYANIDE																									(NTP, 1992)		279.1						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL		Poison	C7H15Cl2N2O2P.H2O	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3293	BARIUM PERMANGANATE	(NTP, 1992)	Essentially	0		68		mm Hg							(NTP, 1992)			3.9 to 4.2			(NTP, 1992)			4532 to 5432	760	(NTP, 1992)		79.9		(NIOSH, 2003)	; A potential human carcinogen.	5000	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL			O2Ti		1.0	0.0	1.0	1.0	1.0
3294	BEMEGRIDE	(NIOSH, 2003)		0.0004		230		mm Hg							(NIOSH, 2003)		1.82										(NIOSH, 2003)		222.2						(NIOSH, 2003)	Insoluble				Explosive 1.1D	C3H6N6O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3295	BENZO(E)PYRENE	B(E)P|BENZO(E)PYRENE|1,2-BENZOPYRENE|4,5-BENZOPYRENE|1,2-BENZPYRENE	192-97-2	PHYSICAL DESCRIPTION: Colorless crystals or white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5096.0	507.0	1737.0	906.0	546.0	1503.0	151.0	517.0	284.0	153.0	(BLOB)		
3296	BENZO(F)QUINOLINE	1-AZAPHENANTHRENE|BENZO(F)QUINOLINE|5,6-BENZOQUINOLINE|5,6-BENZO[F]QUINOLINE|BETA-NAPHTHOQUINALDINE|BETA-NAPHTHOQUINOLINE|NAPHTHOPYRIDINE	85-02-9	PHYSICAL DESCRIPTION: Yellow crystals or white powder. Characteristic irritating odor. (NTP, 1992)	1.0	2.5	5.0	5097.0	507.0	1737.0	906.0	546.0	1504.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3297	BENZO(K)FLUORANTHENE	B (K) F|B K F|B(K)F|8,9-BENZFLUORANTHENE|BENZO(K) FLUORANTHENE|BENZO(K)FLUORANTHENE|11,12-BENZO(K)FLUORANTHENE|11,12-BENZOFLUORANTHENE|8,9-BENZOFLUORANTHENE|11,12-BENZOFLURANTHENE|2,3,1',8'-BINAPHTHYLENE|2,3,1',8'-BINAPTHYLENE|BKF|DIBENZO(B,JK)FLUORENE|DIBENZO[B,JK]FLUORENE	207-08-9	PHYSICAL DESCRIPTION: Pale yellow needles or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5097.0	507.0	1737.0	906.0	546.0	1504.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3298	BENZO(B)FLUORANTHENE	B (B) F|B B F|B E F|B(B)F|B(E)F|BBF|BEF|BENZ(E)ACEPHENANTHRYLENE|3,4-BENZ(E)ACEPHENANTHRYLENE|2,3-BENZFLUORANTHENE|3,4-BENZFLUORANTHENE|BENZO(B) FLUORANTHENE|BENZO(B)FLUORANTHENE|BENZO(E)FLUORANTHENE|2,3-BENZOFLUORANTHENE|3,4-BENZOFLUORANTHENE|BENZO[B]FLUORANTHENE|BENZO[E]FLUORANTHENE|3,4-BENZ[E]ACEPHENANTHRYLENE	205-99-2	PHYSICAL DESCRIPTION: Needles or yellow fluffy powder. (NTP, 1992)	1.0	2.5	5.0	5097.0	507.0	1737.0	906.0	546.0	1504.0	151.0	517.0	284.0	153.0	(BLOB)	The flash point of this compound has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3299	BENZO[GHI]PERYLENE	BENZO (G,H,I) PERYLENE|BENZO(G,H,I)PERYLENE|BENZO(GHI)PERYLENE|1,12-BENZOPERYLENE|BENZO[GHI]PERYLENE|1,12-BENZPERYLENE	191-24-2	Colorless to white crystalline solid. Water insoluble.	1.0	2.5	5.0	5097.0	507.0	1737.0	906.0	546.0	1504.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3300	BENZYL IODIDE	ALPHA-IODOTOLUENE|BENZYL IODIDE|IODOMETHYL)BENZENE|IODOPHENYLMETHANE|TOLUENE, ALPHA-IODO-	620-05-3	Low-melting crystals or a colorless liquid. Melting point 34.1Â°C. Insoluble in water and denser (1.74 g / cm3) than water. Hence sinks in water. Toxic by ingestion, inhalation and skin absorption. Very irritating to skin and eyes.	1.0	2.5	5.0	5098.0	507.0	1737.0	906.0	546.0	1505.0	151.0	517.0	284.0	153.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3301	BERYLLIUM CHLORIDE	BERYLLIUM CHLORIDE|BERYLLIUM DICHLORIDE	7787-47-5	White to green solid with a sharp odor. (USCG, 1999)	1.0	2.5	5.0	5099.0	507.0	1737.0	906.0	546.0	1506.0	151.0	517.0	284.0	153.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3295	BENZO(E)PYRENE		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																						
3296	BENZO(F)QUINOLINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slighthy soluble in water.	D & C GREEN 5 is incompatible with strong oxidizing agents. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]							0																	(NTP, 1992)			455 to 460
3297	BENZO(K)FLUORANTHENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																	(NTP, 1992)	(Sublimes)	320	
3298	BENZO(B)FLUORANTHENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A brominated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.							0																						
3299	BENZO[GHI]PERYLENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																	(NTP, 1992)			greater than 572
3300	BENZYL IODIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as TETRAETHYL DITHIOPYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This compound is incompatible with the following: Strong oxidizers, iron [Note: Corrosive to iron.] (NIOSH, 1997).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
3301	BERYLLIUM CHLORIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. It decomposes in water. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff.	Isocyanates and thioisocyanates, such as 3-CHLORO-4-METHYLPHENYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3295	BENZO(E)PYRENE																									(NTP, 1992)		378.33						(NTP, 1992)	Soluble						C7H17Cl2N2O3P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3296	BENZO(F)QUINOLINE																									(NTP, 1992)		622.6						(NTP, 1992)	at 70Â° F		5 to 10	mg/mL			C28H22N2O8S2.2Na	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3297	BENZO(K)FLUORANTHENE																									(NTP, 1992)		273.29						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C18H11NO2	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3298	BENZO(B)FLUORANTHENE																									(NTP, 1992)		324.84						(NTP, 1992)	Insoluble (<1 mg/ml at 70.7Â° F)						C5H9Br3O	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3299	BENZO[GHI]PERYLENE																													(NIOSH, 2003)	(as Zr)	50	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C21H21NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3300	BENZYL IODIDE																													(NIOSH, 2003)	(as TEDP)	10	mg/m3							Poison	C8H20O5P2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3301	BERYLLIUM CHLORIDE																																							Poison	C8H6ClNO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3302	BERYLLIUM FLUORIDE	BERYLLIUM DIFLUORIDE|BERYLLIUM FLUORIDE	7787-49-7	Odorless white solid. Denser than water. (USCG, 1999)	1.0	2.5	5.0	5099.0	507.0	1737.0	906.0	546.0	1506.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3303	BERYLLIUM NITRATE	BERYLLIUM DINITRATE|BERYLLIUM NITRATE|BERYLLIUM NITRATE (BE(NO3)2)|BERYLLIUM NITRATE TRIHYDRATE	13597-99-4	Beryllium nitrate is a white to pale yellow crystalline solid. It is soluble in water. It is noncombustible, but it will accelerate the burning of combustible materials. If large quantities of the material are involved or the material is finely divided, an explosion may result. Prolonged exposure to fire or heat may result in an explosion. Toxic oxides of nitrogen are produced in fires involving this material. It is used in chemical analysis.	1.0	2.5	5.0	5099.0	507.0	1737.0	906.0	546.0	1506.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3304	BETA-BHC	1A,2B,3A,4B,5A,6B-HEXACHLOROCYCLOHEXANE|B-BHC|BENZENE-CIS-HEXACHLORIDE|BETA-1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE|BETA-666|BETA-BENZENE HEXACHLORIDE|BETA-BENZENEHEXACHLORIDE|BETA-BHC|BETA-HCH|BETA-HEXACHLORAN|BETA-HEXACHLOROBENZENE|BETA-HEXACHLOROCYCLOHEXANE|BETA-ISOMER|BETA-LINDANE|CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, BETA-|TRANS-ALPHA-BENZENEHEXACHLORIDE	319-85-7	Colorless crystals. Corrosive to aluminum and many other metals.	1.0	2.5	5.0	5099.0	507.0	1737.0	906.0	546.0	1506.0	151.0	517.0	284.0	153.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3305	BETA-BROMO-BETA-NITROSTYRENE	BETA-BROMO-BETA-NITROSTYRENE|(2-BROMO-2-NITROETHENYL)BENZENE|GIV-GARD|STYRENE, BETA-BROMO-BETA-NITRO-|10245-W	7166-19-0	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3306	BETA-BUTYROLACTONE	BETA-BUTYROLACTONE|(+/-)-BETA-BUTYROLACTONE|(.+-.)-BETA-BUTYROLACTONE|BETA-METHYL-BETA-PROPIOLACTONE|BETA-METHYLPROPIOLACTONE|(.+-.)-BETA-METHYLPROPIOLACTONE|BUTANOIC ACID, 3-HYDROXY-, BETA-LACTONE|BUTYRIC ACID, 3-HYDROXY-, BETA-LACTONE|DL-3-BUTYROLACTONE|DL-3-HYDROXYBUTANOIC ACID BETA-LACTONE|DL-3-HYDROXYBUTYRIC ACID BETA-LACTONE|DL-3-HYDROXYBUTYRIC ACID LACTONE|DL-4-METHYL-2-OXETANONE|DL-BETA-BUTYROLACTONE|DL-BETA-METHYL-BETA-PROPIOLACTONE|DL-BETA-METHYLPROPIOLACTONE|DL-HYDROXYBUTYRIC ACID LACTONE|3-	3068-88-0	PHYSICAL DESCRIPTION: Clear colorless liquid with an acetone-like odor. (NTP, 1992)	2.5	5.0	2.5	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	(BLOB)	Special Hazards of Combustion Products: Vapors and fumes from fires are hazardous. They include sulfur dioxide and phosphoric acid. Behavior in Fire: Gives off hazardous fumes. Area surrounding fire should be diked to prevent water runoff. (USCG, 1999)	Fire Extinguishing Agents: Dry chemical, carbon dioxide, water spray, foam (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3302	BERYLLIUM FLUORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	3-CHLORONITROBENZENE can react with oxidizing materials. (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NFPA, 2010)		261																(NTP, 1992)		115	
3303	BERYLLIUM NITRATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)	(decomposes)		356 to 358
3304	BETA-BHC	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)			149 to 172
3305	BETA-BROMO-BETA-NITROSTYRENE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable.	3-DIETHYLAMINOPROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NFPA, 2010)		138																				
3306	BETA-BUTYROLACTONE	Neutralizing Agents for Acids and Caustics: Liquid bleach solution for decontamination. (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	MALATHION is a yellow to brown liquid that solidifies at 2.9Â° C, moderately toxic. Organic phosphate insecticide, acts as an inhibitor of cholinesterase. When heated to decomposition it emits toxic fumes of oxides of sulfur and phosphorus [Lewis, 3rd ed., 1993, p. 789].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 325																(NTP, 1992)		37.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3302	BERYLLIUM FLUORIDE														(NTP, 1992)		1.343				(NTP, 1992)			455 to 457	760		(NTP, 1992)		157.56						(NTP, 1992)	Insoluble					Poison	C6H4ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3303	BERYLLIUM NITRATE																										(NTP, 1992)		305.23												Poison	C13H18Cl2N2O2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	4.0	1.0	1.0
3304	BETA-BHC																				(NTP, 1992)			529 to 536	760		(NTP, 1992)		165.24						(NTP, 1992)	at 68.9Â°F		less than 1	mg/mL		Poison	C10H15NO	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3305	BETA-BROMO-BETA-NITROSTYRENE																																								Flammable Liquid|Corrosive	C7H8N2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3306	BETA-BUTYROLACTONE	(NTP, 1992)		4.00E-05		86		mm Hg							(USCG, 1999)		1.234		77		(NTP, 1992)	(decomposes)		313 to 315	0.7		(NTP, 1992)		330.36		(NIOSH, 2003)		250	mg/m3	(NTP, 1992)	at 70.7Â°F		less than 1	mg/mL	MLT	Poison	C10H19O6PS2		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3307	BETA-NITROSTYRENE	BETA-NITROPHENYLETHYLENE|BETA-NITROSTYRENE|BNS|GAMMA-NITROSTYRENE|NCI-C02211|2-NITRO-1-PHENYLETHYLENE|1-NITRO-2-PHENYLETHENE|1-NITRO-2-PHENYLETHYLENE|(2-NITROETHENYL)BENZENE|3-NITROSTYRENE|(2-NITROVINYL)BENZENE|OMEGA-NITROSTYRENE|1-PHENYL-2-NITROETHENE|STYRENE, BETA-NITRO-	102-96-5	PHYSICAL DESCRIPTION: Yellow prisms (from ethanol) or yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3308	BIS (TRICHLOROMETHYL) SULFONE	BIS (TRICHLOROMETHYL) SULFONE|BIS(TRICHLOROMETHYL) SULFONE|CHLOROSULFONA|HEXACHLORODIMETHYL SULFONE|N 1386|PCP 23052|SLIMICIDE E|SULFONE, BIS(TRICHLOROMETHYL)	3064-70-8	An off-white powdered solid with an aromatic odor. Contact may irritate skin, eyes or mucous membranes. May be toxic by ingestion, inhalation or skin absorption. Used to make other chemicals.	1.0	2.5	5.0	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide, or dry chemical extinguisher. (NTP, 1992)
3309	BIS(2-CHLORO-1-METHYLETHYL)ETHER	BETA,BETA'-DICHLORODIISOPROPYL ETHER|BIS(1-CHLORO-2-PROPYL) ETHER|BIS(2-CHLORO-1-METHYLETHYL) ETHER|BIS(2-CHLORO-1-METHYLETHYL)ETHER|BIS(2-CHLOROISOPROPYL) ETHER|BIS|BETA-CHLOROISOPROPYL)ETHER|(2-CHLORO-1-METHYLETHYL) ETHER|DCIP|DCIP (NEMATOCIDE)|DICHLORODIISOPROPYL ETHER|2,2'-DICHLORODIISOPROPYL ETHER|DICHLOROISOPROPYL ETHER|2,2'-DICHLOROISOPROPYL ETHER|ETHER, BIS(2-CHLORO-1-METHYLETHYL)|NCI-C50044|NEMAMORT|2,2'-OXYBIS(1-CHLOROPROPANE)|PROPANE, 2,2'-OXYBIS(1-CHLORO-	108-60-1	PHYSICAL DESCRIPTION: Colorless to light brown liquid. Odor threshold concentration 200 Âµg/L. (NTP, 1992)	2.5	5.0	2.5	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	(BLOB)	Flash point data on this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3310	BIS(2-CHLOROETHOXY)METHANE, [LIQUID]	BIS(2-CHLOROETHOXY) METHANE|BIS(2-CHLOROETHOXY)METHANE|BIS(2-CHLOROETHOXY)METHANE, [LIQUID]|BIS(2-CHLOROETHYL) FORMAL|BIS(BETA-CHLOROETHYL) FORMAL|BIS(BETA-CHLOROETHYL)FORMAL|DI(2-CHLOROETHOXY)METHANE|DI-2-CHLOROETHYL FORMAL|1,7-DICHLORO-3,5-DIOXAHEPTANE|DICHLORODIETHYL FORMAL|DICHLOROETHYL FORMAL|FORMALDEHYDE BIS(2-CHLOROETHYL) ACETAL|FORMALDEHYDE BIS(BETA-CHLOROETHYL) ACETAL|METHANE, BIS(2-CHLOROETHOXY)-|1,1'-[METHYLENE BIS(OXY)]BIS[2-CHLOROETHANE]	111-91-1	A colorless liquid. Boiling point 217.5Â°C, Flash point 230Â°F. Density 1.23 g / cm3. May be toxic by ingestion or inhalation. Severely irritates skin, eyes, and mucous membranes. Used as a solvent.	2.5	5.0	2.5	5099.0	507.0	1738.0	906.0	546.0	1506.0	151.0	518.0	284.0	153.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3311	BIS(CYCLOPENTADIENYL)VANADIUM CHLORIDE	BIS(CYCLOPENTADIENYL)VANADIUM CHLORIDE|CHLOROBIS(CYCLOPENTADIENYL)VANADIUM|CHLOROBIS(ETA-5-CYCLOPENTADIENYL)VANADIUM|CHLOROBIS(ETA5-CYCLOPENTADIENYL)VANADIUM|CHLOROBIS(PI-CYCLOPENTADIENYL)VANADIUM|CHLORODI-PI-CYCLOPENTADIENYLVANADIUM|DICYCLOPENTADIENYLCHLOROVANADIUM|DICYCLOPENTADIENYLVANADIUM CHLORIDE|VANADOCENE CHLORIDE|VANADOCENE MONOCHLORIDE	12701-79-0	Indigo crystals.	1.0	2.5	5.0	5100.0	507.0	1738.0	906.0	546.0	1507.0	151.0	518.0	284.0	153.0	INHALATION: Move to fresh air. If not breathing, give artificial respiration. if breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min.; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. INGESTION: If victim is conscious, have victim drink water or milk. DO NOT INDUCE VOMITING. If victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: May contain toxic fluoride fumes. Behavior in Fire: May produce toxic and irritating fluoride fumes. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
3312	BISMUTH TELLURIDE	BISMUTH SESQUITELLURIDE|BISMUTH TELLURIDE|BISMUTH TELLURIDE, UNDOPED|BISMUTH TRITELLURIDE|BISMUTH(3+) TELLURIDE|DIBISMUTH TRITELLURIDE|TELLUROBISMUTHITE	1304-82-1	Gray or black hexagonal platelets with a metallic luster or gray powder. mp: 586Â°C. Density: 7.8 g/cm3. An alloy of two metallic elements. Sometimes this is doped with selenium sulfide. The selenium sulfide (SeS) dopant alters the electrical properties, but has too low a concentration to affect the chemical properties.	1.0	2.5	5.0	5100.0	507.0	1738.0	906.0	546.0	1507.0	151.0	518.0	284.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3307	BETA-NITROSTYRENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to light and air. (NTP, 1992). Insoluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																								(NTP, 1992)		82	
3308	BIS (TRICHLOROMETHYL) SULFONE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	D-ALPHA-TOCOPHERYL ACID SUCCINATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																								(NTP, 1992)		169 to 171	
3309	BIS(2-CHLORO-1-METHYLETHYL)ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to light and air. Somewhat soluble in water at room temperature. Freely soluble in hot water [Merck]. Slightly soluble in cold water.	MALTOL is weakly acidic. Reacts with bases. May react with reducing agents. Volatile with steam. (NTP, 1992)					0																								(NTP, 1992)		324 to 327	
3310	BIS(2-CHLOROETHOXY)METHANE, [LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		187.7 to 189.5	
3311	BIS(CYCLOPENTADIENYL)VANADIUM CHLORIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Highly flammable.	3-FLUOROTOLUENE may be incompatible with strong oxidizing and reducing agents. Also may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Generates toxic fluoride fumes when burned.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		49																				(USCG, 1999)		-125.9	
3312	BISMUTH TELLURIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to light and moisture. (NTP, 1992). Water soluble.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																								(NTP, 1992)		118 to 120	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3307	BETA-NITROSTYRENE														(NTP, 1992)		0.9507		78.1		(NTP, 1992)		363		0.01		(NTP, 1992)		472.75						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C31H52O3		3.0	0.0	4.0	1.0	1.0
3308	BIS (TRICHLOROMETHYL) SULFONE																									(NTP, 1992)		530.76						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C33H54O5		4.0	0.0	5.0	1.0	1.0
3309	BIS(2-CHLORO-1-METHYLETHYL)ETHER																				(NTP, 1992)	(Sublimes)	199		760		(NTP, 1992)		126.12						(NTP, 1992)	at 72Â° F		1 to 10	mg/mL			C6H6O3		5.0	0.0	5.0	1.0	1.0
3310	BIS(2-CHLOROETHOXY)METHANE, [LIQUID]																				(NTP, 1992)	Decomposes at 1449Â° F					(NTP, 1992)		150.18						(NTP, 1992)	at 75Â° F		10 to 50	mg/mL			C8H10N2O		4.0	0.0	4.0	1.0	1.0
3311	BIS(CYCLOPENTADIENYL)VANADIUM CHLORIDE	(USCG, 1999)		42.39				mm Hg							(USCG, 1999)		0.9986		68		(USCG, 1999)		240.8		760		(USCG, 1999)		110.13											FTO	Flammable Liquid	C7H7F		1.0	0.0	1.0	1.0	1.0
3312	BISMUTH TELLURIDE																									(NTP, 1992)		201.99						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL			C3H7IO2	Cellulose-Based Absorbents	2.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3313	BLEOMYCIN	BLENOXANE|BLEOMYCIN|NSC 125066	11056-06-7	PHYSICAL DESCRIPTION: Colorless or yellowish powder. Possible bluish color depending on copper content. (NTP, 1992)	1.0	2.5	5.0	5101.0	507.0	1738.0	906.0	546.0	1508.0	151.0	518.0	284.0	153.0	(BLOB)	Information concerning the flash point of this chemical is not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
3314	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX	814-61-9	A colorless liquid with a pungent, irritating odor. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5102.0	507.0	1738.0	906.0	546.0	1509.0	151.0	518.0	284.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
3315	BROMADIOLONE	BROMADIALONE|BROMADIOLONE|BROMONE|CANADIEN 2000|CONTRAC|COUMARIN, 3-(3-(4'-BROMO-1,1'-BIPHENYL-4-YL)-3-HYDROXY-1-PHENYLPROPYL)-4-HYDROXY-|COUMARIN, 3-(ALPHA-(P-(P-BROMOPHENYL)- BETA-HYDROXYPHENETHYL)BENZYL)-4-HYDROXY-|COUMARIN, 3-[ALPHA-[P-(P-BROMOPHENYL)-BETA-HYDROXYPHENETHYL]BENZYL]-4-HYDROXY-(2H-1-BENZOPYRAN-2-ONE, 3-(3-(4'BROMO(1,1'-BIPHENYL)-4-YL)-3-HYDROXY-1-PHENYLPROPYL)-4-HYDROXY-|MAK|RATIMUS(TAMOGRAM)|SUPOPERATS|SUPER-CAID|SUPER-ROZOL|TERMUS	28772-56-7	Yellowish powder. Used as an anticoagulant rodenticide. (EPA, 1998)	1.0	2.5	5.0	5102.0	507.0	1738.0	906.0	546.0	1509.0	151.0	518.0	284.0	153.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3316	BROMINE PENTAFLUORIDE	BROMINE FLUORIDE|BROMINE PENTAFLUORIDE	7789-30-2	A colorless, fuming liquid with a pungent odor. Used to make other chemicals and in rockets. Very toxic by inhalation. Corrosive to metals and tissue. Will accelerate the burning of combustible material. If the containers are involved in a fire they may rupture violently and rocket.	2.5	5.0	2.5	5103.0	507.0	1739.0	906.0	546.0	1510.0	151.0	519.0	284.0	153.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3317	BROMINE TRIFLUORIDE	BROMINE TRIFLUORIDE	7787-71-5	A colorless to yellow, fuming liquid with a pungent odor. Solidifies at 48Â°F. Very toxic by inhalation and corrosive to metals and tissue. Containers exposed to prolonged heat may violently rupture and rocket.	2.5	5.0	2.5	5104.0	507.0	1739.0	906.0	546.0	1511.0	151.0	519.0	284.0	153.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3313	BLEOMYCIN	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			428 to 432
3314	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	MARBLE has generally low chemical reactivity. Is non-combustible. Decomposes at high temperature (825Â°C) to give gaseous carbon dioxide and calcium oxide (quicklime). Incompatible with acids, alum, ammonium salts, fluorine. Reacts with acids and acidic salts to generate gaseous carbon dioxide with effervescence (bubbling). The reaction is rapid and exothermic with concentrated solutions of acids. The effervescence can create extensive foaming. Ignites on contact with fluorine.						0																						(NIOSH, 2003)	(Decomposes)		1517 to 2442
3315	BROMADIOLONE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber (NTP, 1992)	Highly flammable. Water soluble.	3-METHYLAMINOPROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		96																						
3316	BROMINE PENTAFLUORIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. On contact with water it can evolve toxic and corrosive hydrogen fluoride, although it is relatively insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive; halogenated aliphatic compounds are moderately or very reactive. Both subgroups generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2		(NFPA, 2010)		117																		
3317	BROMINE TRIFLUORIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Hydrolyzed in water with formation of mono. di, and triethyl orthophosphates, water solutions attack metal surfaces. Reacts slowly with water to form phosphoric acid	Organophosphates, such as TETRAETHYL PYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3313	BLEOMYCIN																										(NTP, 1992)		181.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C8H7NO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3314	BORON TRIFLUORIDE PROPIONIC ACID COMPLEX	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			2.7 to 2.9			(NIOSH, 2003)	Decomposes				(NIOSH, 2003)		100.1						(NIOSH, 2003)		0.001		%			CaCO3		2.0	0.0	3.0	1.0	1.0
3315	BROMADIOLONE														(NTP, 1992)		0.844				(NTP, 1992)			282 to 286	760		(NTP, 1992)		88.15						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C4H12N2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3316	BROMINE PENTAFLUORIDE																																									Flammable Liquid	C7H4ClF3		2.0	0.0	3.0	1.0	1.0
3317	BROMINE TRIFLUORIDE																															(NIOSH, 2003)	(as TEPP)	5	mg/m3							Poison	(C2H5)4P2O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3318	BROMOACETONE	ACETONYL BROMIDE|ACETYLMETHYL BROMIDE|ALPHA-BROMOACETONE|ALPHA-BROMOPROPANONE|BROMO-2-PROPANONE|1-BROMO-2-PROPANONE|BROMOACETONE|BROMOACETONE, [LIQUID]|1-BROMOACETONE|BROMOMETHYL METHYL KETONE|MONOBROMOACETONE|2-PROPANONE, BROMO-	598-31-2	A clear colorless liquid turning violet on standing, even in the absence of air, and decomposing to a black resinous mass on long standing. Denser than water and poorly soluble in water. Hence sinks in water. A violent lachrymator--low concentrations are very irritating to the eyes; high concentrations or prolonged exposure at lower concentrations may have adverse health effects. Very toxic by inhalation. Contact with the liquid causes painful burns. Used as a chemical war gas.	2.5	5.0	2.5	5104.0	507.0	1739.0	906.0	546.0	1511.0	151.0	519.0	284.0	153.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3319	BROMOCHLOROACETALDEHYDE	BROMOCHLOROACETALDEHYDE	98136-99-3		2.5	5.0	2.5	5104.0	507.0	1739.0	906.0	546.0	1511.0	151.0	519.0	284.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3320	BROMOCHLOROACETONITRILE	BROMOCHLOROACETONITRILE	83463-62-1	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5105.0	507.0	1739.0	907.0	546.0	1512.0	151.0	519.0	285.0	153.0	(BLOB)	Special Hazards of Combustion Products: Emits highly toxic fumes. Behavior in Fire: Vapor may form explosive mixture with air. (USCG, 1999)	Fire Extinguishing Agents: CO 2 , dry chemical, foam, water spray. (USCG, 1999)
3321	BROMOPICRIN	BROMOPICRIN|NITROBROMOFORM|NITROTRIBROMOMETHANE|TRIBROMONITROMETHANE	464-10-8	PHYSICAL DESCRIPTION: Prismatic crystals or oily colorless or clear dark amber liquid. (NTP, 1992)	1.0	2.5	5.0	5106.0	507.0	1739.0	907.0	546.0	1513.0	151.0	519.0	285.0	153.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3322	BROMOTRIFLUOROETHYLENE	1-BROMO-1,2,2-TRIFLUOROETHYLENE|BROMOTRIFLUOROETHENE|BROMOTRIFLUOROETHYLENE|ETHENE, BROMOTRIFLUORO-|ETHYLENE, BROMOTRIFLUORO-|1,2,2-TRIFLUORO-2-BROMOETHYLENE|TRIFLUOROBROMOETHYLENE|TRIFLUOROVINYL BROMIDE	598-73-2	A colorless gas (boiling point -2 to 0Â°C) shipped in cylinders or, if polymerized, a liquid. Heating the containers of gas may cause them to rupture violently and rocket. Polymeric bromotrifluoroethylene is a clear oily liquid of widely variable viscosity and density.	5.0	1.0	1.0	5106.0	507.0	1739.0	907.0	546.0	1513.0	151.0	519.0	285.0	153.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3318	BROMOACETONE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Easily ignited. Burns very vigorously to generate toxic oxides of nitrogen. Slightly soluble in water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
3319	BROMOCHLOROACETALDEHYDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	1,2-DIMETHYL-4-NITROBENZENE is incompatible with strong oxidizers and strong bases.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		225													(NTP, 1992)						86 to 88
3320	BROMOCHLOROACETONITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Water soluble.	M-CRESOL is sensitive to air, light and heat. It is also hygroscopic. This chemical can react vigorously with strong oxidizers and strong bases. It reacts violently with nitric acid, oleum, chlorosulfonic acid, metals and strong acids. If the water content is below approximately 0.3% and the temperature above 248Â° F, the corrosion of aluminum and its alloys may occur violently. It will attack some forms of plastics, coatings and rubber. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		187		(NTP, 1992)		1.06		%	(NTP, 1992)		1.35		%	(USCG, 1999)		1038		(NTP, 1992)		52.7	
3321	BROMOPICRIN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Hydrolyzed in water with formation of mono. di, and triethyl orthophosphates, water solutions attack metal surfaces. Reacts slowly with water to form phosphoric acid	Organophosphates, such as TETRAETHYL PYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3322	BROMOTRIFLUOROETHYLENE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3318	BROMOACETONE																																								Explosive 1.1D	OC(NH2)2.HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3319	BROMOCHLOROACETALDEHYDE														(NTP, 1992)		1.117				(NTP, 1992)		489		748		(NTP, 1992)		151.17						(NTP, 1992)	at 59Â° F		1 to 5	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3320	BROMOCHLOROACETONITRILE	(NTP, 1992)	; 1 mm Hg at 126Â° F	0.04		68		mm Hg	(NTP, 1992)		3.72				(USCG, 1999)		1.0336		68		(NTP, 1992)		397		760		(NTP, 1992)		108.14		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	CRL	Poison|Corrosive	C7H8O		3.0	0.0	4.0	1.0	1.0
3321	BROMOPICRIN																															(NIOSH, 2003)	(as TEPP)	5	mg/m3							Poison	C8H20O7P2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3322	BROMOTRIFLUOROETHYLENE																																								Flammable Solid	CH4N2O.HNO3|CH4N2O.xHNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3323	BUTYL METHYL ETHER	ALPHA-METHOXYBUTANE|BUTYL METHYL ETHER|ETHER, BUTYL METHYL|1-METHOXYBUTANE|METHYL BUTYL ETHER|METHYL N-BUTYL ETHER|N-BUTYL METHYL ETHER	628-28-4	A clear liquid. Less dense than water and slightly soluble in water. Vapors heavier than air. May be toxic by inhalation or skin absorption and irritating to skin. Used as a gasoline additive.	2.5	5.0	2.5	5106.0	507.0	1739.0	907.0	546.0	1513.0	151.0	519.0	285.0	153.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3324	BUTYL PEROXYDICARBONATE	BUTYL PEROXYDICARBONATE|DI-N-BUTYL PEROXYDICARBONATE|DIBUTYL PEROXYDICARBONATE	16215-49-9	A colorless liquid. Shipped or stored with not more than 62% peroxide in solution of organic solvent. Crystallizes when dry. May explode from heat, shock or friction, when dry. Handle with extreme care.	2.5	5.0	2.5	5106.0	507.0	1739.0	907.0	546.0	1513.0	151.0	519.0	285.0	153.0	(BLOB)	Extremely toxic fumes of unburned material and phosphoric acid are formed in fires. Incompatible with strong oxidizers. (EPA, 1998)	Wear self-contained breathing apparatus and full protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
3325	BUTYRALDOXIME	BUTANALDOXIME|BUTANALOXIME|BUTYLALDOXIME|BUTYRALDEHYDE OXIME|BUTYRALDEHYDE, OXIME|BUTYRALDOXIME|EXKIN 1|EXKIN NO. 1 ANTI-SKINNING AGENT|N-BUTYLALDOXIME|N-BUTYRALDEHYDE OXIME|N-BUTYRALDOXIME|SKINO #1|TROYKYD ANTI-SKIN BTO|USAF AM-6	110-69-0	A liquid. Flash point 140Â°F. Slightly less dense than water. Vapors heavier than air. Used to make plastics and rubber.	2.5	5.0	2.5	5107.0	507.0	1739.0	907.0	546.0	1514.0	151.0	519.0	285.0	153.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3326	C.I. DIRECT BLUE 8	AMANIL AZURINE G|ATLANTIC AZURINE G|ATUL DIRECT BLUE G|BELAMINE AZURINE G|BENZANIL AZURINE G|BENZANOL AZURINE G|BENZO AZURINE G|BENZO AZURINE GA-C|BENZO AZURINE GS|BENZOAZURIN|BRASILAMINA BLUE G|C.I. 24140|C.I. DIRECT BLUE 8|C.I. DIRECT BLUE 8, DISODIUM SALT|CALCOMINE AZURINE BT|CHLORAMINE BLUE BT|CHLORAZOL AZURINE|CHLORAZOL AZURINE G|CHROME LEATHER BLUE BT|COPPER BLUE G|DIACOTTON AZURINE G|DIAMINE AZURINE G|DIANIL AZURINE G|DIAPHTAMINE AZURINE G|DIAZOL BLUE J|3,3'-((3,3'-DIMETHOXY(1,1'-BIPHENYL)-4,4'-DIYL)BIS(AZO))BIS(4-HYDROXY-1-NAPHTHALENESULFONIC	2429-71-2	PHYSICAL DESCRIPTION: Bluish-black powder. (NTP, 1992)	1.0	2.5	5.0	5107.0	507.0	1739.0	907.0	546.0	1514.0	151.0	519.0	285.0	153.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
3327	C.I. DIRECT ORANGE 6	AMANIL TOLUYLENE ORANGE Y|BENZO ORANGE PG|C.I. 23375|C.I. DIRECT ORANGE 6|C.I. DIRECT ORANGE 6, DISODIUM SALT|5-((4'-((2,6-DIAMINO-3-METHYL-5-SULFOPHENYL)AZO)-3,3'-DIMETHYL(1,1'-BIPHENYL)-4-YL)AZO)-2-HYDROXYBENZOIC ACID, DISODIUM SALT|DIPHENYL ORANGE GG|DIRECT ORANGE 6|DIRECT ORANGE G|DIRECT ORANGE T|ERIE ORANGE Y|NIPPON ORANGE GG|TOLUYLENE ORANGE G	6637-88-3	PHYSICAL DESCRIPTION: Reddish-brown powder. (NTP, 1992)	1.0	2.5	5.0	5107.0	507.0	1739.0	907.0	546.0	1514.0	151.0	519.0	285.0	153.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3323	BUTYL METHYL ETHER	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water. This chemical may be sensitive to prolonged exposure to air.	VALERALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. This material is incompatible with oxidizing agents, strong bases and strong reducing agents. (NTP, 1992)	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		53.6														(NTP, 1992)		-132.7	
3324	BUTYL PEROXYDICARBONATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Hygroscopic. Hydrolyzed in water with formation of mono. di, and triethyl orthophosphates, water solutions attack metal surfaces. Soluble in water. Reacts slowly with water to form phosphoric acid.	TETRAETHYL PYROPHOSPHATE reacts slowly with water to form HPO3; corrosive to aluminum; slowly corrosive to copper, brass, zinc and tin; incompatible with strong oxidizers (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0					(EPA, 1998)	Not combustible.				(EPA, 1998)	Not combustible.							(EPA, 1998)		32	
3325	BUTYRALDOXIME	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very slightly soluble in water.	MERCURIC SUBSULFATE, [SOLID] is soluble in acids. Incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
3326	C.I. DIRECT BLUE 8	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)	(decomposes)	376	
3327	C.I. DIRECT ORANGE 6	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.					0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3323	BUTYL METHYL ETHER	(NTP, 1992)		50		77		mm Hg	(NTP, 1992)		3				(USCG, 1999)		0.811		68		(NTP, 1992)			216 to 217	760		(NTP, 1992)		86.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	BUF	Flammable Liquid	C5H10O	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3324	BUTYL PEROXYDICARBONATE	(EPA, 1998)		0.00047		86		mm Hg							(EPA, 1998)		1.185		68		(EPA, 1998)		280		2.3		(EPA, 1998)		290.22		(NIOSH, 2003)	(as TEPP)	5	mg/m3	(NTP, 1992)	Miscible (decomposes)				TEP	Poison	C8H20O7P2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3325	BUTYRALDOXIME																														(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	HgSO4.2HgO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3326	C.I. DIRECT BLUE 8																				(NTP, 1992)		275.22											(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Solid	C12H9N3O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3327	C.I. DIRECT ORANGE 6																				(NTP, 1992)		235.3											(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C16H13NO	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3328	C.I. DISPERSE BLUE 1	ACETATE BLUE G|ACETOQUINONE BLUE L|ACETOQUINONE BLUE R|ACETYLON FAST BLUE G|AMACEL BLUE GG|AMACEL PURE BLUE B|ANTHRAQUINONE, 1,4,5,8-TETRAAMINO-|ARTISIL BLUE SAP|ARTISIL BLUE SAP CONC|BRASILAZET BLUE GR|C.I. 64500|C.I. DISPERSE BLUE 1|C.I. SOLVENT BLUE 18|CELANTHRENE PURE BLUE BRS|CELLITON BLUE BB-C|CELLITON BLUE EXTRA|CELLITON BLUE G|CELLITON BLUE GA-C|CIBACET SAPPHIRE BLUE G|CILLA BLUE EXTRA|DIACELLITION FAST BLUE R|DIACELLITON FAST BLUE R|DISPERSE BLUE 1|DISPERSE BLUE NO. 1|DURANOL BRILLIANT BLUE CB|FENACET BLUE G|GRASOL BLUE 2GS|KAYALON FAST BLUE BR|MICROSETILE BLUE	2475-45-8	PHYSICAL DESCRIPTION: Blue-black microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	5108.0	507.0	1740.0	907.0	546.0	1515.0	151.0	520.0	285.0	153.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3329	C.I. SOLVENT YELLOW 34	AURAMINE|C.I. SOLVENT YELLOW 34	492-80-8	Yellow crystalline powder or yellow needles.	1.0	2.5	5.0	5108.0	507.0	1740.0	907.0	546.0	1515.0	151.0	520.0	285.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3330	CACODYLIC ACID	ANSAR|ANSAR 138|ARSAN|ARSINE OXIDE, HYDROXYDIMETHYL-|BOLLS-EYE|CACODYLIC ACID|CHEXMATE|DIMETHYLARSENIC ACID|DIMETHYLARSINIC ACID|DMAA|ERASE|HYDROXYDIMETHYL ARSINE OXIDE|HYDROXYDIMETHYLARSINE OXIDE|PHYTAR|PHYTAR 560|RAD-E-CAT 25|SILVISAR 510|SYLVICOR	75-60-5	A colorless, odorless crystalline solid. Melting point 195-196Â°C. Toxic by ingestion and irritating to skin and eyes.	1.0	2.5	5.0	5108.0	507.0	1740.0	907.0	546.0	1515.0	151.0	520.0	285.0	153.0	(BLOB)	May release sulfur oxides and phosphoric acid. Solvent carrier vapors may travel on ground to ignition source. Avoid strong oxidizers. Avoid mixtures with water or polar solvents, in which sulfur is lost to oxygen, air and light, which cause hydrolysis, alkaline mixtures and oxidizing agents. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Flammable Liquid, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. Move containers from fire area. Dike fire control water for later disposal; do not scatter the material. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Use dry chemical, foam, carbon dioxide. Water may be ineffective (EPA, 1998)
3331	CALCIUM ARSENATE	ARSENIC ACID, CALCIUM SALT(2:3)|CALCIUM ARSENATE|CALCIUM ARSENATE (CA3(ASO4)2)|CALCIUM ARSENATE, [SOLID]|CALCIUM ORTHOARSENATE|CALCIUM SALT (2:3) OF ARSENIC ACID|CALCIUM-O-ARSENATE|CALCIUMARSENAT|CHIP-CAL GRANULAR|CUCUMBER DUST|FLAC|KALO|KILMAG|PENCAL|SECURITY|SPRA-CAL|SPRACAL|TRICALCIUM ARSENATE|TRICALCIUM ORTHO ARSENATE|TRICALCIUM ORTHO-ARSENATE|TRICALCIUM-O-ARSENATE	7778-44-1	White powder. Slightly soluble in water. Toxic by inhalation and ingestion. Used as an insecticide and germicide.	1.0	2.5	5.0	5109.0	507.0	1740.0	907.0	546.0	1516.0	151.0	520.0	285.0	153.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3332	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID|CALCIUM ARSENATE-CALCIUM ARSENITE MIXTURE, [SOLID]|CALCIUM ARSENITE AND CALCIUM ARSENATE MIXTURE, SOLID	7778-44-1	Mixture of related salts. A white powder. Insoluble in water. Toxic by inhalation and by ingestion.	1.0	2.5	5.0	5110.0	507.0	1740.0	907.0	546.0	1517.0	151.0	520.0	285.0	153.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3333	CALCIUM CHROMATE	C.I. 77223|C.I. PIGMENT YELLOW 33|CALCIUM CHROMATE|CALCIUM CHROMATE (CACRO4)|CALCIUM CHROMATE (VI)|CALCIUM CHROMATE DIHYDRATE|CALCIUM CHROMATE(CACRO4)|CALCIUM CHROMATE(VI) (CACRO4)|CALCIUM CHROME YELLOW|CALCIUM CHROMIUM OXIDE (CACRO4)|CALCIUM CHROMIUM OXIDE(CACRO4)|CALCIUM MONOCHROMATE|CHROMIC ACID, CALCIUM SALT (1:1)|GELBIN|GELBIN YELLOW ULTRAMARINE|STEINBUHL YELLOW|YELLOW ULTRAMARINE	13765-19-0	Calcium chromate is a yellow powder. It is slightly soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to prevent its spread to the environment.	1.0	2.5	5.0	5111.0	507.0	1741.0	907.0	546.0	1518.0	151.0	521.0	285.0	153.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3328	C.I. DISPERSE BLUE 1	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	DECENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. Can undergo exothermic polymerization reactions in the presence of various catalysts (such as acids) or initiators. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions at low temperatures in ammonia synthesis gas units have been traced to the addition products of unsaturated hydrocarbons and nitrogen dioxide [Bretherick 1995].	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1-decene, CAS number 872-05-9.	0	2	0	2		(NFPA, 2010)			less than 131																	
3329	C.I. SOLVENT YELLOW 34	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		119																			
3330	CACODYLIC ACID	Spills may be cleaned up by absorbing the material in vermiculite, dry sand, earth, or a similar material. General precautions for organophosphorous pesticides are as follows. Keep unnecessary people away; stay upwind. Shut off ignition sources; no flares, smoking, or flames in hazard area. Do not touch spilled material. Use water spray to reduce vapors. Take up spills with noncombustible absorbent material. For large spills, dike far ahead. (EPA, 1998)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	DEMETON may release sulfur oxides and phosphoric acid. Solvent carrier vapors may travel on ground to ignition source. Avoid strong oxidizers. Avoid mixtures with water or polar solvents, in which sulfur is lost to oxygen, air and light, which cause hydrolysis, alkaline mixtures and oxidizing agents. [EPA, 1998].		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	solution in combustible solvent	113		(EPA, 1998)	solution in combustible solvent	1		%	(EPA, 1998)	solution in combustible solvent	5.3		%	(USCG, 1999)		867		(EPA, 1998)		-13	
3331	CALCIUM ARSENATE	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water and denser than water. Slowly hydrolyzes to yield hydrochloric acid.	4-(BENZYL(METHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3332	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and away from oxidizing materials and acids. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	4-ACETYLPYRIDINE is incompatible with strong oxidizing agents and strong reducing agents. (NTP, 1992). Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																			
3333	CALCIUM CHROMATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	(BLOB)	Is oxidized by air (darkens on oxidation). Insoluble in water.	4-AMINOBIPHENYL is a weak base. Incompatible with acids and acid anhydrides. Forms salts with hydrochloric acid and sulfuric acid. Can be diazotized, acetylated and alkylated. (NTP, 1992). May react with strong oxidizing agents.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3328	C.I. DISPERSE BLUE 1																																								Flammable Liquid	C10H20	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3329	C.I. SOLVENT YELLOW 34	(NTP, 1992)	; 10.9 mm Hg at 86.0Â° F	6.2		64.4		mm Hg							(NTP, 1992)		1.025		77.4								(NTP, 1992)		333.28						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C16H22Cl2O3		4.0	0.0	5.0	1.0	1.0
3330	CACODYLIC ACID	(EPA, 1998)		0.00026				mm Hg	(EPA, 1998)	Heavier than air					(EPA, 1998)		1.183				(EPA, 1998)		273		2		(EPA, 1998)		258.34		(NIOSH, 2003)		10	mg/m3	(NIOSH, 2003)		0.01		%	DTN	Poison|Flammable Liquid	C8H19O3PS2.C8H19O3PS2		3.0	0.0	3.0	1.0	1.0
3331	CALCIUM ARSENATE																																							Flammable Solid			2.0	0.0	4.0	1.0	1.0
3332	CALCIUM ARSENATE AND CALCIUM ARSENITE MIXTURE, SOLID	(NTP, 1992)	; 6.1 mm Hg at 94.1Â° F	4.9		77		mm Hg							(NTP, 1992)		1.111		74.1		(NTP, 1992)		414		760		(NTP, 1992)		121.14						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C7H7NO	Mineral-Based & Clay-Based Absorbents	2.0	0.0	4.0	1.0	1.0
3333	CALCIUM CHROMATE	(NIOSH, 2003)		1		227		mm Hg							(NTP, 1992)		1.16		68		(NTP, 1992)		576		760		(NTP, 1992)		169.23		(NIOSH, 2003)	A potential human carcinogen			(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL		Class 9	C12H11N		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3334	CALCIUM CYANIDE	CALCID|CALCIUM CYANIDE|CALCIUM CYANIDE, SOLID|CALCIUM CYANIDE, [SOLID]|CALCYAN|CALCYANIDE|CYANIDE OF CALCIUM|CYANOGAS|CYANOGAS A-DUST|CYANOGAS G-FUMIGANT	592-01-8	White crystals or powder or gray-black powder (technical grade). Toxic by skin absorption through open wounds, by ingestion, and by inhalation.	1.0	2.5	5.0	5111.0	507.0	1741.0	907.0	546.0	1518.0	151.0	521.0	285.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3335	CALCIUM PERCHLORATE	CALCIUM DIPERCHLORATE|CALCIUM PERCHLORATE|PERCHLORIC ACID CALCIUM SALT (2:1)	13477-36-6	White to yellow crystalline solid. Density 2.651 g / cm3. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5112.0	507.0	1742.0	907.0	546.0	1519.0	151.0	522.0	285.0	153.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3336	CALCIUM PHOSPHIDE	CALCIUM PHOSPHIDE|CALCIUM PHOTOPHOR|PHOTOPHOR|TRICALCIUM DIPHOSPHIDE	1305-99-3	Calcium phosphide appears as red-brown crystals to gray granular lumps. It reacts with water to form calcium hydroxide and phosphine, a flammable poisonous gas. Phosphine will normally ignite spontaneously in contact with air. If there is an excess of water this fire of phosphine will not normally ignite surrounding combustible material.	1.0	2.5	5.0	5112.0	507.0	1742.0	909.0	546.0	1519.0	151.0	522.0	287.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3337	CALCIUM SELENATE	CALCIUM SELENATE|CALCIUM SELENATE (CASEO4)|SELENIC ACID (H2SEO4), CALCIUM SALT (1:1)	14019-91-1	White powder.	1.0	2.5	5.0	5112.0	507.0	1742.0	909.0	546.0	1519.0	151.0	522.0	287.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3338	CANNABINOL	3-AMYL-1-HYDROXY-6,6,9-TRIMETHYL-6H-DIBENZO(B,D)PYRAN|CANNABINOL|CBN|6,6,9-TRIMETHYL-3-PENTYL-6H-DIBENZO(B,D)PYRAN-1-OL	521-35-7	PHYSICAL DESCRIPTION: Leaflets. (NTP, 1992)	1.0	2.5	5.0	5113.0	507.0	1743.0	909.0	546.0	1520.0	151.0	523.0	287.0	153.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3334	CALCIUM CYANIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DEXAMETHAZONE may be sensitive to prolonged exposure to light. This chemical is incompatible with strong oxidizers, strong acids, acid chlorides and acid anhydrides. Oxidation may occur with bases. (NTP, 1992)							0																									(NTP, 1992)			504 to 507
3335	CALCIUM PERCHLORATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	[D-GLUCOSE, 2-DEOXY-2-[[(METHYLNITROSOAMINO)-CARBONYL]AMINO] is weakly basic. Reacts exothermically with acids. Reacts with both strong oxidizing agents and strong reducing agents.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									(NTP, 1992)	(Decomposes)	239	
3336	CALCIUM PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIS(1,3-DICHLORO-2-PROPYL)PHOSPHATE hydrolyzes slowly when refluxed with an aqueous acid. Under alkaline conditions, it exhibits a slow cleavage. It has plasticizing properties and, as such, may soften or deteriorate certain plastics and elastomers (particularly vinyl-based resin, neoprene and natural rubbers). (NTP, 1992)						0		(NTP, 1992)		485													(NTP, 1992)		955					
3337	CALCIUM SELENATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound is sensitive to prolonged exposure to light and air. Insoluble in water.	Aryl amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									(NTP, 1992)		196	
3338	CANNABINOL	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble with possible partial decomposition in water.	An epoxide and ether. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert. Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3334	CALCIUM CYANIDE																										(NTP, 1992)		392.47						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C22H29FO5	Cellulose-Based Absorbents|Dirt/ Earth	3.0	0.0	3.0	1.0	1.0
3335	CALCIUM PERCHLORATE																										(NTP, 1992)		265.26						(NTP, 1992)	Soluble					Class 9	C8H15N3O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3336	CALCIUM PHOSPHIDE	(NTP, 1992)		10.3		77		mm Hg							(NTP, 1992)		1.508		72		(NTP, 1992)			457 to 459	5		(NTP, 1992)		430.91						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C9H15Cl6O4P		3.0	0.0	5.0	1.0	1.0
3337	CALCIUM SELENATE																										(NTP, 1992)		142.6						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C6H7ClN2		2.0	0.0	4.0	1.0	1.0
3338	CANNABINOL																																								Flammable Liquid	C5H10O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3339	CAPTAFOL	ALFLOC 7020|ALFLOC 7046|ARBORSEAL|CAPTAFOL|CAPTOFOL|CS 5623|4-CYCLOHEXENE-1,2-DICARBOXIMIDE, N-[(1,1,2,2-TETRACHLOROETHYL)THIO]-|DIFOLATAN|DIFOLATAN 4F|DIFOLATAN 4F1|DIFOLATAN 80W|DIFOLATAN BOW|DIFOLATANÃ®|FOLCID|FOLTAF|HAIPEN 50|MERPAFOLN-((1,1,2,2-TETRACHLOROETHYL)THIO)-4-CYCLOHEXENE-1,2-DICARBOXIMIDE|N-(1,1,2,2-TETRACHLOROETHYLTHIO)-DELTA,4-TETRAHYDROPHTHALIMIDE|N-(1,1,2,2-TETRACHLOROETHYLTHIO)-4-CYCLOHEXENE-1,2-DICARBOXIMIDE|N-(1,1,2,2-TETRACHLOROETHYLTHIO)-4-CYCLOHEXENE-1,2-DICARBOXYIMIDE|N-(TETRACHLOROETHYLTHIO)TETRAHYDROPHTHALIMIDE|N-1,1,2,2-	2425-06-1	White crystalline solid with a slight, but pungent odor. Mp: 162Â°C. Practically insoluble in water. Only slightly soluble in organic solvents. Technical captafol is a wettable light tan powder that is used as a fungicide. Inhaled dust irritates the respiratory tract. Irritates skin and damages eyes. Acute oral toxicity in humans is low. Not persistent in the environment (decomposes with a half-life of 11 days in the soil). Highly toxic to fish and other aquatic organisms.	1.0	2.5	5.0	5113.0	507.0	1743.0	909.0	546.0	1520.0	151.0	523.0	287.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3340	CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER	CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER	52888-80-9		1.0	2.5	5.0	5113.0	507.0	1743.0	909.0	546.0	1520.0	151.0	523.0	287.0	153.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3341	CARBARSONE	AMABEVAN|AMEBAN|AMEBARSENE|AMEBARSONE|AMIBIARSON|AMINARSON|AMINARSONE|AMINOARSON|4-((AMINOCARBONYL)AMINO)PHENYL)ARSONIC ACID|ARSAMBIDE|ARSANILIC ACID, N-CARBAMOYL-|BENZENEARSONIC ACID, P-UREIDO-|CARB-O-SEP|CARBAMINOPHENYL-P-ARSONIC ACID|4-CARBAMYLAMINOPHENYL ARSONIC ACID|CARBARSON|CARBARSONE|CARBASONE|FENARSONE|HISTOCARB|KUTAN|LEUCARSON|N-CARBAMOYLARSANILIC ACID|N-CARBAMYL ARSANILIC ACID|P-ARSONOPHENYLUREA|P-CARBAMIDOBENZENEARSONIC ACID|P-CARBAMINO PHENYL ARSONIC ACID|P-UREIDOBENZENEARSONIC ACID|PENTARSONE|4-UREIDO-1-PHENYLARSONIC ACID|4-	121-59-5	PHYSICAL DESCRIPTION: White powder or solid. (NTP, 1992)	1.0	2.5	5.0	5113.0	507.0	1743.0	909.0	546.0	1520.0	151.0	523.0	287.0	153.0	EYES: immediately flush with plenty of water for at least 15 min.; see a physician. SKIN: immediately flush with plenty of water for at least 15 min. INGESTION: induce vomiting and call a physician. (USCG, 1999)	Special Hazards of Combustion Products: Irritating phosphorus oxides may be released. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
3342	CARBOFURAN PHENOL	CARBOFURAN PHENOL	1563-38-8	Odorless, white crystalline solid.	1.0	2.5	5.0	5113.0	507.0	1743.0	909.0	546.0	1520.0	151.0	523.0	287.0	153.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3343	CARBOPHENOTHION	ACARITHION|AKARITHION|CARBOFENOTHION|CARBOFENOTION|CARBOFENTHION|CARBOPHENOTHION|DAGADIP|ENDYL|ENT 23,708|ETHYL CARBOPHENOTHION|GARRATHION|HEXATHION|LETHOX|NEPHOCARP|O,O-DIETHYL S-(P-CHLOROPHENYLTHIO)METHYL PHOSPHORODITHIOATE|O,O-DIETHYL S-P-CHLOROPHENYLTHIOMETHYL DITHIOPHOSPHATE|OLEOAKARITHION|PHOSPHORODITHIOIC ACID, S-((4-CHLOROPHENYL)THIO)METHYL) O,O-DIETHYL ESTER|PHOSPHORODITHIOIC ACID, S-((P-CHLOROPHENYL)THIO)METHYL) O,O-DIETHYL ESTER|PHOSPHORODITHIOIC ACID, S-[(P-CHLOROPHENYL)THIO]METHYL] O,O-DIETHYL ESTER|R	786-19-6	An off-white to amber liquid with a mild odor of rotten eggs. Used as an insecticide and acaricide, primarily for citrus crops and deciduous fruits and nuts. (EPA, 1998)	2.5	5.0	2.5	5114.0	507.0	1743.0	909.0	546.0	1521.0	151.0	523.0	287.0	153.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3339	CAPTAFOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions. These materials may be nontoxic.								0																					
3340	CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable						0																					
3341	CARBARSONE	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate or lime solution (USCG, 1999)	Goggles or face shield; rubber gloves; protective clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as DI-(2-ETHYLHEXYL)PHOSPHORIC ACID, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. Mildly corrosive to most metals; may form flammable hydrogen gas (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(USCG, 1999)		385														(USCG, 1999)		less than - 76
3342	CARBOFURAN PHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with methanol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DI(N-OCTYL)TIN MALEATE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
3343	CARBOPHENOTHION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water	MERCURY OLEATE is light sensitive. On standing the mercury is partly reduced to mercurous state or to the metal [Merck].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3339	CAPTAFOL																																	(NTP, 1992)	at 63Â° F		less than 1	mg/mL					1.0	0.0	1.0	1.0	1.0
3340	CARBAMOTHIOIC ACID, DIPROPYL-, S-(PHENYLMETHYL) ESTER																										(NTP, 1992)		175.44						(NTP, 1992)	at 64Â° F		0.1 to 1	mg/mL			C4H5Cl3O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	2.0	1.0	1.0
3341	CARBARSONE														(USCG, 1999)		0.977		68								(USCG, 1999)		322.4											DEP	Corrosive	C16H35O4P		3.0	0.0	3.0	1.0	1.0
3342	CARBOFURAN PHENOL																										(NTP, 1992)		459.25		(NIOSH, 2003)	(as Sn)	25	mg/m3	(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C20H36O4Sn	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3343	CARBOPHENOTHION																															(NIOSH, 2003)	(as Hg)	2	mg/m3							Poison	C36H66O2.Hg	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3344	CARENE	CARENE|3-CARENE|ISODIPRENE|4,7,7-TRIMETHYL-3-NORCARENE|3,7,7-TRIMETHYLBICYCLO[0, 1, 4]HEPT-3-ENE	13466-78-9	Colorless liquid with a sweet, turpentine-like odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5115.0	507.0	1743.0	909.0	546.0	1522.0	151.0	523.0	287.0	153.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3345	CARVEOL	CARVEOL|5-ISOPROPENYL-2-METHYL-2-CYCLOHEXEN-1-OL|L-CARVEOL|L-P-MENTHA-6-8-DIEN-2-OL|1-METHYL-4-ISOPROPENYL-6-CYCLOHEXEN-2-OL|2-METHYL-5-(1-METHYLETHENYL)-2-CYCLOHEXEN-1-OL|2-METHYL-5-ISOPROPENYL-2-CYCLOHEXEN-1-OL|P-MENTHA-1,8-DIEN-6-OL|P-MENTHA-6,8-DIEN-2-OL	99-48-9	Clear colorless liquid. Insoluble in water.	2.5	5.0	2.5	5116.0	507.0	1743.0	909.0	546.0	1523.0	151.0	523.0	287.0	153.0	Get medical attention. INHALATION: Remove from exposure. EYES: Flush with water. SKIN: Wash thoroughly with water. INGESTION: Give egg white, milk, or activated charcoal, then induce vomiting. Consult physician. (USCG, 1999)	Special Hazards of Combustion Products: When heated, decomposes into mercury, nitrogen, etc., at about 165Â°C. Behavior in Fire: When heated, swells up to many times its original volume. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3346	CASANTHRANOL	CANTRALAX|CASANTHRANOL|CASANTHROL|CASCARA SAGRADA EXTRACT|PERISTIM	8024-48-4	PHYSICAL DESCRIPTION: Light brown or brown powder. (NTP, 1992)	1.0	2.5	5.0	5117.0	507.0	1743.0	909.0	546.0	1524.0	151.0	523.0	287.0	153.0	INHALATION: Remove victim from exposure immediately; if needed, administer oxygen; refer to physician. EYES: Flush with water for at least 15 min. SKIN: Remove victim from exposure immediately; remove contaminated clothing; wash contacted area with copious amounts of water and soap; if needed, administer oxygen; refer to physician. INGESTION: Induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic hydrogen fluoride and oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3347	CHINOMETHIONAT	CHINOMETHIONAT|6-METHYL-1,3-DITHIOLO[4,5-B]QUINOXALIN-2-ONE|MORESTAN	2439-01-2	Yellow crystals. Non-corrosive. Used as a selective fungicide.	1.0	2.5	5.0	5118.0	507.0	1743.0	909.0	546.0	1525.0	151.0	523.0	287.0	153.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3348	CHLORAMBEN	ACP-M-728|AMBIBEN|AMIBEN|AMIBEN DS|AMIBIN|3-AMINO-2,5-DICHLOROBENZOIC ACID|AMOBEN|BENZOIC ACID, 3-AMINO-2,5-DICHLORO-|CHLORAMBED|CHLORAMBEN|CHLORAMBENE|2,5-DICHLORO-3-AMINOBENZOIC ACID|NCI-C00055|ORNAMENTAL WEEDER|VEGIBEN	133-90-4	PHYSICAL DESCRIPTION: Purplish white powder or light purple solid. (NTP, 1992)	1.0	2.5	5.0	5118.0	507.0	1743.0	909.0	546.0	1525.0	151.0	523.0	287.0	153.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3344	CARENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCURY SALICYLATE is incompatible with acetylene, ammonia, chlorine dioxide, azides, calcium (because of amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997). Incompatible with alkali-metal iodides (LiI, NaI, KI, RbI, CsI). Soluble in warm solutions of alkali-metal chlorides and bromides and alkali-metal hydroxides [Merck].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3345	CARVEOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask or self-contained breathing apparatus, when required; rubber gloves, safety or chemical goggles, disposable clothing, or rubber apron. (USCG, 1999)	Insoluble in water.	MERCURY THIOCYANATE decomposes into its elements at about 165Â°C. Burns readily in air to generate a coil of cohesive ash resembling a serpent (hence used in a firework: Pharaoh's serpents). Swells up to many times its original volume if heated (USCG, 1999). Soluble in dilute hydrochloric acid [Merck]. Incompatible with strong oxidizing agents.	Strong Reducing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 250																					
3346	CASANTHRANOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; chemical goggles; protective clothing; dust respirator. (USCG, 1999)	Insoluble in water.	Special Hazards of Combustion Products: Irritating and toxic hydrogen fluoride and oxides of nitrogen may form in fires. (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		165																		(USCG, 1999)		30.6	
3347	CHINOMETHIONAT	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	A hydroxylated and nitrated amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3348	CHLORAMBEN	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DIACETONE ALCOHOL PEROXIDE is not prepared or isolated in pure form, mentioned only in three patent documents as an intermediate to initiate polymerization. Generated by the peroxidation of ketones with hydrogen peroxide to produce plastics [Chemical Abstracts, AN 99:106328; 93:240488; 82:87000]. See Hydrogen peroxide and Peroxides.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3344	CARENE																													(NIOSH, 2003)	(as Hg)	10	mg/m3								Poison	HgC7H4O3		4.0	0.0	5.0	1.0	1.0
3345	CARVEOL														(USCG, 1999)	Approximately	4				(USCG, 1999)	Decomposes about 329.0Â° F					(USCG, 1999)		316.79		(NIOSH, 2003)	(as Hg)	10	mg/m3						MRT	Poison	C2N2S2.Hg		3.0	0.0	5.0	1.0	1.0
3346	CASANTHRANOL														(USCG, 1999)		1.1725		68		(USCG, 1999)		358.7		760		(USCG, 1999)		111.2											FLA	Poison	C6H6FN		1.0	0.0	1.0	1.0	1.0
3347	CHINOMETHIONAT																										(NTP, 1992)		174.28						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL		Poison	C8H18N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3348	CHLORAMBEN																																								Organic Peroxide	C12H22O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3349	CHLORAMINE	CHLORAMIDE|CHLORAMINE |CHLORAMINE (INORGANIC COMPOUND)|CHLOROAMIN E|MONOCHLORAMIDE|MON OCHLORAMINE|MONOCHLO RAMINE (NH2CL)|MONOCHLOROAMI NE|MONOCHLOROAMMONI A	10599-90-3	PHYSICAL DESCRIPTION: Colorless to yellow liquid with a strong pungent odor. (NTP, 1992)	2.5	5.0	2.5	5119.0	507.0	1744.0	909.0	546.0	1526.0	151.0	524.0	287.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3350	CHLORDANE, [FLAMMABLE LIQUID LABEL]	1068|ASPON-CHLORDANE|BELT|CD 68|CHLOR KIL|CHLORDAN|CHLORDAN E|CHLORDANE, [FLAMMABLE LIQUID LABEL]|CHLORDANO|CHLO RINDAN|CHLOROTOX|CORO DAN|CORODANE|CORTILAN-NEU|DOWCHLOR|ENT 9,932|ENT 9932|ENT-9932|HCS 3260|INTOX|INTOX, (INSECTICIDE)|KYPCHLOR|M 140|M 410|4,7-METHANO-1H-INDENE, 1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO-|4,7-METHANOINDAN, 1,2,4,5,6,7,8,8-OCTACHLORO-3A,4,7,7A-TETRAHYDRO-|4,7-METHANOINDAN,|NCI-C00099|NIRAN|OCTA-KLOR|OCTACHLOR|OCTACH LORDANE|OCTACHLORO-4,7-METHANOTETRAHYDROIN DANE|1,2,4,5,6,7,8,8-OCTACHLORO-2,3,3A,4,7,7A-HEXAHYDRO-4,7-	57-74-9	A clear colorless, odorless liquid in a solvent. Generally denser than water and insoluble in water. Vapors heavier than air. Toxic by inhalation, ingestion, or skin absorption.	2.5	5.0	2.5	5119.0	507.0	1744.0	909.0	546.0	1526.0	151.0	524.0	287.0	153.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3351	CHLORINE PENTAFLUORIDE	CHLORINE PENTAFLUORIDE	13637-63-3	A colorless gas with a sweet odor. Toxic by inhalation and an irritant to skin, eyes and mucus membranes. Corrosive. Heavier than air. Under prolonged exposure to fire or intense heat the containers may violently rupture or rocket. Used as an oxidizer in propellants.	5.0	1.0	1.0	5119.0	507.0	1744.0	909.0	546.0	1526.0	151.0	524.0	287.0	153.0			
3352	CHLORO DIBENZO-P-DIOXINS	CHLORO DIBENZO-P-DIOXINS|1,2,3,4,7,8-HEXACHLORO DIBENZO-P-DIOXIN|1,2,3,7,8-PENTACHLORODIBENZO-P-DIOXIN	39227-28-6	Chloro dibenzo-p-dioxins (CDPDs) are solid crystalline in nature and probably exist as adsorbed to particulate materials and are mainly produced as a function of combustion of organic compounds. There is no known use for these chemicals. Other than for research purposes, they are not deliberately produced by industry. Most CDPDs are produced in small amounts as undesirable by-products of certain processes, such as manufacturing other chemicals or bleaching at paper and pulp mills. The most â€œinfamousâ€ CDPD contamination and poisoning occurred during the Vietnam War as a by-product of the production and use of Agent Orange. CDPDs can also be released from incinerators. Certain isomers are known human carcinogens.	1.0	2.5	5.0	5120.0	507.0	1745.0	909.0	546.0	1527.0	151.0	525.0	287.0	153.0	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3353	CHLOROBENZILATE	ACAR|ACARABEN|ACARABE N 4E|AKAR|AKAR 338|AKAR 50|BENZ-O-CHLOR|BENZENEACETIC ACID,|BENZILAN|BENZILIC ACID, 4,4'-DICHLORO-, ETHYL ESTER|CHLORBENZILAT|CH LORBENZILATE|CHLORBEN ZYLATE|4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXYBENZENEACETIC ACID ETHYL ESTER|CHLOROBENZILATE| CHLOROBENZYLATE|COMP OUND 338|4,4'-DICHLOROBENZILATE|4,4'-DICHLOROBENZILIC ACID ETHYL ESTER|ECIBENT 18,596|ETHYL 4,4'-DICHLOROBENZILATE|ETHY L 4,4'-DICHLORODIPHENYL GLYCOLLATE|ETHYL 4,4'-DICHLOROPHENYL GLYCOLLATE|ETHYL 4-CHLORO-ALPHA-(4-CHLOROPHENYL)-ALPHA-HYDROXYBENZENEACETAT E|ETHYL ESTER OF 4,4'-	510-15-6	PHYSICAL DESCRIPTION: Viscous yellow liquid or pale yellow crystals. Light brown crystalline solid. (NTP, 1992)	2.5	5.0	2.5	5121.0	507.0	1745.0	909.0	546.0	1528.0	151.0	525.0	287.0	153.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
3354	CHLORODIBENZOFURANS	CHLORODIBENZOFURANS|1,2,3,4,6,7,8-HEPTACHLORODIBENZOFURAN|1,2,3,4,7,8,9-HEPTACHLORODIBENZOFURAN|1,2,3,4,7,8-HEXACHLORODIBENZOFURAN|1,2,3,6,7,8-HEXACHLORODIBENZOFURAN|1,2,3,7,8,9-HEXACHLORODIBENZOFURAN|2,3,4,6,7,8-HEXACHLORODIBENZOFURAN|1,2,3,4,6,7,8,9-OCTACHLORODIBENZOFURAN|1,2,3,7,8-PENTACHLORODIBENZOFURAN|2,3,7,8-TETRACHLORODIBENZOFURAN	39001-02-0	Chlorodibenzofurans (CDF) are solid crystalline in nature and probably exist as adsorbed to particulate materials and are mainly produced as a function of combustion of organic compounds. There is no known use for these chemicals. Other than for research purposes, they are not deliberately produced by industry. Most CDFs are produced in small amounts as undesirable by-products of certain processes, such as manufacturing other chemicals or bleaching at paper and pulp mills. CDFs can also be released from incineratorsCDFs have known mutagenic activity.	1.0	2.5	5.0	5121.0	507.0	1746.0	909.0	546.0	1528.0	151.0	526.0	287.0	153.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3349	CHLORAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water	Mixing MESITYL OXIDE in equal molar proportions with any of the following substances in a closed container caused the temperature and pressure to increase: 2-aminoethanol, chlorosulfonic acid, ethylene diamine, nitric acid, oleum, or sulfuric acid [NFPA 1991].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(USCG, 1999)		73		(NIOSH, 2003)		1.4		%	(NIOSH, 2003)		7.2		%	(USCG, 1999)		652		(USCG, 1999)		-51	
3350	CHLORDANE, [FLAMMABLE LIQUID LABEL]	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	METALDEHYDE is an ether derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3351	CHLORINE PENTAFLUORIDE			Water soluble.	TRICLOPYR TRIETHYLAMMONIUM SALT is incompatible with strong oxidizers.								0																							
3352	CHLORO DIBENZO-P-DIOXINS	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154].	Ethers, such as DIALLYLETHER can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NFPA, 2010)		20																			
3353	CHLOROBENZILATE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable Pyrophoric in dust form [Bretherick 1979, p. 104]. Titanium is water-reactive at 700C, releasing hydrogen, which may cause an explosion [Subref: Mellor, 1941, vol. 7, 19].	TITANIUM is a reducing agent. Powdering increases its reactivity. Wetting reduces the reactivity of the powder. Titanium reacts violently with cupric oxide and lead oxide when heated. When titanium is heated with potassium chlorate, potassium nitrate, or potassium permanganate, an explosion occurs [Mellor 7:20, 1946-47]. The residue from the reaction of titanium with red fuming nitric acid exploded violently when the flask was touched [Allison 1969]. Liquid oxygen gives a detonable mixture when combined with powdered titanium, [Kirchenbaum 1956].	Highly Flammable; Strong Reducing Agent; Known Catalytic Activity	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3354	CHLORODIBENZOFURANS	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	DIALLYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		-127.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3349	CHLORAMINE	(NIOSH, 2003)		9				mm Hg							(USCG, 1999)		0.853		68		(USCG, 1999)		266		760		(USCG, 1999)		98.2		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1400	ppm	(NIOSH, 2003)		3		%	MSO	Flammable Liquid	C6H10O	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3350	CHLORDANE, [FLAMMABLE LIQUID LABEL]																																								Flammable Solid	(C2H4O)x		1.0	0.0	1.0	1.0	1.0
3351	CHLORINE PENTAFLUORIDE																																									C7H4Cl3NO3.C6H15N	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3352	CHLORO DIBENZO-P-DIOXINS																																								Flammable Liquid|Poison	C6H10O	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3353	CHLOROBENZILATE																																								Flammable Solid	Ti		2.0	0.0	2.0	1.0	1.0
3354	CHLORODIBENZOFURANS														(NTP, 1992)		0.7627		50		(NTP, 1992)		232		760		(NTP, 1992)		97.16						(NTP, 1992)		8.6		g/100mL		Flammable Liquid|Poison|Corrosive	C6H11N	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3355	CHLORONEB	BENZENE, 1,4-DICHLORO-2,5-DIMETHOXY-|CHLORONEB|DEMASAN|DEMOSAN|DEMOSAN 65W|2,5-DICHLORO-1,4-DIMETHOXYBENZENE|1,4-DICHLORO-2,5-DIMETHOXYBENZENE|FLOPRO D|SOIL FUNGICIDE 1823|TERSAN-SP	2675-77-6	PHYSICAL DESCRIPTION: White to tan solid or beige powder. Musty odor. (NTP, 1992)	1.0	2.5	5.0	5121.0	507.0	1746.0	909.0	546.0	1528.0	151.0	526.0	287.0	153.0	EYES: Flush eyes with running water for at least 15 minutes. SKIN: Wash skin with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Fire may produce irritating or poisonous gases (USCG, 1999)	Fire Extinguishing Agents: Small fires: Dry chemicals, C0 2 , water spray or foam. Large fires: Water spray, fog or foam. (USCG, 1999)
3356	CHLOROPENTAFLUOROETHANE	CFC 115|CFC-115|1-CHLORO-1,1,2,2,2-PENTAFLUOROETHANE|CHLOROPENTAFLUOROETHANE|1-CHLOROPENTAFLUOROETHANE|CHLOROPERFLUOROETHANE|F 115|FC 115|FKW 115|FLUOROCARBON 115|FLUOROCARBON-115|FREON 115|FREONÃ® 115|GENETRON 115|GENETRONÃ® 115|HALOCARBON 115|MONOCHLOROPENTAFLUOROETHANE|PENTAFLUOROCHLOROETHANE|PENTAFLUOROETHYL CHLORIDE|PERFLUOROETHYL CHLORIDE|PROPELLANT 115|R 115|REFRIGERANT GAS R-115|REFRIGERANT R115	76-15-3	Chloropentafluoroethane is a colorless odorless gas with an ether-like odor. It is shipped as a liquefied gas under its own vapor pressure. It is noncombustible. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	5122.0	507.0	1746.0	909.0	546.0	1529.0	151.0	526.0	287.0	153.0	Consult a physician after all exposures to this compound. INHALATION: move to fresh air; give artificial respiration if necessary. INGESTION: give large amount of water. EYES: flush with water for 15 min. SKIN: wipe exposed areas free of the chemical with a dry cloth, then flush thoroughly with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating fumes of hydrogen chloride may form in fires. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3357	CHLOROPHACINONE	APNOR|2-(ALPHA-P-CHLOROPHENYLACETYL)INDANE- 1,3-DIONE|CAID|CHLORODIPHACINONE|CHLOROPHACINON|CHLOROPHACINONE|2-[(4-CHLOROPHENYL) PHENYLACETYL]-1H-INDENE-1,3(2H)-DIONE|2(2-(4-CHLOROPHENYL)-2-PHENYLACETYL)INDAN-1,3-DIONE|CHLORPHACINONE|CHLORPHENACONE|DELTA|DRAT|1H-INDENE-1,3(2H)-DIONE, 2-[(4-CHLOROPHENYL)PHENYLACETYL]-|1,3-INDANDIONE, 2-((P-CHLOROPHENYL)PHENYLACETYL-|1,3-INDANDIONE, 2-[(P-CHLOROPHENYL)PHENYLACETYL]-|LIPHADIONE|LM 9|LM91|MICROZUL|MURIOL|2-[(P-CHLOROPHENYL)PHENYL-ACETYL]- 1,3-INDANDIONE|2[(P-CHLOROPHENYL)PHENYLA	3691-35-8	Crystals. Commercially available as oil concentrate and as dust concentrate. Used as an anticoagulant rodenticide. Chronic acting, multiple dose rodenticide. (EPA, 1998)	1.0	2.5	5.0	5123.0	507.0	1746.0	909.0	546.0	1530.0	151.0	526.0	287.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3358	CHLOROPHENOLS, LIQUID	CHLOROPHENOL|CHLOROPHENOL, LIQUID|CHLOROPHENOLS|CHLOROPHENOLS, LIQUID|CHLOROPHENOLS, [LIQUID]|MONOCHLOROPHENOL	25167-80-0	Colorless to yellow-brown liquid with an unpleasant penetrating odor. Toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5123.0	507.0	1746.0	909.0	546.0	1530.0	151.0	526.0	287.0	153.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of fluorides and sulfur oxides. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3359	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.	CHLOROSILANE|CHLOROSILANE (CLSIH3)|CHLOROSILANE(SIH3CL)|CHLOROSILANE, [FLAMMABLE, CORROSIVE LABELS]|CHLOROSILANES [FLAMMABLE, CORROSIVE LABEL]|CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.|CHLOROSILANES, FLAMMABLE, CORROSIVE, N.O.S.|MONOCHLOROSILANE|MONOCHLOROSILANE (SIH3CL)|SILICON CHLORIDE HYDRIDE (SICLH3)|SILYL CHLORIDE	13465-78-6	Chlorosilanes are a class of liquids that range in color from clear colorless to light yellow colored. Clear to light yellow-colored liquids. Slightly more dense than water. May have a sharp odor. Contact may severely irritate skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation or skin absorption. If available, obtain the technical name of the material from the shipping paper and contact CHEMTREC (800-424-9300) for specific response information. Used to make other chemicals.	2.5	5.0	2.5	5123.0	507.0	1747.0	910.0	546.0	1530.0	151.0	527.0	288.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3360	CHLOROSILANES, CORROSIVE, N.O.S.	CHLOROSILANE, [CORROSIVE LABEL]|CHLOROSILANES [CORROSIVE LABEL]|CHLOROSILANES, CORROSIVE, N.O.S.	13465-78-6	Chlorosilanes are a class of liquids that range in color from clear colorless to light yellow colored. They may have a sharp odor. Generally, they are soluble in water and weigh more than water. They are corrosive and thus may cause severe burns to skin, eyes and mucous membranes. They may also be toxic. If available, obtain the technical name of the material from the shipping papers and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5123.0	507.0	1747.0	910.0	546.0	1530.0	151.0	527.0	288.0	153.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Stable in neutral or weak acid solution. Hydrolyzed by alkali. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3355	CHLORONEB		Safety glasses with shields, rubber gloves, and dust mask. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	A weak base. [[Details on specifics of reactivity not yet available.]]								0																								
3356	CHLOROPENTAFLUOROETHANE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Acid vapor mask; rubber gloves; face shield; acid resistant clothing (USCG, 1999)	Fumes in air. Reacts with moist air to form vanadic acid and hydrochloric acid fumes [Von Schwartz 1918. p.321]. Reacts exothermically with water to generate acidic fumes and acidic solutions. Violently hygroscopic.	VANADIUM OXYTRICHLORIDE is incompatible with bases, including amines, with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Combination with sodium metal led to a violent explosion [Bretherick 5th ed., 1995].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		-107	
3357	CHLOROPHACINONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-METHYL-2-NITROANILINE is incompatible with acids, acid chlorides, acid anhydrides, chloroformates, and strong oxidizers (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		315														(NTP, 1992)		243	
3358	CHLOROPHENOLS, LIQUID	Avoid inhalation. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	On contact with moisture it produces highly corrosive and toxic fumes of hydrogen fluoride gas.	METHANESULFONYL FLUORIDE is corrosive, toxic liquid. Vigorous reaction with water, steam, alkali. A dangerous storage hazard. On contact with moisture it produces highly corrosive and toxic fumes of hydrogen fluoride gas. When heated to decomposition it emits toxic fumes of fluoride, and oxides of sulfur [M. K.]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3389 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3359	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. pH (1% aqueous solution) 4.8-6 (NTP, 1992).	METHDILAZINE HYDROCHLORIDE is sensitive to exposure to light. (NTP, 1992) An acidic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																				(NTP, 1992)		370 to 372	
3360	CHLOROSILANES, CORROSIVE, N.O.S.	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Stable in neutral or weak acid solution. Hydrolyzed by alkali. [EPA, 1998].	Organophosphates, such as METHIDATHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		102 to 104	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3355	CHLORONEB																									(USCG, 1999)		302.811													DSZ		Zn(NH4)2(OOCCH2)2NCH2CH2N(CH2COO)2		2.0	0.0	2.0	1.0	1.0
3356	CHLOROPENTAFLUOROETHANE														(USCG, 1999)		1.83		68		(USCG, 1999)		259		760		(USCG, 1999)		173.3											VOT	Corrosive	VOCl3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3357	CHLOROPHACINONE								(NTP, 1992)		5.25				(NTP, 1992)		1.164		250								(NTP, 1992)		152.15						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0
3358	CHLOROPHENOLS, LIQUID																				(EPA, 1998)		255		760		(EPA, 1998)		98.1											Poison Inhalation Hazard|Corrosive	CH3FO2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3359	CHLOROSILANES, CORROSIVE, FLAMMABLE, N.O.S.																									(NTP, 1992)		332.92						(NTP, 1992)	at 63Â° F		50 to 100	mg/mL			C18H20N2S.ClH	Mineral-Based & Clay-Based Absorbents	5.0	0.0	5.0	1.0	1.0
3360	CHLOROSILANES, CORROSIVE, N.O.S.	(EPA, 1998)		1.00E-06		68		mm Hg							(EPA, 1998)		1.495		68								(EPA, 1998)		302.34											Poison	C6H11N2O4PS3		5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3361	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	CHLOROSILANE, [EMITS FLAMMABLE GAS WHEN WET, CORROSIVE LABELS]|CHLOROSILANES [EMITS WET GAS]|CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	13465-78-6	Chlorosilanes are a class of liquids that range in color from clear colorless to light yellow colored. A clear to light yellow liquid. Slightly more dense than water. Contact may burn skin, eyes and mucous membranes. May be toxic by ingestion, inhalation, and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5124.0	507.0	1747.0	910.0	546.0	1531.0	151.0	527.0	288.0	153.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and sulfur oxides. Do not subject liquid formulations to temperatures below 32F. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid) Wear self-contained breathing apparatus. (Non-Specific -- Carbamate Pesticide, Solid) Use agent suitable for type of surrounding fire. Use water in flooding quantities as a fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
3362	CHLOROTOLUENES	AR-CHLOROTOLUENE|BC|BENZENE,1-CHLORO-4-METHYL|4-CHLORO-1-METHYLBENZENE|1-CHLORO-4-METHYLBENZENE|CHLOROMETHYLBENZENE|CHLOROTOLUENE|4-CHLOROTOLUENE|CHLOROTOLUENES|1-METHYL-4-CHLOROBENZENE|4-METHYLPHENYL CHLORIDE|OXSOL 10|P-CHLOROMETHYLBENZENE|P-CHLOROTOLUENE|P-METHYLCHLOROBENZENE|P-TOLYL CHLORIDE|PARA-CHLOROTOLUENE|PARA-TOLYL CHLORIDE|TOLUENE, AR-CHLORO-|TOLUENE, P-CHLORO-|TOLUENE,P-CHLORO	25168-05-2	A colorless liquid. Insoluble in water. Flash point of less than 141Â°F. Density 8.9 lb / gal. A mixture of three isomers: ortho-, meta-, and para-. Vapors from all three irritate and will produce a narcotic effect if inhaled at high concentrations. Used as solvents and as intermediates for making other chemicals and dyes.	2.5	5.0	2.5	5124.0	507.0	1747.0	910.0	546.0	1531.0	151.0	527.0	288.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3363	CHLOROTRIANISENE	ANISENE|CHLORESTROLO|1-CHLORO-1,2,2-TRI-(4-METHOXYPHENYL) ETHENE|1,1',1"-(1-CHLORO-1-ETHENYL-2-YLIDENE)-TRIS(4-METHOXYBENZENE)|1,1',1"-(1-CHLORO-1-ETHENYL-2-YLIDENE)TRIS(4-METHOXY)BENZENE|CHLOROTRIANISEN|CHLOROTRIANISENE|CHLOROTRIANIZEN|CHLOROTRIS(P-METHOXYPHENYL)ETHYLENE|CHLOROTRISIN|CHLORTRIANIZEN|CLORESTROLO|CLOROTRISIN|CTA|ETHYLENE, CHLOROTRIS(P-METHOXYPHENYL)-|HORMONISENE|KHLORTRIANIZEN|MERBENTUL|METACE|NSC 10108|NSC-10108|RIANIL|TACE|TACE (PHARMACEUTICAL)|TACE-FN|TRI-P-ANISYLCHLOROETHYLENE|TRIANISYLCHLOROETHYLENE|TRIS(P-METHOXYPHENYL)CHLORO	569-57-3	PHYSICAL DESCRIPTION: Small white crystals or white powder. Softens at 226Â°F. Odorless. (NTP, 1992)	1.0	2.5	5.0	5124.0	507.0	1747.0	910.0	546.0	1531.0	151.0	527.0	288.0	153.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide, or dry chemical extinguisher. (NTP, 1992)
3364	CHROMOGLICIC ACID	ACID)|1,3-BIS(2-CARBOXYCHROMON-5-YLOXY)-2-HYDROXYPROPANE|CHROMOGLICIC ACID|CROMOGLICIC ACID|CROMOGLYCIC ACID)|CROMOLYN|1,3-DI(2-CARBOXY-4-OXOCHROMEN-5-YLOXY)PROPAN-2-OL|4H-1-BENZOPYRAN-2-CARBOXYLIC ACID, 5,5'-[(2-HYDROXYTRIMETHYLENE) DIOXY]BIS[4-OXO-|5,5'-[(2-HYDROXY-1,3-PROPANEDIYL)BIS(OXY)]BIS[4-OXO-4H-1-BENZOPYRAN-2-|5,5'-[(2-HYDROXYTRIMETHYLENE) DIOXY]BIS(4-OXO-4H-1-BENZOPYRAN-2-CARBOXYLIC|5,5'-(2-HYDROXYTRIMETHYLENEDIOXY)BIS(4-OXOCHROMENE-2-CARBOXYLIC ACID)	16110-51-3	PHYSICAL DESCRIPTION: Solid. (NTP, 1992)	1.0	2.5	5.0	5124.0	507.0	1747.0	910.0	546.0	1531.0	151.0	527.0	288.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3365	CHROMOSULFURIC ACID	CHROMOSULFURIC ACID|CHROMOSULPHURIC ACID	65272-71-1	Chromosulfuric acid is a colorless, oily liquid. It is soluble in water with the release of heat. It is corrosive to skin and metals.	2.5	5.0	2.5	5125.0	507.0	1748.0	910.0	546.0	1532.0	151.0	528.0	288.0	153.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3361	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	Caution : Flammable. Avoid sources of extreme heat or ignition including sparks or fire. Methomyl will liberate toxic nitrogen and sulfur oxide fumes when heated to decomposition. (Non-Specific -- Carbamate Pesticide, Solid) Keep unnecessary people away; isolate hazard areas and deny entry. Stay upwind and keep out of low areas. Do not touch spilled material, or handle broken packages without protective equipment. Do not breathe dust, vapors, or the fumes from burning material. (EPA, 1998)	(BLOB)	Water soluble.	METHOMYL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		172 to 174
3362	CHLOROTOLUENES	STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Water soluble.	METHOXYACETIC ACID is incompatible with alkalis and metals. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 235																	(NTP, 1992)		45.9	
3363	CHLOROTRIANISENE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations. Insoluble in water.	DIAZOAMINOBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This compound explodes when heated to above 150Â°C. A mixture of the triazine and acetic anhydride exploded violently upon warming, Ber., 1891, 24, 4160.	Explosive						0																								(NTP, 1992)		208	
3364	CHROMOGLICIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated azo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																											
3365	CHROMOSULFURIC ACID	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	METHOXYISOPROPYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3361	CHLOROSILANES, WATER-REACTIVE, FLAMMABLE, CORROSIVE, N.O.S.	(EPA, 1998)		5.00E-05		77		mm Hg							(EPA, 1998)		1.2946		75								(EPA, 1998)		162.23						(NIOSH, 2003)	at 77Â° F	6		%		Poison	C5H10N2O2S		5.0	0.0	5.0	1.0	1.0
3362	CHLOROTOLUENES	(NTP, 1992)	; 40 mm Hg at 252Â° F; 400 mm Hg at 363.6Â° F	1		126.5		mm Hg							(NTP, 1992)		1.177		68		(NTP, 1992)			397 to 399	760		(NTP, 1992)		90.09						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Corrosive	C3H6O3		2.0	0.0	2.0	1.0	1.0
3363	CHLOROTRIANISENE								(NTP, 1992)		6.8										(NTP, 1992)	explodes	302		760		(NTP, 1992)		197.11						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C12H11N3		1.0	0.0	3.0	1.0	1.0
3364	CHROMOGLICIC ACID																										(NTP, 1992)		207.15						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C8H5N3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3365	CHROMOSULFURIC ACID																																								Flammable Liquid	C4H11NO	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3366	CHRYSOPHANIC ACID	ANTHRAQUINONE, 1,8-DIHYDROXY-3-METHYL-|C.I. 75400|C.I. NATURAL YELLOW 23|CHRYSOPHANIC ACID|CHRYSOPHANOL|4,5-DIHYDROXY-2-METHYLANTHRAQUINONE|1,8-DIHYDROXY-3-METHYL-9,10-ANTHRACENEDIONE|1,8-DIHYDROXY-3-METHYLANTHRAQUINONE|3-METHYL-1,8-DIHYDROXYANTHRAQUINONE|2-METHYL-4,5-DIHYDROXYANTHRAQUINONE|3-METHYLCHRYSAZIN|RHENIC ACID|TURKEY RHUBARB	481-74-3	PHYSICAL DESCRIPTION: Golden yellow plates or brown powder. Melting point 196Â°C. Slightly soluble in water. Pale yellow aqueous solutions turn red on addition of alkali. Solutions in concentrated sulfuric acid are red. (NTP, 1992)	1.0	2.5	5.0	5125.0	507.0	1748.0	910.0	546.0	1532.0	151.0	528.0	288.0	153.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3367	CINNAMYL ANTHRANILATE	2-AMINOBENZOIC ACID 3-PHENYL-2-PROPENYL ESTER|ANTHRANILIC ACID, CINNAMYL ESTER|CINNAMYL 2-AMINOBENZOATE|CINNAMYL ALCOHOL, ANTHRANILATE|CINNAMYL ANTHRANILATE|CINNAMYL O-AMINOBENZOATE|NCI-C03510|3-PHENYL-2-PROPEN-1-YL ANTHRANILATE|3-PHENYL-2-PROPENYL 2-AMINOBENZOATE|3-PHENYL-2-PROPENYL ANTHRANILATE|3-PHENYL-2-PROPENYLANTHRANILATE	87-29-6	PHYSICAL DESCRIPTION: Brownish or reddish-yellow powder or light yellow solid with a fruity taste. (NTP, 1992)	1.0	2.5	5.0	5126.0	507.0	1748.0	910.0	546.0	1533.0	151.0	528.0	288.0	153.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3368	CIS-1,3-DICHLORO-1-PROPENE	CIS-1,3-DICHLORO-1-PROPENE|CIS-1,3-DICHLOROPROPENE|CIS-1,3-DICHLOROPROPYLENE|CIS-3-CHLOROALLYL CHLORIDE|CIS-TELONE|PROPENE, 1,3-DICHLORO-, (Z)-|1-PROPENE, 1,3-DICHLORO-, (Z)-|PROPENE,1,3-DICHLORO-,(Z)-|1-PROPENE,1,3-DICHLORO-,(Z)-(9 CI)|(Z)-1,3-DICHLORO-1-PROPENE|(Z)-1,3-DICHLOROPROPENE	10061-01-5	PHYSICAL DESCRIPTION: Colorless to amber liquid with a sweetish odor. (NTP, 1992)	2.5	5.0	2.5	5126.0	507.0	1748.0	912.0	546.0	1533.0	151.0	528.0	290.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fight fire from maximum distance. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Poisonous Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
3369	CIS-STILBENE	BENZENE, 1,1'-(1,2-ETHENEDIYL)BIS-, (Z)-|CIS-1,2-DIPHENYLETHENE|CIS-1,2-DIPHENYLETHYLENE|CIS-DIPHENYLETHENE|CIS-STILBENE|ISOSTILBENE|STILBENE, (Z)-|(Z)-1,2-DIPHENYLETHENE|(Z)-1,2-DIPHENYLETHYLENE|(Z)-STILBENE	645-49-8	PHYSICAL DESCRIPTION: Oily yellow liquid. Freezing point 5Â°C. Insoluble in water. Soluble in ethanol. Unstable relative to the trans isomer, which is a solid with a melting point of 122-124Â°C.	2.5	5.0	2.5	5127.0	507.0	1748.0	912.0	546.0	1534.0	151.0	528.0	290.0	153.0	(BLOB)	Special Hazards of Combustion Products: When burned in air, gas forms toxic carbonyl fluoride and hydrogen fluoride. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3370	CITRUS RED NO. 2	C.I. 12156|C.I. SOLVENT RED 80|CITRUS RED 2|CITRUS RED NO. 2|2,5-DIMETHOXY-1-(PHENYLAZO)-2-NAPHTHOL|2,5-DIMETHOXYBENZENEAZO-BETA-NAPHTHOL|1-((2,5-DIMETHOXYPHENYL)AZO)-2-NAPHTHALENOL|1-((2,5-DIMETHOXYPHENYL)AZO)-2-NAPHTHOL|1-(1-(2,5-DIMETHOXYPHENYL)AZO)-2-NAPHTHOL|1-(2,5-DIMETHOXYPHENYLAZO)-2-NAPHTHOL|1-(2,5-DIMETHYLOXYPHENYLAZO)-2-NAPHTHOL|2-NAPHTHOL, 1-(2,5-DIMETHOXYPHENYLAZO)-	6358-53-8	PHYSICAL DESCRIPTION: Orange to yellow solid or dark red powder. (NTP, 1992)	1.0	2.5	5.0	5128.0	507.0	1748.0	912.0	546.0	1535.0	151.0	528.0	290.0	153.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3366	CHRYSOPHANIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Reacts with water. The organic acids produced by this reaction are significantly more soluble in water.	4-NITROPHTHALIC ANHYDRIDE reacts exothermically with water. The reactions are usually slow, but might become violent if local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.	Water-Reactive							0																			(NTP, 1992)		246	
3367	CINNAMYL ANTHRANILATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dust/air mixtures may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIBENZO(A,E)PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
3368	CIS-1,3-DICHLORO-1-PROPENE	(Non-Specific -- Poisonous Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	METHYL 2-CHLOROACRYLATE is sensitive to prolonged exposure to light, moisture and heat. This chemical is incompatible with oxidizers and polymerizers. (NTP, 1992)	Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2929 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
3369	CIS-STILBENE	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Self-contained breathing apparatus for high gas concentrations (USCG, 1999)	Flammable. Forms polymeric peroxides that are explosive [Bretherick 1979 p. 164].	TETRAFLUOROETHYLENE reacts with air (oxygen) to form polymeric peroxides that are explosive [Bretherick 1979 p. 164]. Probably susceptible to similar reactions with a number of oxidizing agents.May polymerize violently (inhibitor tends to prevent this reaction). May react violently with aluminum. Contamination of a tetrafluoroethylene gas supply system led to a reaction between the inhibitor, limonene, and the contaminant, iodine pentafluoride. This initiated an explosive polymerization event [MCA Case History No. 1520].	Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	3	7						(NTP, 1992)		50		%	(NTP, 1992)		10		%	(USCG, 1999)		370		(NTP, 1992)		-224.5	
3370	CITRUS RED NO. 2	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dust/air mixtures may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIBENZO(A,H)PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3366	CHRYSOPHANIC ACID																									(NTP, 1992)		193.12						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C8H3NO5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	5.0	0.0	5.0	1.0	1.0
3367	CINNAMYL ANTHRANILATE																																							Poison	C24H18		1.0	0.0	1.0	1.0	1.0
3368	CIS-1,3-DICHLORO-1-PROPENE														(EPA, 1998)		1.189		68		(EPA, 1998)		126		51	(EPA, 1998)		120.54						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison|Flammable Liquid	C4H5ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3369	CIS-STILBENE	(NTP, 1992)		22800		70		mm Hg	(NTP, 1992)		3.87				(NTP, 1992)		1.519		-105		(NTP, 1992)		-105.3		760	(NTP, 1992)		100.02						(NTP, 1992)	Insoluble				TFE	Flammable Gas	C2F4	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3370	CITRUS RED NO. 2																																							Poison	C24H18		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3371	COAL TAR OIL, [LIGHT DISTILLATE]	COAL TAR OIL, [FLAMMABLE LIQUID]|COAL TAR OIL, [LIGHT DISTILLATE]|LIGHT OIL|OILS, MISCELLANEOUS: COAL TAR	65996-91-0	Low-boiling liquid separated from coal tar by distillation. Contains benzene, toluene, xylenes, cumenes, coumarone and indene, among other substances. Colorless to yellow with a pleasant odor. Floats on water. Irritating vapor. Flash point is typically below 80Â° F	2.5	5.0	2.5	5129.0	507.0	1748.0	912.0	546.0	1536.0	151.0	528.0	290.0	153.0	(BLOB)	This chemical is nonflammable. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3372	COBALT RESINATE, PRECIPITATED	COBALT RESINATE, PRECIPITATED|COBALT RESINATE, [PRECIPITATED]|RESIN ACIDS, COBALT SALTS	68956-82-1	Cobalt resinate, precipitated is a reddish brown powder. If it comes in contact with air, spontaneous heating may result. This heat may be sufficient to ignite the material itself or other combustible material. It is insoluble in water. It is used as a drier in paints.	1.0	2.5	5.0	5129.0	507.0	1748.0	912.0	546.0	1536.0	151.0	528.0	290.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3373	COBALTOUS FORMATE	COBALT DIFORMATE|COBALT FORMATE|COBALT FORMATE (CO(O2CH)2)|COBALT(2+) FORMATE|COBALTOUS FORMATE	544-18-3	Cobaltous formate is a red crystalline solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit the spread to the environment. It is used to make catalysts for use in chemical manufacture.	1.0	2.5	5.0	5130.0	507.0	1749.0	912.0	546.0	1537.0	151.0	529.0	290.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3374	COCCULUS	(BLOB)	124-87-8	A poisonous berry, the dried fruit of Anamirta cocculus L. Contains several substances including about one percent picrotoxin. Pure picrotoxin occurs as shiny leaflets with an intensely bitter taste or as a microcrystalline powder. Very poisonous!. Used in medicine as a central nervous system stimulant and antidote for barbiturate poisoning. Not currently regarded as a useful therapeutic agent.	1.0	2.5	5.0	5131.0	508.0	1749.0	912.0	546.0	1538.0	152.0	529.0	290.0	153.0	(BLOB)	It will ignite spontaneously in moist air at room temperature. Also, it reacts violently with vaporizing liquid-type extinguishing agents. It hydrolyzes in water to hydrogen and boric acid. Incompatible with air, halogenated compounds, aluminum, lithium, active metals, oxidized surfaces, chlorine, fuming nitric acid, nitrogen trifluoride, oxygen, and phosphorus trifluoride. Avoid moist air, electrical sparks, open flames or any other heat source. Hazardous polymerization may occur. (EPA, 1998)	Firefighting should be done from an explosion-resistant location. Use water from unmanned monitors or hose holders to keep fire-exposed containers cool. If it is necessary to stop flow of gas, use water spray to protect personnel effecting shut-off. Personnel should be evacuated immediately. Self-contained breathing apparatus and full protective clothing should be worn. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Inert gas substances such as liquid nitrogen are recommended as fire extinguishing agents. (EPA, 1998)
3375	COPPER LACTATE	COPPER LACTATE	16039-52-4	Greenish-blue crystals or granular powder.	1.0	2.5	5.0	5132.0	508.0	1749.0	912.0	546.0	1539.0	152.0	529.0	290.0	153.0	INHALATION: Remove from exposure. Give oxygen if needed. INGESTION: No specific antidote. CONTACT WITH SKIN AND EYES: Remove contaminated clothing; wash skin or eyes if affected. (USCG, 1999)	Special Hazards of Combustion Products: Dissociation products generated in a fire may be irritating or toxic. (USCG, 1999)	Excerpt from GUIDE 160 [Halogenated Solvents]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3376	COUMAPHOS	(BLOB)	56-72-4	Slightly brownish crystals with a slight sulfurous odor. Used for the control of a wide variety of livestock insects including cattle grubs, lice, scabies, flies, and ticks; the common ectoparasites of sheep, goats, horse, swine, and poultry as well as for screwworms in all these animals. (EPA, 1998)	1.0	2.5	5.0	5132.0	508.0	1749.0	912.0	546.0	1539.0	152.0	529.0	290.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3377	CREOSOTE, BEECHWOOD	BEECHWOOD CREOSOTE|CREASOTE|CREOSOTE|CREOSOTE BEECHWOOD|CREOSOTE, BEECHWOOD|CREOSOTE, WOOD|LIQUID PITCH OIL|WOOD CREOSOTE	8021-39-4	PHYSICAL DESCRIPTION: Colorless to yellowish oily liquid with a smoky odor and caustic burning taste. (NTP, 1992)	2.5	5.0	2.5	5132.0	508.0	1749.0	912.0	546.0	1539.0	152.0	529.0	290.0	153.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3371	COAL TAR OIL, [LIGHT DISTILLATE]	Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Apply water spray or mist to knock down vapors. Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Absorb bulk liquid with fly ash, cement powder, or commercial sorbents. Neutralize with dilute caustic soda (NaOH) or soda ash (Na2CO3). Water spill: Use natural barriers or oil spill control booms to limit spill travel. Neutralize with agricultural lime (CaO), crushed limestone (CaCO3), or sodium bicarbonate (NaHCO3). Remove trapped material with suction hoses. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	TRIMETHYL PHOSPHATE may explode when heated. Residue from a large scale atmospheric pressure distillation of this chemical has exploded violently. It is incompatible with nitrates. (NTP, 1992). Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 300															(NTP, 1992)		-51	
3372	COBALT RESINATE, PRECIPITATED	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]								0																					
3373	COBALTOUS FORMATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Organosulfides, such as DIBENZYL SULFIDE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 230															(NTP, 1992)		120 to 122	
3374	COCCULUS	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Ignites spontaneously in moist air (forms hydrogen and boric acid), [Haz. Chem. Data (1966)]. Oxygen and diborane form spontaneously explosive mixtures, [J. Amer. Chem. Soc. 76, 1997(1954)].	It is a colorless, air and moisture-sensitive gas, highly toxic. It ignites in air. It is very explosive when exposed to heat or flame, on contact with moisture it produces hydrogen gas. Explosive reaction with benzene vapor, chlorine, nitric acid and tetravinyllead [Bretherick, 5th ed., 1995, p. 77]. Explosive reaction with dimethyl sulfoxide [Shriver, 1969, p. 209], violent reaction with halocarbon liquids used as fire extinguishants (e.g., carbon tetrachloride). Reaction with Al or Li produces complex hydrides that may ignite spontaneously in air [Haz. Chem. Data, 1975, p. 114].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1911 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	3	7	No Water	(EPA, 1998)		-130		(EPA, 1998)		0.8		%	(EPA, 1998)		88		%	(NTP, 1992)		100 to 126	(EPA, 1998)		-265	
3375	COPPER LACTATE	Excerpt from GUIDE 160 [Halogenated Solvents]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. SMALL LIQUID SPILL: Take up with sand, earth or other non-combustible absorbent material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Organic vapor canister mask, safely glasses, protective clothing. (USCG, 1999)	Insoluble in water.	Halogenated aliphatic compounds, such as DIBROMOMETHANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals (potassium), and epoxides.		Excerpt from GUIDE 160 [Halogenated Solvents]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)		-62.5	
3376	COUMAPHOS	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	5-DIETHYLAMINO-2-NITROSO-4-METHYLPHENOL may react with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides.								0																					
3377	CREOSOTE, BEECHWOOD	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved respirator, chemical safety goggles, chemical-resistant gloves, other protective clothing. (USCG, 1999)	Highly flammable. Slightly soluble in water.	METHYL BUTYRATE reacts exothermically with acids to generate alcohols and carboxylic acids. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with basic or caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		57		(USCG, 1999)		0.9		%	(USCG, 1999)		3.5		%				(NTP, 1992)		-139	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3371	COAL TAR OIL, [LIGHT DISTILLATE]	(NTP, 1992)	; 5 mm Hg at 128.7Â° F; 10 mm Hg at 154.0Â° F	1		78.8		mm Hg							(NTP, 1992)		1.2144		68		(NTP, 1992)		387		760		(NTP, 1992)		140.08						(NTP, 1992)		at 68Â° F		greater than or equal to 100	mg/mL		Corrosive	C3H9O4P		1.0	0.0	1.0	1.0	1.0
3372	COBALT RESINATE, PRECIPITATED																										(NTP, 1992)		286.29													C15H14N2O4		3.0	0.0	3.0	1.0	1.0
3373	COBALTOUS FORMATE														(NTP, 1992)		1.0712		122		(NTP, 1992)	Decomposes					(NTP, 1992)		214.32						(NTP, 1992)		at 70Â° F		less than 1	mg/mL		Class 9	C14H14S		4.0	0.0	5.0	1.0	1.0
3374	COCCULUS	(EPA, 1998)		224		-169.6		mm Hg	(EPA, 1998)		1				(EPA, 1998)		0.447		-169.6		(EPA, 1998)		-135		760		(EPA, 1998)		27.69		(NIOSH, 2003)		15	ppm	(NTP, 1992)	Decomposes					Poison Gas	Flammable Gas	B2H6		2.0	0.0	4.0	1.0	1.0
3375	COPPER LACTATE	(USCG, 1999)		87.89				mm Hg							(USCG, 1999)		2.497		68		(USCG, 1999)		206.6		760		(USCG, 1999)		173.83											DBH	Poison	CH2Br2		1.0	0.0	1.0	1.0	1.0
3376	COUMAPHOS																										(NTP, 1992)		208.26													C11H16NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0
3377	CREOSOTE, BEECHWOOD	(NTP, 1992)	; 40 mm Hg at 85.3Â° F; 60 mm Hg at 99.3Â° F	0.84		68		mm Hg	(NTP, 1992)		3.53				(USCG, 1999)		0.8984		68		(NTP, 1992)		216		760		(NTP, 1992)		102.15						(NTP, 1992)		at 72Â° F		10 to 50	mg/mL	MBU	Flammable Liquid	C5H10O2		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3378	CROTON OIL	CROTON OIL|CROTON RESIN|CROTON TIGLIUM L OIL|OILS, CROTON TIGLIUM|OLEUM TIGLII|TIGLIUM OIL	8001-28-3	Colorless liquid with an unpleasant odor. Less dense than water and insoluble in water. Hence floats on water. A mixture of esters (the glycerides of stearic, palmitic myristic, lauric and oleic acids) and croton resin. Toxic and a strong skin irritant.	2.5	5.0	2.5	5133.0	508.0	1749.0	912.0	546.0	1540.0	152.0	529.0	290.0	153.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases are generated in fires. Behavior in Fire: Containers may explode (USCG, 1999)	(BLOB)
3379	CROTONYLENE	CROTONYLENE|DIMETHYLA CETYLENE	503-17-3	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5134.0	508.0	1749.0	914.0	546.0	1541.0	152.0	529.0	292.0	153.0	Call a physician. EYES: Hold eyelids open, flush with running water for at least 15 minutes. SKIN: Remove contaminated clothing and shoes. Flush affected areas with water for at least 15 minutes. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do nothing except keep victim warm. DO NOT INDUCE VOMITING (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes of hydrogen chloride (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3380	CRUFOMATE	AMIDOFOS|AMIDOPHOS|2-CHLORO-4-(1,1-DIMETHYLETHYL)PHENYL METHYL METHYLPHOSPHORAMIDAT E|CRUFOMAT|CRUFOMATE| DOWCO 132|DOWCOÂ® 132|MONTREL|NSC 253463|PHOSPHORAMIDIC ACID, METHYL-, 4-TERT-BUTYL-2-CHLOROPHENYL METHYL ESTER|RUELENE|RUELENE DRENCH|RUELENEÂ®|4-T-BUTYL-2-CHLOROPHENYLMETHYL METHYLPHOSPHORAMIDAT E|4-TERT-BUTYL-2-CHLOROPHENYL METHYL METHYLPHOSPHORAMIDAT E|4-TERT-BUTYL-2-CHLOROPHENYL METHYL N METHYLPHOSPHORAMIDAT E|4-TERT-BUTYL-2-CHLOROPHENYL N-METHYL O-METHYLPHOSPHORAMIDAT E	299-86-5	White crystalline solid Mp: 61.5Â°C. The commercial product is a yellow oil. A phosphoramidate insecticide.	1.0	2.5	5.0	5134.0	508.0	1749.0	914.0	546.0	1541.0	152.0	529.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3381	CRYSTAL VIOLET LACTONE	3,3-BIS(4-(DIMETHYLAMINO)PHENYL)-6-(DIMETHYLAMINO)PHTHAL IDE|3,3-BIS(P-(DIMETHYLAMINO)PHENYL)-6-(DIMETHYLAMINO)PHTHAL IDE|3,3-BIS(P-DIMETHYLAMINOPHENYL)-6-DIMETHYLAMINOPHTHALI DE|3,3-BIS[4-(DIMETHYLAMINO)PHENYL]-6-(DIMETHYLAMINO)PHTHAL IDE|3,3-BIS[P-(DIMETHYLAMINO)PHENYL]-6-(DIMETHYLAMINO)PHTHAL IDE|COPIKEM I|CRYSTAL VIOLET LACTONE|CVL|6-(DIMETHYLAMINO)-3,3-BIS(4-(DIMETHYLAMINO)PHENYL)-1(3H)-ISOBENZOFURANONE|6-(DIMETHYLAMINO)-3,3-BIS(P-	1552-42-7	PHYSICAL DESCRIPTION: Blue-green crystals or pale green powder. (NTP, 1992)	1.0	2.5	5.0	5134.0	508.0	1749.0	914.0	546.0	1541.0	152.0	529.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3382	CUPRIETHYLENEDIAMINE HYDROXIDE SOLUTION	CUPRIETHYLENE-DIAMINE SOLUTION|CUPRIETHYLENE DIAMINE HYDROXIDE SOLUTION|CUPRIETHYLENE DIAMINE SOLUTION|CUPRIETHYLENE DIAMINE, SOLUTION	14552-35-3	A purple liquid with an ammonia-like odor. Corrosive to metals. Strong irritant to tissues. Produces toxic oxides of nitrogen during combustion. It is used as an aquatic herbicide (Komeen).	2.5	5.0	2.5	5134.0	508.0	1749.0	914.0	546.0	1541.0	152.0	529.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3378	CROTON OIL	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	METHYL CHLORIDE can react vigorously with oxidizing agents. May react explosively with sodium, potassium, sodium-potassium alloy, magnesium, zinc. Reacts with aluminum powder in the presence of catalytic amounts of aluminum chloride to form pyrophoric trimethylaluminum. When heated to decomposition, it emits highly toxic fumes of chlorine [Bretherick, 5th ed., 1995, p. 176].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NTP, 1992)		-49.9		(NTP, 1992)		8.1		%	(NTP, 1992)		17.2		%	(USCG, 1999)		1170		(NTP, 1992)		-143	
3379	CROTONYLENE	(BLOB)	Approved respirator, chemical safety goggles, chemical-resistant gloves, other protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	METHYL CHLOROACETATE is a halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(USCG, 1999)		125		(USCG, 1999)		7.5		%	(USCG, 1999)		18.5		%	(USCG, 1999)		869		(USCG, 1999)		-26	
3380	CRUFOMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Forms white precipitate in water. Insoluble in water.	DIBUTYLTIN DIACETATE is stable under normal laboratory conditions. This compound may react with oxidizers. (NTP, 1992). Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		290														(NTP, 1992)			less than 53.6
3381	CRYSTAL VIOLET LACTONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to air or heat. (NTP, 1992). Insoluble in water.	DIBUTYLTIN DILAURATE is strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		446														(NTP, 1992)			72 to 75
3382	CUPRIETHYLENEDIAMINE HYDROXIDE SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	A halogenated ester derivative. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3378	CROTON OIL	(NTP, 1992)	; 3672 mm Hg at 68Â° F	760		-11		mm Hg	(NTP, 1992)		1.8				(USCG, 1999)		0.997		-11.2		(NTP, 1992)		-11.6		760		(NTP, 1992)		50.49		(NIOSH, 2003)	; A potential human carcinogen.	2000	ppm	(NTP, 1992)	Slightly soluble				MTC	Flammable Gas	CH3Cl		1.0	0.0	1.0	1.0	1.0
3379	CROTONYLENE	(USCG, 1999)		16.54				mm Hg							(USCG, 1999)		1.2337		68		(USCG, 1999)		266		760		(USCG, 1999)		108.52											MED	Poison	Flammable Liquid	C3H5ClO2		2.0	0.0	3.0	1.0	1.0
3380	CRUFOMATE								(NTP, 1992)		12.1				(NTP, 1992)		1.31		77		(NTP, 1992)		266		2		(NTP, 1992)		351.05						(NTP, 1992)	at 59Â° F: forms white precipitate		less than 1	mg/mL		Poison	C12H24O4Sn		2.0	0.0	2.0	1.0	1.0
3381	CRYSTAL VIOLET LACTONE								(NTP, 1992)		21.8				(NTP, 1992)		1.066		68								(NTP, 1992)		631.55						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C32H64O4Sn		5.0	0.0	5.0	1.0	1.0
3382	CUPRIETHYLENEDIAMINE HYDROXIDE SOLUTION																											(NTP, 1992)		304.79													C17H17ClO3		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3383	CYANAZINE	CYANAZINE	21725-46-2	Colorless crystals. Non corrosive when dry. Used as a selective systemic herbicide.	1.0	2.5	5.0	5134.0	508.0	1749.0	914.0	546.0	1541.0	152.0	529.0	292.0	153.0	(BLOB)	Flash point data for this chemical is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3384	CYANIDE SOLUTION, N.O.S.	CARBON NITRIDE ION (CN1-)(CYANIDE (CN1-)(CYANIDE ANION|CYANIDE ION|CYANIDE ION (CN(1-))|CYANIDE ION(1-)(CYANIDE SOLUTION|CYANIDE SOLUTION, N.O.S.|CYANIDE(1-)(CYANIDE(1-) ION|CYANIDES (SOLUBLE SALTS AND COMPLEXES)|HYDROCYANIC ACID, ION(1-)|ISOCYANIDE|NITRILE ANION	57-12-5	Aqueous solutions with a faint odor of bitter almonds. Toxic by skin absorption, by ingestion, and inhalation of the hydrogen cyanide from the decomposition of the material. Toxic oxides of nitrogen are produced in fires involving this material. Obtain the technical name of the material from the shipping papers and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5135.0	508.0	1750.0	914.0	546.0	1542.0	152.0	530.0	292.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3385	CYANIDES, INORGANIC, N.O.S.	CARBON NITRIDE ION (CN1-)(CYANIDE (CN1-)(CYANIDE ANION|CYANIDE ION|CYANIDE ION (CN(1-))|CYANIDE ION(1-)(CYANIDE(1-)|CYANIDE(1-) ION|CYANIDES (SOLUBLE SALTS AND COMPLEXES)|CYANIDES, INORGANIC, N.O.S.|CYANIDES, INORGANIC, SOLID, N.O.S.|CYANIDES, [DRY]|HYDROCYANIC ACID, ION(1-)|ISOCYANIDE|NITRILE ANION	57-12-5	Generally white crystals or powders but possibly colored Toxic by skin absorption through open wounds, by ingestion, and inhalation of the hydrogen cyanide from the decomposition of the material. Toxic oxides of nitrogen are produced in fires. Obtain the technical name of the material form the shipping papers and contact CHEMTREC, 800-424-9300 for specific response information.	1.0	2.5	5.0	5135.0	508.0	1750.0	914.0	546.0	1542.0	152.0	530.0	292.0	153.0	Call a physician. EYES: Flush with water. SKIN: Wash with water. INGESTION: Gastric lavage and symptomatic therapy. (USCG, 1999)	Not flammable. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3386	CYANOGEN	CARBON NITRIDE|CARBON NITRIDE (C2N2)|CYANOGEN|CYANOGEN (C2N2)|CYANOGEN GAS|CYANOGEN, GAS|CYANOGEN, LIQUEFIED|DICYAN|DICYANOGEN|ETHANE DINITRILE|ETHANEDINITRILE|NITRILOACETONITRILE|OXALIC ACID DINITRILE|OXALONITRILE|OXALYL CYANIDE	460-19-5	A colorless gas with an odor of almonds. Freezes at -28Â°C and boils at -20.7Â°C. Shipped as a liquid confined under its vapor pressure. The gas is heavier than air and a flame can travel back to the source of leak very easily. Prolonged exposure to fire or intense heat may cause the containers to violently rupture and rocket. Used to make other chemicals, as a fumigant, and as a rocket propellant.	5.0	1.0	1.0	5136.0	508.0	1750.0	914.0	546.0	1543.0	152.0	530.0	292.0	153.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3387	CYANOGEN CHLORIDE, INHIBITED	CHLORCYAN|CHLORINE CYANIDE|CHLORINE CYANIDE (CLCN)|CHLOROCYAN|CHLOROCYANIDE|CHLOROCYANIDE (CLCN)|CHLOROCYANOGEN|CYANOCHLORIDE (CNCL)|CYANOGEN CHLORIDE|CYANOGEN CHLORIDE ((CN)CL)|CYANOGEN CHLORIDE (CLCN)|CYANOGEN CHLORIDE, INHIBITED|CYANOGEN CHLORIDE, [WITH < 0.9% WATER]	506-77-4	A colorless gas or liquid with a strong acrid/pungent odor. Boils at 60Â°F. Liquid density 10.0 lb / gal. Shipped as a liquid confined under its own vapor pressure. A highly toxic lachrymator. Has been used as a tear gas. Vapor is heavier than air. Prolonged exposure of the container to fire or intense heat may cause violent rupturing and rocketing.	5.0	1.0	1.0	5137.0	508.0	1750.0	914.0	546.0	1544.0	152.0	530.0	292.0	153.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3383	CYANAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	A weak organic base. [[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)		greater than 572
		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	TRIMETHYLBENZENE is incompatible with the following: Oxidizers, nitric acid (NIOSH, 1997).		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NIOSH, 2003)		122													(NIOSH, 2003)		-49	
3384	CYANIDE SOLUTION, N.O.S.																																			
3385	CYANIDES, INORGANIC, N.O.S.	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Wear goggles, self-contained breathing apparatus, protective clothing, and rubber gloves. (USCG, 1999)	Not soluble in water.	A halogenated nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.				(USCG, 1999)	Not Applicable. Not flammable.			(USCG, 1999)		293 to 294.8
3386	CYANOGEN	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Generates acid mists when exposed to moist air. Dissolves in water with formation of an acidic solution and generation of acidic fumes.	VANADIUM TRICHLORIDE attacks many organic compounds. Can catalyze organic reactions. Aqueous solutions react as acids to neutralize bases. These neutralizations generate heat, but less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. Combination of the trichloride with methylmagnesium iodide, or other Grignard type reagents, can be violently explosive under a variety of conditions, Chem. Rev., 1955, 55, 560.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
3387	CYANOGEN CHLORIDE, INHIBITED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Vanadium trioxide undergoes slow air oxidation at room temperature [Kirk-Othmer]. It does ignite upon heating in air. Slightly soluble in water.	VANADIUM TRIOXIDE is basic. Reacts rapidly with chlorine. soluble in alkalis and in hydrofluoric acid.	Known Catalytic Activity	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3383	CYANAZINE																									(NTP, 1992)		249.18						(NTP, 1992)	at 70.7Â°F		5 to 10	mg/mL			C8H5NO5S.Na		5.0	0.0	5.0	1.0	1.0
3384	CYANIDE SOLUTION, N.O.S.	(NIOSH, 2003)		2				mm Hg							(NIOSH, 2003)		0.86				(NIOSH, 2003)		329		760		(NIOSH, 2003)		120.2						(NIOSH, 2003)		0.002		%		Flammable Liquid	C9H12		4.0	0.0	5.0	1.0	1.0
3385	CYANIDES, INORGANIC, N.O.S.	(USCG, 1999)		20.94		220		mm Hg													(USCG, 1999)		518		760		(USCG, 1999)		172											DIB	Class 9	C7H3Cl2N		4.0	0.0	5.0	1.0	1.0
3386	CYANOGEN																																								Corrosive	VCl3		3.0	0.0	3.0	1.0	1.0
3387	CYANOGEN CHLORIDE, INHIBITED																																								Poison	O3V2		5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3388	CYCLOHEPTANE	CYCLOHEPTANE	291-64-5	A colorless oily liquid. Insoluble in water and less dense than water. Flash point 60Â°F. Vapors heavier than air. Inhalation of high concentrations may have a narcotic effect. Used to make other chemicals.	2.5	5.0	2.5	5137.0	508.0	1750.0	914.0	546.0	1544.0	152.0	530.0	292.0	153.0	(BLOB)	Behavior in Fire: Explosive. (USCG, 1999)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3389	CYCLOHEPTATRIENE	CYCLOHEPTATRIENE|TROPILIDEN|TROPILIDENE	544-25-2	A colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Inhalation of high concentrations may have a narcotic effect. Used to make other chemicals.	2.5	5.0	2.5	5137.0	508.0	1751.0	914.0	546.0	1544.0	152.0	531.0	292.0	153.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3390	CYCLOHEPTENE	CIS-CYCLOHEPTENE|CYCLOHEPTENE	628-92-2	A colorless oily liquid. Insoluble in water and less dense than water. Vapors heavier than air. Inhalation of high concentrations may have a narcotic effect. Used to make other chemicals.	2.5	5.0	2.5	5137.0	508.0	1751.0	914.0	546.0	1544.0	152.0	531.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3391	CYCLOHEXANETHIOL	CYCLOHEXANETHIOL|CYCLOHEXYL MERCAPTAN|CYCLOHEXYL MERCAPTAN|CYCLOHEXYLTHIOL|MERCAPTOCYCLOHEXANE	1569-69-3	A colorless liquid with a strong disagreeable odor. Insoluble in water and less dense than water. Vapors heavier than air. Flash point near 50Â°F.	2.5	5.0	2.5	5138.0	508.0	1751.0	914.0	546.0	1545.0	152.0	531.0	292.0	153.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3392	CYCLOHEXANONE CYANOHYDRIN	1-CYANO-1-HYDROXYCYCLOHEXANE|CYCLOHEXANONE CYANOHYDRIN|CYCLOHEXANONE, CYANOHYDRIN|1-HYDROXYCYCLOHEXANECARBONITRILE	931-97-5	PHYSICAL DESCRIPTION: Brown solid. (NTP, 1992)	1.0	2.5	5.0	5138.0	508.0	1751.0	914.0	546.0	1545.0	152.0	531.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3388	CYCLOHEPTANE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	METHYL ETHYL KETONE PEROXIDE is a strong oxidizing agent. May be ignited by heat, sparks or flame and undergoes self-accelerating decomposition. Explosive decomposition occurs at 230Â° F. Sensitive to sunlight. Ignition and/or explosion may occur if mixed with readily oxidizable materials. Reacts with combustible materials such as wood, cloth or organic materials, with chlorine, and with metals (iron, copper and their alloys and aluminum and its alloys). Incompatible with strong oxidizing agents, strong reducing agents, natural rubbers, synthetic rubbers and chemical accelerators. Incompatible with heavy metals, acids and bases.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		180											(NTP, 1992)	Component 2 (83.33%; LACTOSE)	1032					
3389	CYCLOHEPTATRIENE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		16																
3390	CYCLOHEPTENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Water soluble.	METHYL ETHYL KETOXIME is sensitive to heat. Has exploded at least twice when heated in the presence of acidic impurities [Chem. Eng. News, 1974, 52(35), 3]. Reacts with oxidizing agents. Mixtures with strong acids may explode. Reacts with sulfuric acid to form an explosive product (NTP, 1992).	Highly Flammable; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NTP, 1992)		138															(NTP, 1992)		-21.1	
3391	CYCLOHEXANETHIOL	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble. Reacts slowly with water to give formic acid, a corrosive material, and methanol, a flammable liquid. Both products are dissolved in the water.	METHYL FORMATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NTP, 1992)		-26		(NTP, 1992)		5		%	(NTP, 1992)		23		%	(USCG, 1999)		853		(NTP, 1992)		-147.6	
3392	CYCLOHEXANONE CYANOHYDRIN	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	5-METHOXYPSORALEN may be sensitive to exposure to light. A related chemical is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)	(sublimes)	370	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3388	CYCLOHEPTANE	(NTP, 1992)	Component 2 (83.33%: LACTOSE)		less than 0.01	68		mm Hg	(NTP, 1992)	Component 2 (83.33%: LACTOSE): 6.69					(USCG, 1999)		1.17		68		(NIOSH, 2003)	(Decomposes)	244		760		(NTP, 1992)	Component 1 (16.67%): ADRIAMYCIN HYDROCHLORIDE): 176.24; Component 2 (83.33%: LACTOSE): 194.19									(NTP, 1992)	at 72Â° F		1 to 5	mg/mL	BNP	Organic Peroxide	C8H16O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3389	CYCLOHEPTATRIENE																																									Flammable Liquid|Corrosive	C4H8O	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3390	CYCLOHEPTENE	(NTP, 1992)	; 50.9 mm Hg at 118Â° F	22.6		73		mm Hg	(NTP, 1992)		3				(NTP, 1992)		0.9232		68		(NTP, 1992)		306		760		(NTP, 1992)		87.12						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C4H9NO		1.0	0.0	1.0	1.0	1.0
3391	CYCLOHEXANETHIOL	(NTP, 1992)	; 476 mm Hg at 68Â° F	400		61		mm Hg	(NTP, 1992)		2.07				(USCG, 1999)		0.977		68		(NTP, 1992)		88.7		760		(NTP, 1992)		60.05		(NIOSH, 2003)		4500	ppm	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	MFM	Flammable Liquid	C2H4O2		4.0	0.0	5.0	1.0	1.0
3392	CYCLOHEXANONE CYANOHYDRIN																											(NTP, 1992)		216.19						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Corrosive	C12H8O4		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3393	CYCLOHEXYL ANTHRANILATE	ANTHRANILIC ACID, CYCLOHEXYL ESTER|CYCLOHEXYL ANTHRANILATE	7779-16-0	PHYSICAL DESCRIPTION: Viscous yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5138.0	508.0	1751.0	914.0	546.0	1545.0	152.0	531.0	292.0	153.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated. Behavior in Fire: Vapors may travel a considerable distance and ignite. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3394	CYCLOHEXYLTRICHLOROSILANE	CYCLOHEXYL TRICHLOROSILANE|CYCLOHEXYLTRICHLOROSILANE|TRICHLOROCYCLOHEXYLSILANE|(TRICHLOROSILYL)CYCLOHEXANE	98-12-4	A colorless to pale yellow liquid with a pungent odor. Corrosive to metals and tissue.	2.5	5.0	2.5	5139.0	508.0	1751.0	914.0	546.0	1546.0	152.0	531.0	292.0	153.0	INHALATION: remove victim from exposure; give artificial respiration if needed; call physician. EYES: immediately irrigate with copious amounts of water for 15 min.; call physician. SKIN: wash off skin with large volumes of water for 15 min.; call physician if burn has occurred. INGESTION: induce vomiting; call physician. (USCG, 1999)	Behavior in Fire: May polymerize and explode. (USCG, 1999)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3395	CYCLOPROPANE	CYCLOPROPANE|CYCLOPROPANE, (LIQUEFIED)|CYCLOPROPANE, (LIQUEFIED)|RC 270|TRIMETHYLENE|TRIMETHYLENE (CYCLIC)	75-19-4	Cyclopropane is a colorless gas with a petroleum-like odor. It is shipped as a liquid at 4-6 atms. It is easily ignited. The vapors are heavier than air. Contact with the liquid may cause frostbite. It can asphyxiate by the displacement of air and has a narcotic effect in high concentration (formerly used as an anesthetic gas). Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5139.0	508.0	1751.0	914.0	546.0	1546.0	152.0	531.0	292.0	153.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. Contact lenses should not be worn when working with this chemical. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. INGESTION: DO NOT INDUCE VOMITING. Dilute by drinking large quantity of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as caustic, carbon dioxide and carbon monoxide, may be released in fire. (USCG, 1999)	Fire Extinguishing Agents: Extinguish fire with materials appropriate to adjacent fire. (USCG, 1999)
3396	CYCLOTETRAMETHYLENE TETRANITRAMINE, [WET WITH >= 10% WATER]	BETA-HMX|CYCLOTETRAMETHYLENE TETRANITRAMINE, [WET WITH >= 10% WATER]|CYCLOTETRAMETHYLENETETRANITRAMINE|HMX|HMX 2|HOMOCYCLONITE|HW 4|IRX 21|JO 9159|JO-X|LX 14|LX 14-0|OCTAHYDRO-1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCINE|OCTAHYDRO-1,3,5,7-TETRANITRO-S-TETRAZOCINE|OCTOGEN|OKTOGEN|ORA 86B|PBXC 121|PBXC 126|PBXC 129|PBXKC 1203|PBXN 101|PBXN 110|PBXN 5|PBXN 9|PBXW 11|PBXW 113|PBXW 128|RENOWEX 1001|ROWANEX 2000|ROWANEX 3000|SW 21|TETRAMETHYLENETETRANITRAMINE|1,3,5,7-TETRANITRO-1,3,5,7-TETRAAZACYCLOOCTANE|1,3,5,7-TETRANITRO-1,3,5,7-TETRAZOCANE	2691-41-0	A white crystalline solid. Melting point 281Â°C. Practically insoluble in water. Water slurry mitigates explosion hazard. Used in solid propellants and explosives. The primary hazard is the blast effect and not flying projectiles and fragments.	1.0	2.5	5.0	5139.0	508.0	1751.0	914.0	546.0	1546.0	152.0	531.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3397	CYCLOTRIMETHYLENE TRINITRAMINE, [DESENSITIZED]	A 3|A 3 (EXPLOSIVE)|COMPOSITION A 3|CPX 301|CX 84A|CYCLONITE|CYCLOTRIMETHYLENE TRINITRAMINE, [DESENSITIZED]|CYCLOTRIMETHYLENENITRAMINE|CYCLOTRIMETHYLENETRINITRAMINE|HEXAHYDRO-1,3,5-TRINITRO-1,3,5-S-TRIAZINE|HEXAHYDRO-1,3,5-TRINITRO-1,3,5-TRIAZINE|HEXAHYDRO-1,3,5-TRINITRO-S-TRIAZINE|HEXOGEN|HEXOGEN (EXPLOSIVE)|HEXOGEN 5W|PBX 9407|PBX(AF) 108|PBX-B 2238|PBX-C 117|PBX-L 3|PBX-L 5|PBX-MC|PBX-MVF|PBX-W 108|PBXN 107|PBXN 107A|PBXN 108|PBXN 201|PBXN 6|PBXN(AF) 108|PBXW 108(E)|PE 4|PE 4 (EXPLOSIVE)|PHX 34|RDX|S-TRIAZINE, HEXAHYDRO-1,3,5-TRINITRO-|T4|1,3,5-TRIAZA-1,3,5-	121-82-4	Cyclotrimethylene trinitramine is an explosive. The explosion can be initiated by a sudden shock, high temperature or a combination of the two. The primary hazard is from blast effect and not from flying projectiles and fragments. Under prolonged exposure to heat or fire they can explode.	1.0	2.5	5.0	5139.0	508.0	1751.0	914.0	546.0	1546.0	152.0	531.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3393	CYCLOHEXYL ANTHRANILATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. This chemical is sensitive to air (may form explosive peroxides). Slightly soluble in water.	METHYL ISOBUTYL KETONE is incompatible with caustic soda and other strong alkalis, hydrochloric acid, sulfuric acid and other strong inorganic acids, amines and oxidizing agents such as hydrogen peroxide, nitric acid, perchloric acid and chromium trioxide. It reacts violently with potassium tert-butoxide. It reacts vigorously with reducing materials. (NTP, 1992).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		73		(NTP, 1992)		1.4		%	(NTP, 1992)		7.5		%	(USCG, 1999)		854		(NTP, 1992)		-120.5	
3394	CYCLOHEXYLTRICHLOROSILANE	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	METHYL ISOPROPENYL KETONE, INHIBITED tends to polymerize; this reaction is mostly suppressed by the inhibitor. Can polymerize if heated or contaminated. If confined in a container when polymerization is initiated, the container may violently rupture (USCG, 1999).	Highly Flammable; Polymerizable	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(USCG, 1999)		less than 73	(USCG, 1999)		1.8		%	(USCG, 1999)		9		%					(USCG, 1999)		-65	
3395	CYCLOPROPANE	Neutralizing Agents for Acids and Caustics: Dilute acid. (USCG, 1999)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Reactivity in Water: May generate heat.	The paper industry uses the term "Black Liquor" to signify digester waste or spent sulfate liquor, containing sulfonated lignin, rosin acids, and other waste wood components. Not compatible with aluminum, zinc and tin. Reaction with these can produce hydrogen gas and heat. Contact with acids will produce carbon dioxide and may create alkaline mists. Polymerization: Will not polymerize. Combustion Products: Irritating vapors and toxic gases, such as caustic, carbon dioxide and carbon monoxide, may be released in fire (USCG, 1999).	Water-Reactive						0																							
3396	CYCLOTETRAMETHYLENETETRANITRAMINE, [WET WITH >= 10% WATER]	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DICHLORAN is incompatible with acids, acid chlorides, acid anhydrides, and strong oxidizing agents (NTP, 1992).						0																			(NTP, 1992)		374 to 378
3397	CYCLOTRIMETHYLENETRINITRAMINE, [DESENSITIZED]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Water soluble.	1,3,5-TRIOXANE is stable under normal laboratory conditions but is unstable in the presence of acids, which initiate polymerization. Sublimes readily. May react with oxidizing matter (NTP, 1992). A stable polymeric product of formaldehyde that in the presence of strong aqueous acids will depolymerize (reforming the parent formaldehyde). Inert to strong alkalis. Readily converted in non aqueous solutions to the monomeric formaldehyde by small concentrations of acid---the rate of conversion is directly proportional to the concentration of the acid.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	3	5		(NTP, 1992)		113		(NTP, 1992)		3.6		%	(NTP, 1992)		28.7		%	(NTP, 1992)		777		(NTP, 1992)		147	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3393	CYCLOHEXYL ANTHRANILATE	(NTP, 1992)	; 10 mm Hg at 86.0Â° F	5		67.5		mm Hg	(NTP, 1992)		3.45				(USCG, 1999)		0.802		68		(NTP, 1992)			243 to 244	760		(NTP, 1992)		100.16		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 70Â° F		1 to 5	mg/mL	MIK	Flammable Liquid	C6H12O		2.0	0.0	4.0	1.0	1.0
3394	CYCLOHEXYLTRICHLOROSILANE														(USCG, 1999)		0.85		68		(USCG, 1999)		208		760		(USCG, 1999)		84.1										MPK	Flammable Liquid	C5H8Cl3Si	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	2.0	0.0	4.0	1.0	1.0
3395	CYCLOPROPANE														(USCG, 1999)		1.3				(USCG, 1999)		225		760														VBL			Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3396	CYCLOTETRAMETHYLENE TETRANITRAMINE, [WET WITH >= 10% WATER]	(NTP, 1992)		1.20E-06		68		mm Hg																		(NTP, 1992)		207.02						(NTP, 1992)	at 77Â° F		less than 0.1	mg/mL			C6H4Cl2N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3397	CYCLOTRIMETHYLENE TRINITRAMINE, [DESENSITIZED]	(NTP, 1992)		13		77		mm Hg	(NTP, 1992)		3.1				(NTP, 1992)		1.17		149		(NTP, 1992)		238.1		759		(NTP, 1992)		90.08						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Flammable Solid	C3H6O3		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3398	D,L-1,2:3,4-DIEPOXYBUTANE	2,2'-BIOXIRANE, (R*,R*)-(-+-)-2,2'-BIOXIRANE, (R*,R*)-|BUTANE, 1,2:3,4-DIEPOXY-, (-+-)-|D,L-1,2:3,4-DIEPOXYBUTANE|D,L-DIEPOXYBUTANE|1,2:3,4-DIANHYDRO-DL-THREITOL|(+-)-1,2:3,4-DIEPOXYBUTANE|(.+-.)-DIEPOXYBUTANE|(.+-.)-1,2:3,4-DIEPOXYBUTANE|1,2,3,4-DIEPOXYBUTANE|DL-1,2:3,4-DIEPOXYBUTANE|(+-)-DL-1,3 BUTADIENE DIEPOXIDE|DL-BUTADIENE DIOXIDE|DL-DIEPOXYBUTANE|(R*,R*)-(+-)-2,2'-BIOXIRANE|THREITOL, 1,2:3,4-DIANHYDRO-, DL-	298-18-0	PHYSICAL DESCRIPTION: Colorless to yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5139.0	508.0	1752.0	914.0	546.0	1546.0	152.0	532.0	292.0	153.0	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3399	D,L-2-METHYLGLUTARONITRILE	ALPHA-METHYLGLUTARODINITRILE|ALPHA-METHYLGLUTARONITRILE|D,L-2-METHYLGLUTARONITRILE|DIACRYLONITRILE|1,3-DICYANOBUTANE|2,4-DICYANOBUTANE|GLUTARONITRILE, 2-METHYL-|2-METHYL-1,5-VALERODINITRILE|2-METHYL-PENTANEDINITRILE|2-METHYLGLUTARONITRILE	4553-62-2	PHYSICAL DESCRIPTION: Amber liquid. (NTP, 1992)	2.5	5.0	2.5	5140.0	508.0	1753.0	914.0	546.0	1547.0	152.0	533.0	292.0	153.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3400	DAMMAR RESIN	DAMAR|DAMAR GUM|DAMAR RESIN|DAMMAR|DAMMAR RESIN|GUM DAMAR|GUM DAMMAR|GUMS AND MUCILAGES, DAMMAR|RESIN DAMAR|RESIN DAMMAR|RESINS, DAMMAR	9000-16-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5140.0	508.0	1753.0	914.0	546.0	1547.0	152.0	533.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3401	DANTROLEN	DANTROLEN|DANTROLENE|HYDANTOIN, 1-[[5-(P-NITROPHENYL)FURFURYLIDENE]AMINO]-|1-([5-(4-NITROPHENYL)-2-FURANYL]METHYLENE)AMINO)-2,4-IMIDAZOLIDINEDIONE|1-((5-(P-NITROPHENYL)FURFURYLIDENE)AMINO)HYDANTOIN|1-[[5-(P-NITROPHENYL)FURFURYLIDENE]AMINO]HYDANTOIN	7261-97-4	PHYSICAL DESCRIPTION: Crystals (in aqueous DMF). (NTP, 1992)	1.0	2.5	5.0	5140.0	508.0	1753.0	914.0	546.0	1547.0	152.0	533.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3402	D-CAMPHOR	ALCANFOR|BICYCLO[2.2.1]HEPTAN-2-ONE, 1,7,7-TRIMETHYL-, (1R)-|(+)-2-BORNANONE|CAMPHOR USP(+)-CAMPHOR|CAMPHOR, (+)-|CAMPHOR, (1R,4R)-(+)-|D-(+)-CAMPHOR|D-2-BORNANONE|D-2-CAMPHANONE|D-CAMPHOR|JAPANESE CAMPHOR|(R)-(+)-CAMPHOR|(1R)-(+)-CAMPHOR|(1R)-1,7,7-TRIMETHYLBICYCLO(2.2.1)HEPTAN-2-ONE|(R)-CAMPHOR|(1R)-CAMPHOR|(1R,4R)-(+)-CAMPHOR	464-49-3	PHYSICAL DESCRIPTION: Colorless or white crystals. Sublimes. Flash point 149Â°F. Burns readily with a bright, smoky flame. Penetrating aromatic odor. Pungent, aromatic taste followed by a sensation of cold. (NTP, 1992)	1.0	2.5	5.0	5140.0	508.0	1753.0	914.0	546.0	1547.0	152.0	533.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3403	DECAMETHONIUM DIBROMIDE	AMMONIUM, DECAMETHYLENEBIS[TRIMETHYL-, DIBROMIDE|C 10|C 10 (ONIUM COMPOUND)|DECACURAN|DECAMETHONIUM|DECAMETHONIUM BROMIDE|DECAMETHONIUM DIBROMIDE|DECAMETHYLENE BIS[TRIMETHYLAMMONIUM BROMIDE]|DECAMETHYLENE-1,10-BISTRIMETHYLAMMONIUM DIBROMIDE|DECAMETHYLENEBIS(TRIMETHYLAMMONIUM BROMIDE)|1,10-DECANEDIAMINIUM, N,N,N,N',N'-HEXAMETHYL-, DIBROMIDE|N,N,N,N',N',N'-HEXAMETHYL-1,10-DECANEDIAMINIUM DIBROMIDE|SYNCURINE	541-22-0	PHYSICAL DESCRIPTION: Crystals derived from methanol and acetone. (NTP, 1992)	1.0	2.5	5.0	5140.0	508.0	1753.0	914.0	546.0	1547.0	152.0	533.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3398	D,L-1,2:3,4-DIEPOXYBUTANE	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Somewhat soluble in water.	METHYL NITRITE is an oxidizing agent. A heat-sensitive explosive. [Lewis]. The presence of metal oxides increases the thermal sensitivity. May, if mixed with reducing agents including hydrides, sulfides and nitrides begin a vigorous reaction that culminates in a detonation. Reacts with inorganic bases to form explosive salts.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							
3399	D,L-2-METHYLGLUTARONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	METHYL OCTANOATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3400	DAMMAR RESIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations.	6-DIMETHYLAMINOPHENYLAZOBENZOTHIAZOLE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																							
3401	DANTROLEN	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3402	D-CAMPHOR	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Esters, such as 6-METHYLCOUMARIN,React with acids to liberate heat along with alcohols and acids. Generates heat with strong oxidizing acids. The reaction may be sufficiently exothermic to ignite the reaction products. Also generates heat with basic solutions. Generates flammable hydrogen with alkali metals and hydrides. Emits acrid smoke and irritating fumes when heated to decomposition.						0		(NTP, 1992)		266																(NTP, 1992)		167 to 169
3403	DECAMETHONIUM DIBROMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	6-NITROCHRYSENE reacts with tin and hydrochloric acid in glacial acetic acid. It also reacts with bromine and fuming nitric acid. (NTP, 1992)						0																(NTP, 1992)		408	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3398	D,L-1,2:3,4-DIEPOXYBUTANE																																								Forbidden	H3CONO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3399	D,L-2-METHYLGLUTARONITRILE																																								Flammable Liquid	C9H18O2		3.0	0.0	4.0	1.0	1.0
3400	DAMMAR RESIN																										(NTP, 1992)		282.39													C15H14N4S	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3401	DANTROLEN																										(NTP, 1992)		169.2												Poison	C8H11NO3	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3402	D-CAMPHOR																				(NTP, 1992)		577		725	(NTP, 1992)		160.18						(NTP, 1992)	Insoluble						C10H8O2		6.0	0.0	1.0	1.0	1.0
3403	DECAMETHONIUM DIBROMIDE																				(NTP, 1992)	Sublimes without decomposition				(NTP, 1992)		273.3													C18H11NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3404	DELTA-BHC	1A,2A,3A,4B,5A,6B-HEXACHLOROCYCLOHEXANE|CYCLOHEXANE, 1,2,3,4,5,6-HEXACHLORO-, DELTA-|D-BHC|DELTA-1,2,3,4,5,6-BENZENEHEXACHLORIDE|DELTA-1,2,3,4,5,6-HEXACHLOROCYCLOHEXANE|DELTA-666|DELTA-BENZENE HEXACHLORIDE|DELTA-BENZENEHEXACHLORIDE|DELTA-BHC|DELTA-HCH|DELTA-HEXACHLOROCYCLOHEXANE|DELTA-HEXACHLOROXCYCLOHEXANE|DELTA-LINDANE|ENT 9,234	319-86-8	PHYSICAL DESCRIPTION: Slightly musty odor. (NTP, 1992)	1.0	2.5	5.0	5141.0	508.0	1753.0	914.0	546.0	1548.0	152.0	533.0	292.0	153.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3405	DEMETON-S-METHYL	(BLOB)	919-86-8	Pale yellow oil. Used as an insecticide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5141.0	508.0	1753.0	914.0	546.0	1548.0	152.0	533.0	292.0	153.0	(BLOB)	Behavior in Fire: Vapors heavier than air and may travel a considerable distance to a source of ignition and flashback. Containers may explode in a fire due to polymerization. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3406	DI-(1-HYDROXYCYCLOHEXYL)PEROXIDE	BIS(1-HYDROXYCYCLOHEXYL) PEROXIDE|CYCLOHEXANOL, 1,1'-DIOXYDI-|DI-(1-HYDROXYCYCLOHEXYL) PEROXIDE, [TECHNICALLY PURE]|DI-(1-HYDROXYCYCLOHEXYL)PEROXIDE|1,1'-DIHYDROXYDICYCLOHEXYL PEROXIDE|PEROXIDE, BIS(1-HYDROXYCYCLOHEXYL)|1,1'-PEROXYDICYCLOHEXANOL	2407-94-5		2.5	5.0	2.5	5142.0	508.0	1754.0	914.0	546.0	1549.0	152.0	534.0	292.0	153.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3407	DI(N-OCTYL)TIN-S,S'-BIS(ISOOCTYLMERCAPTOACETATE)	(BLOB)	26401-97-8	PHYSICAL DESCRIPTION: Clear yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5142.0	508.0	1754.0	914.0	546.0	1549.0	152.0	534.0	292.0	153.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Flashback along vapor trail may occur. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3408	DIACETYL PEROXIDE	ACETYL PEROXIDE|DIACETYL PEROXIDE|DIACETYLPEROXIDE|PEROYL A	110-22-5	The pure compound consists of colorless crystals melting at 30Â°C. Soluble in alcohol and ether. Often transported as a 25% solution in dimethyl phthalate for use as an initiator and catalyst.	1.0	2.5	5.0	5142.0	508.0	1754.0	914.0	546.0	1549.0	152.0	534.0	292.0	153.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3404	DELTA-BHC	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 1,3-BIS(METHYLISOCYANATE)CYCLOHEXANE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3405	DEMETON-S-METHYL	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. In contact with air, butadiene may form violently explosive peroxides, which can be exploded by mild heat or shock. Solid butadiene absorbs enough oxygen at sub atmospheric pressures to make it explode violently when heated just above its melting point [Ind. Eng. Chem. 51:733 1959].	A colorless gas, it can react with oxidizing reagents. Upon long exposure to air it forms explosive peroxides. They are sensitive to heat or shock; sudden polymerization may occur [Scott, D. A., Chem. Eng. News, 1940, 18, p.404]. Butadiene polyperoxides are insoluble in liquefied butadiene (m. p. -113Â° C, b. p. -2.6Â° C) and progressively separate leading to local concentration build up. Self-heating from a spontaneous decomposition will lead to explosion [Hendry, D. G. et al., Ind. Eng. Chem., 1968, 7, p. 136, 1145]. Explodes on contact with aluminum tetrahydroborate, potentially explosive reaction with chlorine dioxide (peroxide) and crotonaldehyde (above 180Â° C). Reaction with sodium nitrite forms a spontaneously flammable product [Sax, 9th ed., 1996, p. 539].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6		(NTP, 1992)		-105		(NTP, 1992)		2		%	(NTP, 1992)		11.5		%	(USCG, 1999)		788		(NTP, 1992)		-164	
3406	DI-(1-HYDROXYCYCLOHEXYL)PEROXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	1,3-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Reacts with strong oxidizing agents and with air under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3407	DI(N-OCTYL)TIN-S,S'-BIS(ISOOCTYLMERCAPTOACETATE)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	METHYL PROPYL KETONE is incompatible with oxidizing agents, strong bases and reducing agents. Reacts violently with bromine trifluoride (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		45		(NTP, 1992)	at 93Â° F	1.56		%	(NTP, 1992)	at 144Â° F	8.7		%	(USCG, 1999)		941		(NTP, 1992)		-108	
3408	DIACETYL PEROXIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to air, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	7-DIETHYLAMINO-4-METHYLCOUMARIN is a lactone (behaves as an ester) and an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)		154 to 162	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3404	DELTA-BHC																																									Poison	C10H14N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3405	DEMETON-S-METHYL	(NTP, 1992)	; 760 mm Hg at 23.9Â° F	1840		70		mm Hg	(NTP, 1992)		1.87				(USCG, 1999)		0.621		68		(NTP, 1992)		24.1		760		(NTP, 1992)		54.09		(NIOSH, 2003)	Based on 10% of lower explosive limit; a potential human carcinogen.	2000	ppm	(NTP, 1992)	Insoluble				BDI	Flammable Gas	C4H6	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3406	DI-(1-HYDROXYCYCLOHEXYL)PEROXIDE																																								Class 9	C3HCl2F5		2.0	0.0	2.0	1.0	1.0
3407	DI(N-OCTYL)TIN-S,S'-BIS(ISOOCTYLMERCAPTOACETATE)	(NTP, 1992)	; 16 mm Hg at 77Â° F; 21 mm Hg at 86Â° F	12		68		mm Hg	(NTP, 1992)		3				(USCG, 1999)		0.809		68		(NTP, 1992)			212 to 214	760		(NTP, 1992)		86.13		(NIOSH, 2003)		1500	ppm	(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	MKE	Flammable Liquid	C5H10O		1.0	0.0	1.0	1.0	1.0
3408	DIACETYL PEROXIDE																																									C14H17NO2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3409	DIALIFOR	DIALIFOR|DIALIFOS|DIALIPHOR|DIALIPHOS|ENT 27320|HERCULES 14503|O,O-DIETHYL S-(2-CHLORO-1-PHTHALIMIDOETHYL) PHOSPHORODITHIOATE|PHOSPHORODITHIOIC ACID, O,O-DIETHYL ESTER, S-ESTER WITH N-(2-CHLORO-1-MERCAPTOETHYL)PHTHALIMIDE|PHOSPHORODITHIOIC ACID, O,O-DIETHYL ESTER, S-ESTER WITH N-(2-CHLORO-1-MERCAPTOETHYL)PHTHALIMIDE|PHOSPHORODITHIOIC ACID, S-(2-CHLORO-1-PHTHALIMIDOETHYL) O,O-DIETHYL ESTER|PHOSPHORODITHIOIC ACID, S-(2-CHLORO-1-(1,3-DIHYDRO-1,3-DIOXO-2H-ISOINDOL-2-YL)ETHYL) O,O-DIETHYL ESTER|PHTHALIMIDE, N-(2-CHLORO-1-MERCAPTOETHYL)-, S-ESTER WITH O,O-DIETHYL PHOSPHORODITHIOATE|S-(2	10311-84-9	White crystalline solid, also reported as a colorless oil, colorless. Used as an insecticide and acaricide (kills beetles, ticks, mites, etc.). (EPA, 1998)	1.0	2.5	5.0	5143.0	508.0	1754.0	914.0	546.0	1550.0	152.0	534.0	292.0	153.0	(BLOB)	Container may explode in heat of fire. When heated to decomposition, it emits very toxic fumes of chlorides. Decomposed by water to hydrochloric acid and formaldehyde. Avoid water: hydrolyzes very rapidly (half life 10-40 seconds) on contact with water. Avoid decomposing heat, powerful oxidizers, areas of high fire hazard and moist air. (EPA, 1998)	Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
3410	DIAMYL SULFIDE	AMYL SULFIDE|DI-N-PENTYL SULFIDE|DIAMYL SULFIDE|DIPENTYL SULFIDE|PENTYL SULFIDE|6-THIAUNDECANE	872-10-6	A yellow colored liquid with an obnoxious odor. Less dense than water and slightly soluble in water. May irritate skin, eyes and mucous membranes. May decompose to toxic oxides of sulfur when heated to high temperatures. Used to make other chemicals.	2.5	5.0	2.5	5143.0	508.0	1754.0	914.0	546.0	1550.0	152.0	534.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3411	DIAZOAMINOBENZENE	ALPHA-DIAZOAMIDOBENZOL|ANILINE, N-(PHENYLAZO)-|ANILINOAZOBENZENE|BENZENEAZOANILINE|DAAB|DIAZOAMINOBENZENE|1,3-DIPHENYLTRIAZENE|N-(PHENYLAZO)ANILINE|TRIAZENE, 1,3-DIPHENYL-	136-35-6	PHYSICAL DESCRIPTION: Orange solid. (NTP, 1992)	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3412	DIAZOMETHANE	AZIMETHYLENE|AZOMETHYLENE|DIAZIRINE|DIAZOMETHANE	334-88-3	Yellow gas with a musty odor. Highly toxic by inhalation Shipped as a liquid under pressure. (NIOSH, 1997)	5.0	1.0	1.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3413	DIBENZ(A,H)ACRIDINE	DIBENZ(A,H)ACRIDINE	226-36-8	Yellow crystals. Insoluble in water.	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3414	DIBENZ(A,J)ACRIDINE	DIBENZ(A,J)ACRIDINE	224-42-0	Yellow crystals.	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3409	DIALIFOR	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water. Reacts with water to form hydrochloric acid & formaldehyde.	DICHLORODIMETHYL ETHER is incompatible with the following: Acids, water [Note: Reacts with water to form hydrochloric acid & formaldehyde.] (NIOSH, 1997).	Highly Flammable; Water-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(EPA, 1998)	Less than 66.2F																(EPA, 1998)		-42.7	
3410	DIAMYL SULFIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Insoluble in water.	METHYL TRIFLUOROMETHANE SULFONATE is sensitive to heat. (NTP, 1992). Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		101																				
3411	DIAZOAMINOBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	8-HYDROXYQUINOLINE darkens on exposure to light. This chemical readily forms stable metal chelates. It is incompatible with strong oxidizers. It is also incompatible with many metal ions. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		169	
3412	DIAZOMETHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slowly oxidizes on exposure to air. (NTP, 1992). Slightly water soluble.	VANILLIN can react violently with Br2, HClO4, potassium-tert-butoxide, (tert-chloro-benzene + NaOH), (formic acid + Ti(NO3)3). (NTP, 1992). VANILLIN is an aldehyde. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction).						0																				(NTP, 1992)		178 to 181	
3413	DIBENZ(A,H)ACRIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	A sulfate acidic salt of an amine that is also a phenol. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																				(NTP, 1992)		333 to 360	
3414	DIBENZ(A,J)ACRIDINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Sensitive to light and air. Insoluble in water.	8-METHOXYPSORALEN is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		298	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3409	DIALIFOR	(EPA, 1998)		30		71.6		mm Hg	(EPA, 1998)		4				(EPA, 1998)		1.315		68		(EPA, 1998)		223		760		(EPA, 1998)		114.97		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)	Reacts with water					Poison|Flammable Liquid	C2H4Cl2O		1.0	0.0	1.0	1.0	1.0
3410	DIAMYL SULFIDE														(NTP, 1992)		1.45		68		(NTP, 1992)			201 to 210	760		(NTP, 1992)		164.1						(NTP, 1992)	Insoluble					Flammable Liquid|Corrosive	C2H3F3O3S		1.0	0.0	2.0	1.0	1.0
3411	DIAZOAMINOBENZENE														(NTP, 1992)		1.034		408		(NTP, 1992)		513		760		(NTP, 1992)		145.16						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C9H7NO	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3412	DIAZOMETHANE	(NTP, 1992)		1		225		mm Hg							(NTP, 1992)		1.056		68		(NTP, 1992)		545		760		(NTP, 1992)		152.16						(NTP, 1992)	Slightly soluble						C8H8O3	Cellulose-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3413	DIBENZ(A,H)ACRIDINE																										(NTP, 1992)		388.42						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			(C9H7NO)2 H2SO4		4.0	0.0	4.0	1.0	1.0
3414	DIBENZ(A,J)ACRIDINE																										(NTP, 1992)		216.2						(NTP, 1992)	at 59Â° F		less than 1	mg/mL		Corrosive	C12H8O4		5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3415	DIBENZ[A,H]ANTHRACENE	1,2:5,6-BENZANTHRACENE|DB(A,H)A|DBA|1,2,5,6-DBA|1,2:5,6-DIBENZ(A)ANTHRACENE|1,2:5,6-DIBENZANTHRACEN|1,2:5,6-DIBENZANTHRACENE|DIBENZO(A,H)ANTHRACENE|1,2:5,6-DIBENZOANTHRACENE|DIBENZO[A,H]ANTHRACENE|DIBENZ[A,H]ANTHRACENE|1,2:5,6-DIBENZ[A]ANTHRACENE	53-70-3	PHYSICAL DESCRIPTION: White crystals or pale yellow solid. Sublimes. (NTP, 1992)	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 min; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation. INGESTION: If victim is conscious, induce vomiting by giving two glasses of water and have victim touch a finger to the back of the throat. (USCG, 1999)	Special Hazards of Combustion Products: May contain highly toxic hydrochloric acid and phosgene gas. Behavior in Fire: Generates highly toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3416	DIBENZ[A,I]PYRENE	BENZO(RST)PENTAPHENE|DIBENZ[A,I]PYRENE	189-55-9	Colorless solid. Water insoluble.	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3417	DIBENZO(A,E)PYRENE	DIBENZO(A,E)PYRENE	192-65-4	Yellow crystals. Water insoluble.	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3418	DIBENZO(A,L)PYRENE	DIBENZO(A,L)PYRENE	191-30-0	Yellow odorless crystals or flakes. Water insoluble.	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3419	DIBENZOOXATHIANE	DIBENZOOXATHIANE|DIBENZOTHIOXIN|1,4-DIBENZOTHIOXINE|PHENOTHIOXIN|PHENOXANTHIN|PHENOXATHIANE|PHENOXATHIIN|PHENOXATHINE|PHENOXATHRIN|PHENOXTHIN|USAF DO-17	262-20-4	PHYSICAL DESCRIPTION: Yellowish-white solid. (NTP, 1992)	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3420	DIBENZO-P-DIOXIN	DIBENZO(1,4)DIOXIN|DIBENZO(B,E)(1,4)DIOXIN|DIBENZO-P-DIOXIN|DIBENZODIOXIN|DIBENZO[1,4]DIOXIN|DIPHENYLENE DIOXIDE|NCI-C03656|OXANTHRENE|PHENODIOXIN	262-12-4	PHYSICAL DESCRIPTION: White crystals or crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_sour ce	nfpa_note	nfpa_heath	nfpa_flam	nfpa_react	nfpa_spec ial		fp_source	fp_note	fp_value	fp_range	fp_source	el_source	el_note	el_value	el_unit	el_range	el_source	el_note	ul_unit	ul_range	ul_value	ul_note	ul_source	al_range	al_value	al_source	al_note	mp_source	mp_value	mp_note	mp_range
3415	DIBENZ[A,H]ANTHRACENE	ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012) Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]:	Wear positive pressure breathing apparatus and special protective clothing. (USCG, 1999)	Insoluble in water.	Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	Peroxidizable Compound	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0			170	(USCG, 1999)																(USCG, 1999)		-151.24	
3416	DIBENZ[A,J]PYRENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water.	8-METHYLQUINOLINE may be sensitive to exposure to light. May react vigorously with strong oxidizing agents and strong acids (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.				0			221	(NTP, 1992)																(NTP, 1992)		-112	
3417	DIBENZO(A,E)PYRENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	9-AMINOACRIDINE is a moderately strong base. Neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.				0																(NTP, 1992)		466	
3419	DIBENZOXATHIANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the dampened material in a suitable container, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aqueous hydroxylations, such as 9-METHYLFLUORENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. This compound is volatile with steam. (NTP, 1992)				0																(NTP, 1992)		115 to 117	
3420	DIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR. Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]				0																(NTP, 1992)			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3415	DIBENZ[A,H]ANTHRACENE														(USCG, 1999)		1.1122		68		(USCG, 1999)		369		760		(USCG, 1999)		171.07											DCI	Poison	C6H10Cl4O		1.0	0.0	1.0	1.0	1.0
3416	DIBENZ[A,I]PYRENE	(NTP, 1992)	; 8.0 mm Hg at 111Â° F; 12.6 mm Hg at 149Â° F	5.9		75		mm Hg							(NTP, 1992)		1.0719		68		(NTP, 1992)		478		751		(NTP, 1992)		143.19						(NTP, 1992)	at 63Â° F		1 to 5	mg/mL			C10H9N	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3417	DIBENZO(A,E)PYRENE																										(NTP, 1992)		194.24						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C13H10N2	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3418	DIBENZO(A,L)PYRENE																										(NTP, 1992)		248.71						(NTP, 1992)	at 63.5Â° F		1 to 5	mg/mL		Poison	C13H10N2.ClH.H2O		2.0	0.0	2.0	1.0	1.0
3419	DIBENZOOXATHIANE														(NTP, 1992)		1.0263		151		(NTP, 1992)		309 to 313	15			(NTP, 1992)		180.26													C14H12		3.0	0.0	4.0	1.0	1.0
3420	DIBENZO-P-DIOXIN																										(NTP, 1992)		523.35						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C20H20C12N8O5	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3421	DIBORANE	BORANE (B2H6)|BOROETHANE|BORON HYDRIDE|BORON HYDRIDE (B2H6)|DIBORANE|DIBORANE (B2H6)|DIBORANE(6)|DIBORON HEXAHYDRIDE|HYDROGEN BORIDE (H6B2)	19287-45-7	Diborane is a colorless gas with an offensive odor. It is toxic by inhalation. Diborane is decomposed by water giving off hydrogen, another flammable gas and boric acid a non-regulated material. Its vapors are heavier than air. Long term exposure to low concentrations or short term exposure to high concentrations can result in adverse health effects from inhalation. It is used in electronics. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 2.5 ppm Source/use/other hazard: Intermediate chemical manufacturing; very flammable.	5.0	1.0	1.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3422	DIBROMOACETONITRILE	ACETONITRILE, DIBROMO-|DIBROMOACETONITRILE|DIBROMOCYANOMETHANE	3252-43-5	PHYSICAL DESCRIPTION: Clear amber oily liquid. (NTP, 1992)	2.5	5.0	2.5	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	Eye: If eye tissue is frozen, seek medical attention immediately. If tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photo phobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3423	DIBROMODIFLUOROMETHANE	CARBON BROMIDE FLUORIDE (CBR2F2)|CARBON DIBROMIDE DIFLUORIDE|DIBROMODIFLUOROMETHANE|DIFLUORODIBROMOMETHANE|FREON 12B2|FREONÂ® 12B2|HALON 1202|HALONÂ® 1202|R 12B2	75-61-6	Dibromodifluoromethane is a colorless, nonflammable liquid. It may cause illness from ingestion and may be irritating to skin. If exposed to high temperatures it may emit toxic fumes. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used as a fire extinguishing agent.	2.5	5.0	2.5	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	FLAMMABLE. Irritating gases may be produced when heated. Containers may explode in fire. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Irritating formaldehyde gas may be present in smoke. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3424	DIBROMOMANNITOL	DBM|DIBROMANNIT|1,6-DIBROMO-1,6-D-DIDESOXYMANNITOL|1,6-DIBROMO-1,6-DIDEOXY-, D-MANNITOL|1,6-DIBROMO-1,6-DIDEOXY-D-MANNITOL|1,6-DIBROMO-1,6-DIDEOXYMANNITOL|1,6-DIBROMO-D-MANNITOL|DIBROMOMANNITOL|1,6-DIBROMOMANNITOL|1,6-DIDEOXY-1,6-DIBROMO-D-MANNITOL|MANNITOL, 1,6-DIBROMO-1,6-DIDEOXY-, D-|MIELOBROMOL|MTOBROMITOL|MITOBRONITOL|MYEBROL|MYELOBROMOL|NCI-C04762|NSC 94110|NSC-94100|R 54	488-41-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Combustible. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3425	DIBUTYLPHENYL PHOSPHATE	BUTYL PHENYL PHOSPHATE ((BUO)2(PHO)PO)|DBPP|DIBUTYL PHENYL ESTER PHOSPHORIC ACID|DIBUTYL PHENYL PHOSPHATE|DIBUTYLPHENYL ESTER PHOSPHORIC ACID|DIBUTYLPHENYL PHOSPHATE|PHOSPHORIC ACID, DIBUTYLPHENYL ESTER	2528-36-1	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5144.0	508.0	1754.0	914.0	546.0	1551.0	152.0	534.0	292.0	153.0	(BLOB)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3421	DIBORANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	Basic salt of an amine. Aqueous solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Strong Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																				(NTP, 1992)		108 to 111
			Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)																															
3422	DIBROMOACETONITRILE	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Highly flammable.	METHYLACETYLENE-PROPADIENE GAS MIXTURE presents a dangerous fire and explosion hazard when exposed to heat, flame or sparks or strong oxidizing agents. The liquid material in cylinders contains about 30% propadiene. Detonation may occur at 95Â°C [MCA Case History No. 632]. Reacts vigorously with strong oxidizing agents. Reaction with silver nitrate forms an acetylide igniting at 150Â°C [Grignard, 1935, vol. 3, p. 175]. Violent explosions occurring at low temperatures in ammonia synthesis equipment have been traced to the addition products of dienes and oxides of nitrogen produced from the interaction of nitrogen oxide and oxygen. [Bretherick, 1995].	Highly Flammable	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0					(USCG, 1999)		3		%	(USCG, 1999)		11		%	(USCG, 1999)		850		(NIOSH, 2003)		-213	
3423	DIBROMODIFLUOROMETHANE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	METHYLAL, an acetal, is incompatible with strong oxidizing agents and acids (NIOSH, 1997). Breaks down to formaldehyde and methanol in acidic solutions. A very dangerous fire hazard when exposed to heat, flame or oxidizing agents. May ignite or explode if heated with oxygen [Lewis].	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)	0		(USCG, 1999)		1.6		%	(USCG, 1999)		17.6		%	(USCG, 1999)		459		(USCG, 1999)		-157	
3424	DIBROMOMANNITOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)						0																				(NTP, 1992)		343 to 345
3425	DIBUTYLPHENYL PHOSPHATE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Based on the properties of similar materials, there is the possibility that the reaction of this compound with water may be vigorous or violent. Products of the reaction include hydrogen chloride. The reaction generates heat and this heat may be sufficient to ignite the product. The chlorosilicon hydrides (ClxSiHy) are spontaneously flammable in air [NFPA 1991].	Chlorosilanes, such as METHYLCHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Pyrophoric	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2534 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3421	DIBORANE														(NTP, 1992)		0.968																		(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C18H36O2.C6H15NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	5.0	0.0	5.0	1.0	1.0
3422	DIBROMOACETONITRILE	(USCG, 1999)		8530.5				mm Hg							(USCG, 1999)		0.576		59		(USCG, 1999)			-36 to -4	760		(USCG, 1999)		40.1		(NIOSH, 2003)		3400	ppm	(NIOSH, 2003)	Insoluble				MAP	Flammable Gas	C3H4 (methylacetylene)|C3H4 (propadiene)	Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3423	DIBROMODIFLUOROMETHANE	(USCG, 1999)		337.08		70		mm Hg	(USCG, 1999)		2.6				(USCG, 1999)		0.861		68		(USCG, 1999)		108		760		(USCG, 1999)		76.1		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	2200	ppm	(NIOSH, 2003)		33		%	MTF	Flammable Liquid	C3H8O2		4.0	0.0	5.0	1.0	1.0
3424	DIBROMOMANNITOL																				(NTP, 1992)		482		9		(NTP, 1992)		302.46													C20H30O2	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3425	DIBUTYLPHENYL PHOSPHATE																																								Poison Gas|Flammable Gas|Corrosive	CH5ClSi	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3426	DIBUTYLTIN-BIS(LAURYL MERCAPTIDE)	ADVASTAB TM 918|BIS(DODECYLTHIO)DIBUTYLTIN|DABCO 120|DIBUTYLBIS(DODECYLTHIO)STANNANE|DIBUTYLBIS(DODECYLTHIO)TIN|DIBUTYLTIN BIS(DODECYL MERCAPTIDE)|DIBUTYLTIN BIS(LAURYL MERCAPTIDE)|DIBUTYLTIN BIS(LAURYL)MERCAPTIDE|DIBUTYLTIN DILAURYL MERCAPTIDE|DIBUTYLTIN S,S'-BIS(DODECYL MERCAPTIDE)|DIBUTYLTIN-BIS(LAURYL MERCAPTIDE)|FOMREZ UL 32|MARK A|MELLITE 139|MELLITE 39|THERMOLITE 20|TIN, DIBUTYLBIS(DODECYLTHIO)-|UL 32	1185-81-5	PHYSICAL DESCRIPTION: Brown solid. (NTP, 1992)	1.0	2.5	5.0	5145.0	509.0	1754.0	914.0	547.0	1552.0	153.0	534.0	292.0	154.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3427	DICHLOROACETALDEHYDE	ALPHA,ALPHA-DICHLOROACETALDEHYDE|CHLOROALDEHYDE|2,2-DICHLORETHANAL|DICHLOROACETALDEHYDE|2,2-DICHLOROACETALDEHYDE	79-02-7	PHYSICAL DESCRIPTION: Colorless liquid with a penetrating pungent odor. (NTP, 1992)	2.5	5.0	2.5	5146.0	509.0	1755.0	914.0	547.0	1553.0	153.0	535.0	292.0	154.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3428	DICHLOROBROMOMETHANE	BDCM|BROMODICHLOROMETHANE|DICHLOROBROMOMETHANE|DICHLOROMETHYLBROMIDE|DICHLOROMONOBROMOMETHANE|MONOBROMODICHLOROMETHANE|NCI-C55243	75-27-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5147.0	509.0	1756.0	916.0	547.0	1554.0	153.0	536.0	294.0	154.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3429	DICHLOROISOCYANURIC ACID, DRY	ACL 70|CDB 60|1,3-DICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|DICHLORO-S-TRIAZINE-2,4,6-TRIONE|1,3-DICHLORO-S-TRIAZINE-2,4,6-TRIONE|DICHLOROCYANURIC ACID|DICHLOROISOCYANURATE|DICHLOROISOCYANURIC ACID|DICHLOROISOCYANURIC ACID, DRY|DICHLOROISOCYANURIC ACID, [DRY]|FI CLOR 71|HILITE 60|ISOCYANURIC DICHLORIDE|ORCED|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3-DICHLORO-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, DICHLORO-|TROCLOSENE	75-43-4	Dichloroisocyanuric acid, solid is a white crystalline solid with an odor of chlorine. The material itself is noncombustible but if contaminated with a combustible material ignition can result. It will accelerate the burning of combustible materials. Contact with ammonium compounds or hydrated salts can cause a very vigorous chemical reaction. It may vigorously react with small quantities of water releasing chlorine gas. Prolonged exposure to fire or heat of the material may result in the vigorous decomposition of the material and the rupturing of its containers. Material containing less than 39 percent available chlorine will undergo reactions as described above though it may be longer to initiate and the resulting reaction may not be as vigorous. It is used as a dry bleach in household cleaning compounds and swimming pool disinfectants.	1.0	2.5	5.0	5148.0	509.0	1757.0	916.0	547.0	1555.0	153.0	537.0	294.0	154.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3430	DICHLOROPHENYLTRICHLOROSILANE	DICHLORO PHENYL TRICHLORO SILANE|(DICHLOROPHENYL)TRICHLOROSILANE|DICHLOROPHENYLTRICHLOROSILANE|SILANE,(DICHLOROPHENYL)TRICHLORO-|TRICHLORO(DICHLOROPHENYL)SILANE	27137-85-5	Dichlorophenyltrichlorosilane is a straw colored liquid with a pungent odor. Material will burn though it may require some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue. It is used as an intermediate for silicones.	2.5	5.0	2.5	5148.0	509.0	1757.0	916.0	547.0	1555.0	153.0	537.0	294.0	154.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3426	DIBUTYLTIN-BIS(LAURYL MERCAPTIDE)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	ACENAPHTHENE is incompatible with strong oxidizing agents. Incompatible with ozone and chlorinating agents. Forms crystalline complexes with desoxycholic acid (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0					(NTP, 1992)		0.6		%						(NTP, 1992)		203	
3427	DICHLOROACETALDEHYDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	METHYLCYCLOPENTADIENE may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents to release gaseous hydrogen. May undergo autoxidation upon exposure to the air to form explosive peroxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3428	DICHLOROBROMOMETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus; goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	METHYLCYCLOPENTANE can react vigorously with oxidizers. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		-11		(NTP, 1992)		1		%	(NTP, 1992)		8.35		%	(USCG, 1999)		624		(NTP, 1992)		-224.3	
3429	DICHLOROISOCYANURIC ACID, DRY	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as TRIS(4-ISOPROPYLPHENYL)PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3430	DICHLOROPHENYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	An acidic organic salt of an amine. In aqueous solution, behaves as an acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																						(NTP, 1992)	Starts decomposing at approximately 275Â° F		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3426	DIBUTYLTIN-BIS(LAURYLMERCAPTIDE)	(NTP, 1992)	; 5 mm Hg at 238.6Â° F		0.001 to 0.01	68		mm Hg	(NTP, 1992)		5.32				(NTP, 1992)		1.024		210		(NTP, 1992)		534		760		(NTP, 1992)		154.21						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C12H10		2.0	0.0	4.0	1.0	1.0
3427	DICHLOROACETALDEHYDE																																							Flammable Liquid	C6H8	Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3428	DICHLOROBROMOMETHANE	(NTP, 1992)	; 200 mm Hg at 93.2Â° F	100		64.2		mm Hg	(NTP, 1992)		2.9				(USCG, 1999)		0.749		68		(NTP, 1992)		161.2		760		(NTP, 1992)		84.16						(NTP, 1992)	at 72Â° F		less than 1	mg/mL	MCP	Flammable Liquid	C6H12		5.0	0.0	5.0	1.0	1.0
3429	DICHLOROISOCYANURIC ACID, DRY																																							Class 9	C27H33O4P		4.0	0.0	4.0	1.0	1.0
3430	DICHLOROPHENYLTRICHLOROSILANE																											(NTP, 1992)		118.99						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL			CH6N2.2ClH		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3431	DICHLOROPROPENES	DICHLOROPROPENE|DICHLOROPROPENES|DICHLOROPROPYLENE	26952-23-8	Colorless liquids. Insoluble in water. Used as soil fumigants and in organic synthesis.	2.5	5.0	2.5	5148.0	509.0	1757.0	916.0	547.0	1555.0	153.0	537.0	294.0	154.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3432	DICHLOROTETRAFLUOROETHANE	CFC-114|DICHLOROTETRAFLUOROETHANE|1,2-DICHLOROTETRAFLUOROETHANE|FREONÂ® 114|GENETRONÂ® 114|HALONÂ® 242|ISCEON 224|REFRIGERANT 114|TETRAFLUORODICHLOROETHANE	1320-37-2	Colorless gas with a faint, ether-like odor at high concentrations. Boiling point 38Â°F. Shipped as a liquefied compressed gas. (NIOSH, 1997)	5.0	1.0	1.0	5149.0	509.0	1757.0	916.0	547.0	1556.0	153.0	537.0	294.0	154.0	(BLOB)	Special Hazards of Combustion Products: May produce hazardous decomposition products such as carbon dioxide, carbon monoxide and oxides of phosphorus. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Ordinary foam and water may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide, alcohol foam. (USCG, 1999)
3433	DICHLOROTOLUENE	DICHLOROTOLUENE|DICHLOROTOLUENE (COMBUSTIBLE LIQUID, N.O.S.)|DICHLOROTOLUENE (FLAMMABLE LIQUIDS, N.O.S.)|TOLUENE, AR,AR'-DICHLORO-	29797-40-8	A colorless liquid. Not soluble in water. Sinks in water. May be irritating and narcotic in high concentrations. Used as a solvent and as an intermediate to make chemicals and dyes.	2.5	5.0	2.5	5149.0	509.0	1757.0	916.0	547.0	1556.0	153.0	537.0	294.0	154.0	(BLOB)	Extremely flammable; ignites spontaneously under almost all normal temperature conditions. Water used to extinguish a fire may cause pollution and should be diked for later disposal. Water may be ineffective in extinguishing fires due to the chemical's low flash point. Because of the wide flammability limits, low flash point, and reignition hazard, dry chemicals, carbon dioxide, water spray, and foam may not be as effective as water dilution of fire area. The vapor is heavier than air; thus it may accumulate sufficiently to flash back. Methylhydrazine fires produce irritating nitrogen oxides. Ignites spontaneously in air when in contact with porous materials (e.g., earth, asbestos, wood, or cloth). Also ignites spontaneously on contact with strong oxidizing agents (e.g., fluorine, chlorine trifluoride, fuming nitric acid, and nitrogen tetroxide). Heat or flame should be avoided because chemical is extremely flammable	Wear positive pressure breathing apparatus and special (full) protective clothing. No skin surface should be exposed. Isolate area for 1/2-mile in all directions if a tank car or truck is involved in a fire. For small fires, use dry chemical, carbon dioxide, water spray, and foam. For large fires, use water spray, fog, or foam. Keep unnecessary people away and isolate the hazardous area. Stay upwind and keep out of low-lying areas. Fire exposed containers should be kept cool with water. Use water spray to disperse vapors and protect men attempring to stop a leak which has not ignited. Move container from fire area if it can be done without risk. (EPA, 1998)
3434	DICHLOROTRIFLUOROETHANE	DICHLOROTRIFLUOROETHANE	34077-87-7	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	5149.0	509.0	1758.0	916.0	547.0	1556.0	153.0	538.0	294.0	154.0	INHALATION: CALL FOR MEDICAL ASSISTANCE. Remove to fresh air. Treat symptomatically. If not breathing, give artificial respiration. INGESTION: If swallowed and victim is conscious, have victim drink 1-2 glasses of milk or water and induce vomiting. If unconscious, do nothing except keep victim warm. EYES: Flush with water for 15 minutes. SKIN: Flush affected area with soap and plenty of water. (USCG, 1999)	Special Hazards of Combustion Products: May form hazardous decomposition products. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3435	DICROTOPHOS	(BLOB)	141-66-2	A yellow to brown liquid with a mild ester odor. Used to control sucking, boring, and chewing pests on rice, cotton, coffee, apples, and other crops. Effective on ornamentals, trees, and shrubs for aphids, leaf hoppers, and scale insects. (EPA, 1998)	2.5	5.0	2.5	5149.0	509.0	1758.0	916.0	547.0	1556.0	153.0	538.0	294.0	154.0	(BLOB)	(Non-Specific -- Mercury-Based Pesticide, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. When heated to decomposition, it emits very toxic fumes of mercury and nitrogen oxides. (EPA, 1998)	(Non-Specific -- Mercury-Based Pesticide, n.o.s.) Fight fire from maximum distance. Dike fire control water for later disposal. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Mercury-Based Pesticide, n.o.s.) This material may burn but will not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3431	DICHLOROPROPENES	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Water soluble.	METHYLGLYOXAL polymerizes readily. It is hygroscopic. This chemical is incompatible with strong oxidizing agents and bases. (NTP, 1992) METHYLGLYOXAL is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3432	DICHLOROTETRAFLUOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Protective gloves, safety glasses, rubber gloves & rubber boots. (USCG, 1999)	Slowly dissolves in water with slight decomposition (NTP, 1992).	Organophosphates, such as TRIETHYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	1	2		(NTP, 1992)		240		(USCG, 1999)		1.7		%	(USCG, 1999)		10		%	(USCG, 1999)		845		(NTP, 1992)		-69.5	
3433	DICHLOROTOLUENE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Often ignites spontaneously. Exposure to air on a large surface may result in spontaneous ignition [Def. Res. and Eng. 27. 1963]. Water soluble. Solutions are highly alkaline and generate heat when water is added.	METHYLHYDRAZINE is a powerful reducing agent. Ignites upon contact with oxidizing agents i.e. dinitrogen tetraoxide, hydrogen peroxide [Hawley]. Water used to extinguish a fire may cause pollution and should be diked for later disposal. Gives basic solutions with water that generate heat when water is added.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1244 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		158		(EPA, 1998)		2.5		%	(EPA, 1998)		97		%	(USCG, 1999)		382		(EPA, 1998)		-62.3	
3434	DICHLOROTRIFLUOROETHANE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber gloves and rubber boots. (USCG, 1999)	Flammable. Insoluble in water.	TRIETHYL PHOSPHITE is colorless, moderately toxic liquid, combustible. Flammable when exposed to heat or flame. When heated to decomposition it emits toxic fumes of oxides of phosphorus [Lewis, 3rd ed., 1993, p. 1271].		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		115																			
3435	DICROTOPHOS	(Non-Specific -- Mercury-Based Pesticide n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering. Remove and isolate contaminated clothing at the site. Do not touch spilled material. Use water to reduce vapors. In event of spill or leak: take up with absorbent material and place in containers with covers. Small dry spill: with clean shovel place material into clean, dry container and cover; move containers from spill area. Dike far ahead of spill if large. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	METHYLMERCURIC DICYANAMIDE is incompatible with strong oxidizing agents such as chlorine (NIOSH, 1997).						0																			(EPA, 1998)		313	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3431	DICHLOROPROPENES														(NTP, 1992)		1.06		68		(NTP, 1992)		162		760		(NTP, 1992)		72.06						(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL		Combustible Liquid	C3H4O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3432	DICHLOROTETRAFLUOROETHANE	(NTP, 1992)		1		103.3		mm Hg	(NTP, 1992)		6.28				(USCG, 1999)		1.068				(NTP, 1992)	: 217Â° F (25 mm Hg)		419 to 421	760		(NTP, 1992)		182.16						(NTP, 1992)	Soluble, slight decomposition				TPS	Corrosive	C6H15O4P		4.0	0.0	5.0	1.0	1.0
3433	DICHLOROTOLUENE	(EPA, 1998)		49.6		77		mm Hg	(EPA, 1998)		1.6				(EPA, 1998)		0.874		77		(EPA, 1998)		190		760		(EPA, 1998)		46.07		(NIOSH, 2003)	; A potential human carcinogen.	20	ppm	(NTP, 1992)	Insoluble (<1 mg/ml at 75Â° F)				MHZ	Poison Inhalation Hazard|Flammable Liquid|Corrosive	CH6N2		3.0	0.0	3.0	1.0	1.0
3434	DICHLOROTRIFLUOROETHANE														(USCG, 1999)		0.969				(USCG, 1999)		311		760		(USCG, 1999)		166.16											TPI	Flammable Liquid	C6H15O3P		1.0	0.0	1.0	1.0	1.0
3435	DICROTOPHOS	(EPA, 1998)		6.50E-05		95		mm Hg																			(EPA, 1998)		298.72													C3H6HgN4	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3436	DICYCLOHEXYL PEROXYDICARBONATE, [TECHNICALLY PURE]	CHPC|DICYCLOHEXYL PEROXIDE CARBONATE|DICYCLOHEXYL PEROXYDICARBONATE|DICYCLOHEXYL PEROXYDICARBONATE, [TECHNICALLY PURE]	1561-49-5	This solid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. They are generally stored or transported in a water slurry.	1.0	2.5	5.0	5150.0	509.0	1759.0	916.0	547.0	1557.0	153.0	539.0	294.0	154.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3437	DIELDRIN	(BLOB)	60-57-1	Dieldrin is a light-tan flaked solid. It is insoluble in water. It is toxic by inhalation, skin absorption and ingestion. It can penetrate intact skin. It is used as an insecticide.	1.0	2.5	5.0	5150.0	509.0	1759.0	916.0	547.0	1557.0	153.0	539.0	294.0	154.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapor generated when heated. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3438	DIEPOXYBUTANE	1,1'-BI(ETHYLENE OXIDE)|BIOXIRAN|BIOXIRANE|2,2'-BIOXIRANE|1,1'-BI(ETHYLENE OXIDE)|BUTADIENE DIEPOXIDE|1,3-BUTADIENE DIEPOXIDE|BUTADIENE DIOXIDE|BUTANE DIEPOXIDE|BUTANE, 1,2:3,4-DIEPOXY-|DEB|DIEPOXYBUTANE|1,2:3,4-DIEPOXYBUTANE|1,2:3,4-DIEPOXYBUTANE|2,4-DIEPOXYBUTANE|DIOXYBUTADIENE|ENT-26592|ERYTHRITOL ANHYDRIDE|NSC 629|THREITOL, 1,2:3,4-DIANHYDRO-	1464-53-5	Colorless liquid. Used in curing polymers; crosslinking textile fibers and to prevent spoilage. (EPA, 1998)	2.5	5.0	2.5	5150.0	509.0	1759.0	916.0	547.0	1557.0	153.0	539.0	294.0	154.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3439	DIETHATYL ETHYL	DIETHATYL ETHYL	38727-55-8	Colorless crystals. Used as a selective herbicide.	1.0	2.5	5.0	5151.0	509.0	1759.0	916.0	547.0	1558.0	153.0	539.0	294.0	154.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3440	DIETHYL ETHYLPHOSPHONATE	AMGARD V 490|DIETHOXYETHYLPHOSPHINE OXIDE|DIETHYL ETHANEPHOSPHONATE|DIETHYL ETHYLPHOSPHONATE|ETHANEPHOSPHONIC ACID DIETHYL ESTER|ETHYLDIETHOXYPHOSPHINE OXIDE	78-38-6	PHYSICAL DESCRIPTION: Colorless liquid with a mild odor. (NTP, 1992)	2.5	5.0	2.5	5151.0	509.0	1759.0	916.0	547.0	1558.0	153.0	539.0	294.0	154.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3436	DICYCLOHEXYL PEROXYDICARBONATE, [TECHNICALLY PURE]	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Very soluble in water.	ACETALDEHYDE OXIME may explode or decompose violently during distillation if samples have been previously been exposed to the air, which causes formation of peroxides of various types. Reacts as both a weak acid and as a weak base. Gives acetaldehyde and a hydroxylammonium salt if heated with aqueous acid. A nickel-catalyzed aldoxime rearrangement to an amide went out of control when a different solvent was employed [J. Loss Prev., 1993, 6(2), 69].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3437	DIELDRIN	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Water soluble. Dissolution generates some heat.	(BLOB)		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		104		(NTP, 1992)		5.4		%	(NTP, 1992)		16		%	(USCG, 1999)		961		(NTP, 1992)		61.9	
3438	DIEPOXYBUTANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	(BLOB)	Peroxidizable Compound				0																							(NTP, 1992)		140 to 144
3439	DIETHATYL ETHYL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Dilution with water releases some heat.	ACETIC ACID, [AQUEOUS SOLUTION] reacts exothermically with chemical bases. Subject to oxidation (with heating) by strong oxidizing agents. Dissolution in water moderates the chemical reactivity of acetic acid, A 5% solution of acetic acid is ordinary vinegar. Acetic acid forms explosive mixtures with p-xylene and air (Shraer, B.I. 1970. Khim. Prom. 46(10):747-750.).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3440	DIETHYL ETHYLPHOSPHONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	An organometallic complex. Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases.				0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	mldh_source	mldh_note	mldh_value	mldh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chiris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3436	DICYCLOHEXYL PEROXYDICARBONATE, [TECHNICALLY PURE]																																									C2HSNO		1.0	0.0	1.0	1.0	1.0
																																							Flammable Liquid					
3437	DIELDRIN	(NTP, 1992)	: 20 mm Hg at 86A° F	11.4		68		mm Hg	(NTP, 1992)		2.07				(USCG, 1999)		1.051		20		(NTP, 1992)		244		760		(NTP, 1992)						50	ppm	(NTP, 1992)	at 73Â° F	greater than or equal to 100		mg/mL	AAC	Corrosive Flammable Liquid	C9H4O2		2.0	0.0	2.0	1.0	1.0
3438	DIEPOXYBUTANE								(NTP, 1992)						(NTP, 1992)						(NTP, 1992)		509		760		(NTP, 1992)								(NTP, 1992)	at 72Â° F	less than 1		mg/mL			C9HBO3	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3439	DIETHATYL ETHYL																																	50	ppm	(NIOSH, 2003)							C2H4O2, aqueous		1.0	0.0	1.0	1.0	1.0
3440	DIETHYL ETHYLPHOSPHONATE																				(NTP, 1992)						(NTP, 1992)								(NTP, 1992)	at 68Â° F	less than 1		mg/mL			C3H6KO6SSn		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3441	DIETHYLENE GLYCOL DINITRATE	DEGDN|DIETHYLENE GLYCOL DINITRATE|DIETHYLENE GLYCOL, DINITRATE|DIGLYCOL DINITRATE|DINITRODIGLYCOL|2,2'-OXYDIETHANOL DINITRATE|OXYDIETHYLENE NITRATE	693-21-0	A liquid. Extremely sensitive explosive if not properly desensitized with a phlegmatizer. Slightly soluble in alcohol and soluble in ether. Slightly toxic by ingestion. May explode under prolonged exposure to heat or fire or from sudden shock. The primary hazard is the blast effect of an instantaneous explosion and not flying projectiles and fragments . Used as a rocket propellant.	2.5	5.0	2.5	5151.0	510.0	1759.0	917.0	547.0	1558.0	154.0	539.0	295.0	154.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3442	DIETHYLENE GLYCOL PHTHALATE 7447-67-8	DIETHYLENE GLYCOL PHTHALATE	2202-98-4	Pale yellow liquid resin. (USCG, 1999)	2.5	5.0	2.5	5152.0	510.0	1760.0	917.0	547.0	1559.0	154.0	540.0	295.0	154.0	(BLOB)	Special Hazards of Combustion Products: Emits toxic fumes of oxides of nitrogen. Behavior in Fire: Emits toxic fumes. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Carbon dioxide, dry chemical, carbon tetrachloride, or water fog. (USCG, 1999)
3443	DIETHYL-P-NITROPHENYL PHOSPHATE	CHINORTA|CHINORTO|DIETHYL 4-NITROPHENYL PHOSPHATE|DIETHYL P-NITROPHENYL PHOSPHATE|DIETHYL PARAOXON|DIETHYL-P-NITROPHENYL PHOSPHATE|E 600|E 600 (PESTICIDE)|ENT 16,087|ESTER 25|ETHYL P-NITROPHENYL ETHYLPHOSPHATE|ETHYL PARAOXON|NETICOL|FOSFACOL|FOSFAKOL|HC 2072|MINTACO|MINTACOL|MIOTISAL|MIOTISAL A|4-NITROPHENYL DIETHYL PHOSPHATE|O,O-DIETHYL O-P-NITROPHENYL PHOSPHATE|O,O-DIETHYL PHOSPHORIC ACID O-P-NITROPHENYL ESTER|OXYPARATHION|P-NITROPHENYL DIETHYL PHOSPHATE|P-NITROPHENYLDIETHYL PHOSPHATE|PARAOXAN|PARAOXON|PARAOXON-ETHYL|PARAOXONE|PAROX	311-45-5	PHYSICAL DESCRIPTION: Reddish-yellow oily liquid with a faint fruity odor. (NTP, 1992)	2.5	5.0	2.5	5153.0	511.0	1760.0	917.0	548.0	1560.0	155.0	540.0	295.0	155.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
3444	DIETHYLSTILBESTROL DIPHOSPHATE	ALPHA,ALPHA'-DIETHYL-(E)-4,4'-STILBENEDIOL BIS(DIHYDROGEN PHOSPHATE)|ALPHA,ALPHA'-DIETHYL-4,4'-STILBENEDIOL DIPHOSPHORIC ACID ESTER|DESDP|4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BISPHENOL BIS(DIHYDROGEN PHOSPHATE) (E)-|DIETHYLDIHYDROXYSTILBENE DIPHOSPHATE|DIETHYLSTILBESTEROL DIPHOSPHATE|DIETHYLSTILBESTROL DIPHOSPHATE|DIETHYLSTILBESTROL PHOSPHATE|DIETHYLSTILBESTRYL DIPHOSPHATE|FOSFESTROL|HONVAN|PHENOL, 4,4'-(1,2-DIETHYL-1,2-ETHENEDIYL)BIS-, BIS(DIHYDROGEN PHOSPHATE), (E)-|PHOSPHESTROL|ST 52-ASTA|ST52-ASTA|4,4'-	522-40-7	PHYSICAL DESCRIPTION: Odorless off-white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5153.0	511.0	1761.0	917.0	548.0	1560.0	155.0	541.0	295.0	155.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3445	DIETHYLTOLUENEDIAMINE (AMINES, <OR> POLYAMINES, LIQUID, <OR> CORROSIVE, N.O.S.)	BAYTEC 110|BAYTEC E 505|DETDA|DIETHYLTOLUENEDIAMINE|DIETHYLTOLUENEDIAMINE (AMINES, <OR> POLYAMINES, LIQUID, <OR> CORROSIVE, N.O.S.)|DIETHYLTOLUENEDIAMINE, CONTAINS (AMINES, <OR> POLYAMINES, LIQUID, <OR> CORROSIVE, N.O.S.)|EPIKOTE 6509|ETHACURE 100	75389-89-8	A dark clear mobile liquid with an amine odor. Partially soluble in water and denser than water. Vapors are heavier than air. Corrosive to the eyes, skin, mouth, stomach and throat. Vapors may irritate the eyes and damage the upper respiratory tract. May be toxic by skin absorption and ingestion.	2.5	5.0	2.5	5154.0	511.0	1761.0	917.0	548.0	1561.0	155.0	541.0	295.0	155.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3441	DIETHYLENE GLYCOL DINITRATE	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	MITOMYCIN C is sensitive to prolonged exposure to light. It may be sensitive to prolonged exposure to air. This chemical is incompatible with strong oxidizing agents, strong acids and strong bases. Calcium salts may cause decomposition. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(EPA, 1998)	Above 680Â° F		
3442	DIETHYLENE GLYCOL PHTHALATE 7447-67-8	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	M-NITROTOLUENE reacts with sulfuric acid, strong oxidizing agents and reducing agents.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(NTP, 1992)		223		(NTP, 1992)	(calculated)	1.6		%									(NTP, 1992)		59.9	
3443	DIETHYL-P-NITROPHENYL PHOSPHATE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	MOLYBDENUM is a reducing agent. In dust or powder form, it may present a fire or explosion hazard under favoring conditions of particle size, dispersion and ignition. Bulk molybdenum (rod, coil, sheet, etc.) is less reactive than dust or powder. Insoluble in hydrochloric acid or hydrofluoric acid solutions and in ammonia and sodium hydroxide solutions. Insoluble in dilute sulfuric acid solutions but soluble in concentrated sulfuric acid. Soluble in concentrated nitric acid. Incompatible with strong oxidizing agents such as bromine trifluoride, bromine pentafluoride, chlorine trifluoride, potassium perchlorate, nitryl fluoride, fluorine, iodine pentafluoride, sodium peroxide, lead dioxide.	Strong Reducing Agent	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NIOSH, 2003)		4752	
3444	DIETHYLSTILBESTROL DIPHOSPHATE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	DICHLOROTETRAFLUOROETHANE is incompatible with the following: Chemically-active metals such as sodium, potassium, calcium, powdered aluminum, zinc & magnesium; acids; acid fumes (NIOSH, 1997).		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NIOSH, 2003)		-137	
3445	DIETHYLTOLUENEDIAMINE (AMINES, <OR> POLYAMINES, LIQUID, <OR> CORROSIVE, N.O.S.)	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Molybdenum pentachloride may react with water to produce corrosive hydrochloric acid and toxic fumes.	MOLYBDENUM PENTACHLORIDE is a corrosive, hygroscopic solid, on contact with water or steam it decomposes to form hydrochloric acid. When heated to decomposition it emits toxic fumes of molybdenum chlorides and metallic molybdenum [Lewis, 3rd ed., 1993, p. 892]. Explodes on contact with finely divided sodium [Berry D. H., Chem. Eng. News, 1989, 67(47), p. 2]. Reaction with finely divided sodium sulfide is violent, may lead to autoignition [Kaner, R. B., Nature, 1991, 349, p. 510].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3441	DIETHYLENE GLYCOL DINITRATE																										(EPA, 1998)		334.37						(NTP, 1992)	Soluble					Poison	C15H18N4O5	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	4.0	1.0	1.0
3442	DIETHYLENE GLYCOL PHTHALATE 7447-67-8	(NTP, 1992)	: 0.25 mm Hg at 86Â° F; 1.0 mm Hg at 140Â° F	0.1		68		mm Hg	(NTP, 1992)		4.73				(USCG, 1999)		1.1571		68		(NTP, 1992)		450.7		760		(NTP, 1992)		137.15		(NIOSH, 2003)		200	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	NTR	Poison	C7H7NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3443	DIETHYL-P-NITROPHENYL PHOSPHATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		10.28				(NIOSH, 2003)		8717		760		(NIOSH, 2003)		95.9		(NIOSH, 2003)	(as Mo)	5000	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	Mo		3.0	0.0	3.0	1.0	1.0
3444	DIETHYLSTILBESTROL DIPHOSPHATE	(NIOSH, 2003)		1.9		70		atm													(NIOSH, 2003)		38		760		(NIOSH, 2003)		170.9		(NIOSH, 2003)		15000	ppm	(NIOSH, 2003)		0.01		%		Non-Flammable Gas	C2Cl2F4		1.0	0.0	1.0	1.0	1.0
3445	DIETHYLTOLUENEDIAMINE (AMINES, <OR> POLYAMINES, LIQUID, <OR> CORROSIVE, N.O.S.)																													273.19		(NIOSH, 2003)	(as Mo)	1000	mg/m3						Corrosive	Cl5Mo	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3446	DIFLUOROPHOSPHORIC ACID, ANHYDROUS	DIFLUOROPHOSPHORIC ACID|DIFLUOROPHOSPHORIC ACID, ANHYDROUS|DIFLUOROPHOSPHORIC ACID, [ANHYDROUS]|DIFLUOROPHOSPHOROUS ACID|FLUOPHOSPHORIC ACID (F2(HO)PO)	13779-41-4	A mobile colorless strongly fuming liquid. Density 1.583 g / cm3. Corrosive to glass, fabric, metals and tissue.	2.5	5.0	2.5	5154.0	511.0	1761.0	917.0	548.0	1561.0	155.0	541.0	295.0	155.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3447	DIGLYCIDYL ETHER	BIS(2,3-EPOXYPROPYL) ETHER|BDGE|DI((2,3-EPOXY)PROPYL ETHER|DI(2,3-EPOXYPROPYL) ETHER|DI-2,3-EPOXYPROPYL ETHER|DIALLYL ETHER DIOXIDE|1,2,6,7-DIEPOXY-4-OXAHEPTANE|DIGLYCIDYL ETHER|2-EPOXYPROPYL ETHER|ETHER, BIS(2,3-EPOXYPROPYL)|GLYCIDYL ETHER|NSC 54739|OXIRANE, 2,2'-(OXYBIS(METHYLENE))BIS-|2,2'-OXYBIS[3-(CHLOROMETHYL)OXIRANE]	2238-05-5	Colorless liquid with a pronounced irritating odor. Used as a reactive dilutent for epoxy resin , as a chemical intermediate, as a stabilizer of chlorinated organic compounds, and as a textile-treating agent. (EPA, 1998)	2.5	5.0	2.5	5154.0	511.0	1761.0	917.0	548.0	1561.0	155.0	541.0	295.0	155.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3448	DIGLYCIDYL RESORCINOL ETHER	ARALDITE ERE 1359|BENZENE, M-BIS(2,3-EPOXYPROPOXY)-|1,3-BIS(2,3-EPOXYPROPOXY)BENZENE|DIGLYCIDYL ETHER OF RESORCINOL|DIGLYCIDYL RESORCINOL ETHER|1,3-DIGLYCIDYLOXYBENZENE|DIGLYCIDYLRESORCINOL|ERE 1359|M-BIS(2,3-EPOXYPROPOXY)BENZENE|M-BIS(GLYCIDYLOXY)BENZENE|META-BIS(GLYCIDYLOXY)BENZENE|NCI-C54966|OXIRANE, 2,2'-(1,3-PHENYLENEBIS(OXYMETHYLENE))BIS-|2,2'-(1,3-PHENYLENEBIS(OXYMETHYLENE))BISOXIRANE|RDGE|RESORCINOL BIS(2,3-EPOXYPROPYL) ETHER|RESORCINOL BIS(2,3-EPOXYPROPYL)ETHER|RESORCINOL DIGLYCIDYL ETHER|RESORCINOL GLYCIDYL	101-90-6	PHYSICAL DESCRIPTION: Clear yellow or straw-yellow viscous liquid. Boiling point 172Å°C; density 1.21 g / cm3. Possible carcinogen.	2.5	5.0	2.5	5155.0	511.0	1761.0	917.0	548.0	1562.0	155.0	541.0	295.0	155.0	(BLOB)	Wear positive pressure breathing apparatus and full protective clothing. Container may explode in heat of fire. Toxic fumes evolved when heated to decomposition. Incompatible with alkaline compounds. Unstable in aqueous solution above pH 7.0; in low molecular weight alcohols and glycols. Stable in ketones and higher molecular weight alcohols and glycols. Stable when stored in glass or polyethylene containers. Relatively stable in sunlight. Keep away from temperatures above 80F; do not store below 70F. Corrosive to black iron, drum steel, stainless steel 304 and brass, but not to glass, aluminum, or stainless steel 316. (EPA, 1998)	Like other organophosphorus pesticides, move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Like other organophosphorus pesticides, extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
3449	DIISOOCTYL ACID PHOSPHATE	DIISOOCTYL ACID PHOSPHATE|DIISOOCTYL PHOSPHATE|ISOOCTANOL, HYDROGEN PHOSPHATE|ISOOCTYL PHOSPHATE ((C8H17O)2(HO)PO)PHOSPHORIC ACID DIISOOCTYL ESTER	27215-10-7	Diisooctyl acid phosphate is a colorless liquid. It will burn though it may require some effort to ignite. It is corrosive to metals and tissue.	2.5	5.0	2.5	5156.0	511.0	1761.0	917.0	548.0	1563.0	155.0	541.0	295.0	155.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Toxic oxides of nitrogen and flammable vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3450	DIISOPROPYL NAPHTHALENE	DIISOPROPYL NAPHTHALENE|2,6-DIISOPROPYL NAPHTHALENE	24157-81-1	Clear yellowish brown liquid with a faint sweet odor. (USCG, 1999)	2.5	5.0	2.5	5156.0	511.0	1761.0	917.0	548.0	1563.0	155.0	541.0	295.0	155.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3451	DIISOPROPYLBENZENE (ALL ISOMERS)	BENZENE, DIISOPROPYL|BIS-(1-METHYLETHYL)-BENZENE|CUMENE BOTTOMS|DIISOPROPYLBENZENE (ALL ISOMERS)|DIPB	25321-09-9	Clear amber liquid with a sharp, penetrating odor. A mixture of three isomers (ortho, meta, and para).	2.5	5.0	2.5	5156.0	511.0	1761.0	917.0	548.0	1563.0	155.0	541.0	295.0	155.0	(BLOB)	Flash point data is not available for this compound, however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide or dry chemical extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3446	DIFLUOROPHOSPHORIC ACID, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	MONO(2-ETHYLHEXYL) ADIPATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0		(NTP, 1992)			greater than 200																	
3447	DIGLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	MONO(2-ETHYLHEXYL)PHTHALATE may react exothermically with strong oxidizing agents. May also generate heat with caustic solutions. Flammable hydrgen is generated by mixing with alkali metals and hydrides. May be sensitive to prolonged exposure to light.							0		(NTP, 1992)			greater than 200																	
3448	DIGLYCIDYL RESORCINOL ETHER	As with other organophosphorus pesticides, do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. (EPA, 1998)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Water soluble. Rapidly hydrolyzed.	MONOCROTOPHOS is incompatible with the following: Metals, low molecular weight alcohols & glycols [Note: Corrosive to black iron, drum steel, stainless steel 304 & brass. Should be stored at 70-80Â°F.] (NIOSH, 1997). Incompatible with alkaline compounds.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(EPA, 1998)	Above 200F														(EPA, 1998)	129 to 131Â° F crystals 77 to 86Â° F commercial product		
3449	DIISOOCTYL ACID PHOSPHATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	M-TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Can react vigorously with oxidizing reagents. Emits toxic fumes of oxides of nitrogen when heated to decomposition [Lewis, 3rd ed., 1993, p. 1253].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)		186		(USCG, 1999)		1.1		%	(USCG, 1999)		6.6		%	(USCG, 1999)		899		(USCG, 1999)		-22.7	
3450	DIISOPROPYL NAPHTHALENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	MUSCIMOL is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																	(EPA, 1998)	decomposes	347	
3451	DIISOPROPYLBENZENE (ALL ISOMERS)	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.							0																	(NTP, 1992)			274.1 to 277.7

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3446	DIFLUOROPHOSPHORIC ACID, ANHYDROUS																										(NTP, 1992)		258.36						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C14H26O4		2.0	0.0	3.0	1.0	1.0
3447	DIGLYCIDYL ETHER														(NTP, 1992)		1.0688		73		(NTP, 1992)			greater than 572	760		(NTP, 1992)		278.38						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C16H22O4		1.0	0.0	1.0	1.0	1.0
3448	DIGLYCIDYL RESORCINOL ETHER	(EPA, 1998)		7.00E-06		68		mm Hg													(EPA, 1998)		257		0.0005		(EPA, 1998)		223.16						(NIOSH, 2003)	Miscible					Poison	C7H14NO5P	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3449	DIISOOCTYL ACID PHOSPHATE	(NIOSH, 2003)		1		106		mm Hg							(USCG, 1999)		0.989		68		(USCG, 1999)		398.1		760		(USCG, 1999)		107.2						(NIOSH, 2003)		2		%	TOI	Poison	C7H9N		1.0	0.0	1.0	1.0	1.0
3450	DIISOPROPYL NAPHTHALENE																										(EPA, 1998)		114.12												Poison	C4H6N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3451	DIISOPROPYLBENZENE (ALL ISOMERS)																										(NTP, 1992)		294.31						(NTP, 1992)	Insoluble (<1 mg/ml at 68.0Â° F)						C14H18N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3452	DIISOPROPYLBENZENE HYDROPEROXIDE	DIISOPROPYLBENZENE HYDROPEROXIDE|HYDROPEROXIDE|ISOPROPYLCUMYL	26762-93-6	Liquid; colorless to pale yellow; sharp, unpleasant odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	5157.0	511.0	1761.0	918.0	548.0	1564.0	155.0	541.0	296.0	155.0	(BLOB)	Can be ignited by large explosive charge. When heated to decomposition, emits highly toxic fumes of oxides of sulfur and chlorine containing compounds. Reacts with water or steam to produce toxic and corrosive fumes. Containers may rupture violently in a fire. Incompatible with bleaching powder. Reacts violently with oxidizing materials. Reacts with water or steam to produce toxic and corrosive fumes. Unstable, hydrolyzed in aqueous solution. Avoid high heat; contact with acid or acid fumes. (EPA, 1998)	Protective clothing and self-contained breathing apparatus required in presence of mustard gas. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Extinguish with water, foam, dry chemical, or carbon dioxide. (EPA, 1998)
3453	DIMETHOXANE	ACETIC ACID, ESTER WITH 2,6-DIMETHYL-M-DIOXAN-4-OL|ACETOMETHOXAN|ACETOMETHOXANE|6-ACETOXY-2,4-DIMETHYL-1,3-DIOXANE|6-ACETOXY-2,4-DIMETHYL-M-DIOXANE|DDOA|DIMETHOXANE|2,6-DIMETHYL-1,3-DIOXAN-4-OL ACETATE|2,4-DIMETHYL-6-ACETOXY-1,3-DIOXANE|2,4-DIMETHYL-6-M-DIOXANYL ACETATE|2,6-DIMETHYL-M-DIOXAN-4-OL ACETATE|2,6-DIMETHYL-M-DIOXAN-4-YL ACETATE|2,6-DIMETHYL-M-DIOXAN-4-YL ESTER ACETIC ACID|DIOXIN|DIOXIN (BACTERICIDE)|DIOXIN CO|G1V GARD DXN|G1V GARD DXN|G1V GARD DXN-CO|M-DIOXAN-4-OL, 2,6-DIMETHYL-, ACETATE|NCI-C56213	828-00-2	PHYSICAL DESCRIPTION: Clear light yellow to light amber slightly viscous liquid with a mustard-like odor. (NTP, 1992)	2.5	5.0	2.5	5158.0	511.0	1761.0	918.0	548.0	1565.0	155.0	541.0	296.0	155.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3454	DIMETHYL CYANAMIDE	CARBAMIC ACID NITRILE|CARBONIC ACID DIETHYLAMIDE|CYANODIMETHYLAMINE|DIMETHYL CYANAMIDE|DIMETHYLAMINOCARBONITRILE|DIMETHYLCYANAMIDE|N,N-DIMETHYLCYANAMIDE|N-CYANO-N-METHYLMETHANAMINE|N-CYANODIMETHYLAMINE	1467-79-4	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	5159.0	511.0	1761.0	918.0	548.0	1566.0	155.0	541.0	296.0	155.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3455	DIMETHYLCYCLOHEXANE	DIMETHYLCYCLOHEXANE|1,4-DIMETHYLCYCLOHEXANE|DIMETHYLCYCLOHEXANES|P-DIMETHYLCYCLOHEXANE	589-90-2	Clear colorless liquids with a petroleum-like odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5160.0	511.0	1761.0	918.0	548.0	1567.0	155.0	541.0	296.0	155.0	Call for medical aid. EYES: Flush with plenty of water for 15 min., lifting lids occasionally. SKIN: Flush with plenty of water for 15 min. Remove contaminated clothing and shoes. INGESTION: Induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Emits carbon oxides, nitrogen oxides, and dimethylamine when heated to decomposition. Behavior in Fire: Sealed closed containers may rupture from pressure from heat of fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Do not use halogenated extinguishing media or water. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
3456	DIMETHYLHEXANE DIHYDROPEROXIDE, WITH 18% OR MORE WATER	2,5-BIS(HYDROPEROXY)-2,5-DIMETHYLHEXANE|2,5-DIHYDROPEROXY-2,5-DIMETHYLHEXANE|2,5-DIMETHYL-2,5-BIS(HYDROPEROXY)HEXANE|2,5-DIMETHYL-2,5-DIHYDROPEROXYHEXANE|2,5-DIMETHYL-2,5-HEXYLENE DIHYDROPEROXIDE|2,5-DIMETHYLHEXANE 2,5-BIS(HYDROPEROXIDE)|DIMETHYLHEXANE DIHYDROPEROXIDE, WITH 18% OR MORE WATER|DIMETHYLHEXANE DIHYDROPEROXIDE, [WITH >=18% WATER]|2,5-DIMETHYLHEXANE-2,5-DIHYDROPEROXIDE|2,5-DIMETHYLHEXYL-2,5-DIHYDROPEROXIDE|HYDROPEROXIDE, (1,1,4,4-TETRAMETHYLTETRAMETHYLENE)DI-|LUPEROX 2,5-2,5|LUPERSOL 2,5-2,5|1,1,4,4-TETRAMETHYLTETRAMETHYLENE DIHYDROPEROXIDE	3025-88-5	White wet solid. May float or sink in water. This solid peroxide is particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a water slurry.	1.0	2.5	5.0	5160.0	511.0	1762.0	918.0	549.0	1567.0	155.0	542.0	296.0	156.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3452	DIISOPROPYLBENZENE HYDROPEROXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Reacts with water or steam very slowly to produce toxic and corrosive fumes(oxides of sulfur and chlorine)	MUSTARD GAS is incompatible with bleaching powder. Reacts violently with oxidizing materials. Reacts with water or steam to produce toxic and corrosive fumes. Unstable, hydrolyzed in aqueous solution. Avoid high heat; contact with acid or acid fumes. [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		221															(EPA, 1998)			55 to 57
3453	DIMETHOXANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3454	DIMETHYL CYANAMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is hygroscopic. Slightly soluble in water.	N-(1-NAPHTHYL)ETHYLENEDIAMINE DIHYDROCHLORIDE may decompose on exposure to light. This chemical is incompatible with acids, acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)						0																			(NTP, 1992)			370 to 374
3455	DIMETHYLCYCLOHEXANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear impervious protective clothing, including boots, gloves, and apron or coveralls to prevent skin contact. Use goggles or face shield where splashing is possible. Do not wear contact lenses when working with this compound. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	N,N-DIMETHYLACETAMIDE is an amide. Incompatible with oxidizing agents and halogenated compounds. Exothermic reactions occur with carbon tetrachloride and hexachlorocyclohexane. It can react violently in the presence of iron. (NTP, 1992) Special Hazards of Combustion Products: Emits carbon oxides, nitrogen oxides, and dimethylamine when heated to decomposition.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		145		(USCG, 1999)	at 212Â°F	1.8		%	(USCG, 1999)	at 320Â°F	11.5		%	(USCG, 1999)		914		(USCG, 1999)		-4	
3456	DIMETHYLHEXANE DIHYDROPEROXIDE, WITH 18% OR MORE WATER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	An amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. MIxing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																			(NTP, 1992)			370 to 374

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3452	DIISOPROPYLBENZENE HYDROPEROXIDE	(EPA, 1998)		0.09		86		mm Hg	(EPA, 1998)		5.4				(EPA, 1998)		1.274		68		(EPA, 1998)			419 to 423	760		(EPA, 1998)		159.08												Poison	C4HBCl2S		1.0	0.0	1.0	1.0	1.0
3453	DIMETHOXANE																																									Poison	C15H17ClN4	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3454	DIMETHYL CYANAMIDE	(NTP, 1992)	Negligible																								(NTP, 1992)		259.18						(NTP, 1992)	at 64Â° F		1 to 10	mg/mL			C12H14N2.2ClH	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3455	DIMETHYLCYCLOHEXANE														(USCG, 1999)		0.937				(USCG, 1999)		331		760		(USCG, 1999)		87.14		(NIOSH, 2003)		300	ppm						DLS	Poison	C4H9NO (aqueous)		1.0	0.0	1.0	1.0	1.0
3456	DIMETHYLHEXANE DIHYDROPEROXIDE, WITH 18% OR MORE WATER																										(NTP, 1992)		324.43						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C15H20N2O4S		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3457	DIMETHYLNAPHTHALENE	DIMETHYLNAPHTHALENE	28804-88-8	PHYSICAL DESCRIPTION: Dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	5160.0	511.0	1763.0	918.0	549.0	1567.0	155.0	543.0	296.0	156.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3458	DIMETHYLPOLYSILOXANE	DIMETHYL SILICONE FLUIDS|DIMETHYL SILICONE OIL|DIMETHYLPOLYSILOXANE|POLY(DIMETHYLSILOXANE)|SILICONE FLUIDS	9016-00-6	Colorless odorless liquid, Floats on water. (USCG, 1999)	2.5	5.0	2.5	5161.0	511.0	1763.0	918.0	549.0	1568.0	155.0	543.0	296.0	156.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3459	DIMETHYLTIN DIFLUORIDE	DIFLUORODIMETHYLSTANNANE|DIMETHYLTIN DIFLUORIDE|DIMETHYLTIN FLUORIDE|STANNANE, DIFLUORODIMETHYL-|TIN, DIFLUORODIMETHYL-|TIN, DIMETHYL-, FLUORIDE	3582-17-0	PHYSICAL DESCRIPTION: White crystals or white chunky solid. (NTP, 1992)	1.0	2.5	5.0	5161.0	511.0	1763.0	918.0	549.0	1568.0	155.0	543.0	296.0	156.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3460	DI-N-AMYLAMINE	DI-N-AMYLAMINE|DI-N-PENTYLAMINE|DIAMYLAMINE|DIAMYLAMINE|DIPENTANAMINE|DIPENTYLAMINE|N-PENTYL-1-PENTANAMINE|PENTYLPENTYLAMINE	2050-92-2	A clear colorless liquid with an ammonia-like odor. Very slightly soluble in water. Less dense less than water. Vapors heavier than air. Difficult to ignite. Moderately toxic. Contact with liquid may cause a chemical burn. Vapors may irritate respiratory tract. Used in the manufacture of rubber, resins, and dyes.	2.5	5.0	2.5	5161.0	511.0	1763.0	918.0	549.0	1568.0	155.0	543.0	296.0	156.0	(BLOB)	This chemical is combustible. This chemical may form explosive dust-air mixtures. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3461	DINOCAP	DINOCAP	39300-45-3	Dark oily liquid. Nearly insoluble in water. Used as a fungicide and acaricide.	2.5	5.0	2.5	5161.0	511.0	1763.0	918.0	549.0	1568.0	155.0	543.0	296.0	156.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3457	DIMETHYLNAPHTHALENE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Partially soluble in water.	N,N-DIMETHYL-N-BUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3458	DIMETHYLPOLYSILOXANE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Tends to darken upon exposure to air. Insoluble in water.	N,N-DIMETHYL-P-TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3459	DIMETHYLTIN DIFLUORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DICYCLOHEXYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3460	DI-N-AMYLAMINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N,N'-DIPHENYL-P-PHENYLENEDIAMINE may react with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		400																		(NTP, 1992)		293 to 306
3461	DINOCAP	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	N-ACETYL-M-TOLUIDINE is an amide. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																						(NTP, 1992)		149.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3457	DIMETHYLNAPHTHALENE																																								Corrosive|Flammable Liquid	C6H15N	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3458	DIMETHYLPOLYSILOXANE																																									Poison	C9H13N		3.0	0.0	5.0	1.0	1.0
3459	DIMETHYLTIN DIFLUORIDE																																								Organic Peroxide|Explosive	C14H22O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3460	DI-N-AMYLAMINE								(NTP, 1992)		9				(NTP, 1992)		1.21				(NTP, 1992)			428 to 437	0.5		(NTP, 1992)		260.34						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			Poison	C18H16N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3461	DINOCAP														(NTP, 1992)		1.141		59		(NTP, 1992)		577		760		(NTP, 1992)		149.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL				C9H11NO		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3462	DIOXATHION	(BLOB)	78-34-2	Tan liquid (technical grade is brown). Used for the control of insects and mites on grapes, citrus, walnuts, ornamentals, apples, pears, and quince. Also used as a spray or dip for the control of ticks, lice, hornfly, and sheep ked on cattle, goats, sheep, and hogs. (EPA, 1998)	2.5	5.0	2.5	5161.0	511.0	1764.0	918.0	549.0	1568.0	155.0	544.0	296.0	156.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3463	DIPHACINONE	DIANDIN|DIDANDIN|DIDION|DIFACIONE|DIPAXIN|DIPHACIN|DIPHACINON|DIPHACINONE|DIPHENACIN|DIPHENADION|DIPHENADIONE|DIPHENANDIONE|2-(DIPHENYLACETYL)-1H-INDENE- 1,3(2H)-DIONE|2-(DIPHENYLACETYL)INDAN-1,3-DIONE|2-DIPHENYLACETYL-1,3-DIKETOHYDRINDENE|2-DIPHENYLACETYL-1,3-INDANEDIONE|1H-INDENE-1,3(2H)-DIONE, 2-(DIPHENYLACETYL)-|1,3-INDANDIONE, 2-(DIPHENYLACETYL)-|1,3-INDANDIONE, 2-DIPHENYLACETYL-|ORAGULANT|PID|PROMAR|RAMIK|RATINDAN|RATINDAN 1|SOLVAN|U 1363|U1363	82-66-6	Odorless pale yellow crystals. Used as a rodenticide and anticoagulant medication. (EPA, 1998)	1.0	2.5	5.0	5162.0	511.0	1764.0	918.0	549.0	1569.0	155.0	544.0	296.0	156.0	INHALATION: remove victim from exposure; if breathing has stopped, give artificial respiration; if breathing is difficult, give oxygen; watch for delayed lung damage. EYES: flush with water for at least 15 min.; get medical attention. SKIN: flush with soap and water; treat burns as needed. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating hydrogen bromide fumes may form in fires. Behavior in Fire: Do not apply water to adjacent fires. Reacts with water to produce toxic and irritating gases. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3464	DIPOTASSIUM ENDOTHALL	DIPOTASSIUM ENDOTHALL|7-OXABICYCLO(2.2.1)HEPTANE-2,3-DICARBOXYLIC ACID, DIPOTASSIUM SALT	2164-07-0	Colorless crystals. Non-corrosive to metals. Used as an herbicide.	1.0	2.5	5.0	5163.0	511.0	1764.0	918.0	549.0	1570.0	155.0	544.0	296.0	156.0	(BLOB)	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3465	DIPROPYL ISOCINCHOMERONATE	DIPROPYL ISOCINCHOMERONATE	136-45-8	A solid.	1.0	2.5	5.0	5163.0	511.0	1765.0	918.0	549.0	1570.0	155.0	545.0	296.0	156.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3466	DIPROPYLENE GLYCOL DIBENZOATE	BENZOFLEX 9-88|BENZOFLEX 9-88 SG|BENZOFLEX 9-98|DIBENZOL DIPROPYLENE GLYCOL ESTER|DIPROPANEDIOL DIBENZOATE|DIPROPYLENE GLYCOL DIBENZOATE|K-FLEX DP	94-51-9	Straw-colored viscous liquid with faint aromatic odor. (USCG, 1999)	2.5	5.0	2.5	5164.0	511.0	1765.0	918.0	549.0	1571.0	155.0	545.0	296.0	156.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3462	DIOXATHION	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Less dense than water and soluble in water.	AMYLAMINES are amines. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Can react with oxidizing materials. [NTP 1992].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		45		(NTP, 1992)		2.2		%	(NTP, 1992)		22		%					(NTP, 1992)		-67 to -58
3463	DIPHACINONE	(BLOB)	NIOSH approved respirator; impervious protective clothing; chemical safety goggles; gloves; adequate ventilation; provisions for flushing eyes or skin with water (USCG, 1999)	Fumes in air. Reacts violently with water producing heat and acidic fumes [Haz. Chem. Data. 1966]. Acetyl bromide reacts vigorously with water to generate gaseous HBr. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Bromide gas will be created in 0.08 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ACETYL BROMIDE decomposes violently upon contact with water, steam, methanol or ethanol to form hydrogen bromide gas and acetic acid. Reacts vigorously with bases, both organic and inorganic. Incompatible with oxidizing agents and alcohols. Produces highly toxic fumes of bromine and carbonyl bromide when heated to decomposition [Sax, 9th ed., 1996, p. 34]. Vapor forms an explosive mixture with air [Kirk-Othmer, 3rd ed., Vol. 1, 1978, p. 162]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1716 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(USCG, 1999)		-141.7	
3464	DIPOTASSIUM ENDOTHALL	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	ACETYLENE TETRABROMIDE is incompatible with strong bases and chemically active metals. Incompatible with hot iron, aluminum and zinc in the presence of steam. May react with magnesium. Softens or destroys most plastics and rubber (NTP, 1992).		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1		(NFPA, 2010)		635												(NTP, 1992)		635		(NTP, 1992)		30	
3465	DIPROPYL ISOCINCHOMERONATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	ETHYLENE in the presence of aluminum chloride may undergo a violent reaction [J. Inst. Pet. 33:254. 1947]. Reacts with air to give peroxides, which can initiate exothermic polymerization of the bulk material [Bretherick 1979. p. 160]. ACETYLENE reacts with alkali metals, forming hydrogen gas. Can react explosively with bromine [Von Schwartz 1918. p.142]. Forms a shock-sensitive acetylide when passed into an aqueous solution of mercuric nitrate [Mellor 4:933. 1946-47]. Reacts with silver, copper and lead to form sensitive, explosive salts. Reacts, possibly violently, with many oxidizing agents (calcium hypochlorite, nitric acid, nitrogen oxide, ozone, trifluoromethyl hypofluorite, etc.).	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for ethylene, CAS number 74-85-1.	2	4	2	6																					
3466	DIPROPYLENE GLYCOL DIBENZOATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously [MCA Case History 616 1960]. Insoluble in water.	Ethers, such as BUTYL ETHER can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(NTP, 1992)		77		(NTP, 1992)		1.5		%	(NTP, 1992)		7.6		%	(USCG, 1999)		382		(NTP, 1992)		-144	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3462	DIOXATHION								(NTP, 1992)		3.01				(NTP, 1992)		0.7547				(NTP, 1992)		219.9		760		(NTP, 1992)		87.17						(NTP, 1992)	Very soluble					Flammable Liquid|Corrosive	C5H13N	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3463	DIPHACINONE														(USCG, 1999)		1.66		60.8		(USCG, 1999)		169		760		(USCG, 1999)		122.95											ABM	Corrosive	C2H3BrO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3464	DIPOTASSIUM ENDOTHALL	(NTP, 1992)	; 1 mm Hg at 149Â° F	0.1		68		mm Hg	(NTP, 1992)		11.9				(NTP, 1992)		2.9656		68		(NTP, 1992)		471		760		(NTP, 1992)		345.68		(NIOSH, 2003)		8	ppm	(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C2H2Br4		2.0	0.0	3.0	1.0	1.0
3465	DIPROPYL ISOCINCHOMERONATE																																								Flammable Gas	C2H2 (acetylene)(C2H4 (ethylene)) C3H6 (propylene)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3466	DIPROPYLENE GLYCOL DIBENZOATE	(NTP, 1992)		4.8		68		mm Hg	(NTP, 1992)		4.48				(USCG, 1999)		0.767		68		(NTP, 1992)		288		760		(NTP, 1992)		130.23						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL	DBE	Flammable Liquid	C8H18O		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3467	DIQUAT	AQUACIDE|2,2'-BIPYRIDINIUM, 1,1'-(1,2-ETHANEDIYL)-|2',1'C)PYRAZINEDIUM DIBROMIDE|2,1C)PYRAZINIUM DIBROMIDE|DE|QUAT|DEXTRONE|DIBROMIDE|9,10-DIHYDRO-8A,10,-DIAZONIAPHENANTHRENE DIBROMIDE|9,10-DIHYDRO-8A,10A-DIAZONIAPHENANTHRENE|1,1'-ETHYLENE-2,2'-BIPYRIDYLIUM\)-|9,10-DIHYDRO-8A,10A-DIAZONIAPHENANTHRENE|5,6-DIHYDRO-DIPYRIDO\(1,2A|2\6,7-DIHYDROPYRIDO\(1,2-A|DIQUAT|DIQUAT (DIQUAT DIBROMIDE)|DIQUAT DIBROMIDE|DIQUAT DICATION|ETHYLENE DIPYRIDYLIUM DIBROMIDE|1,1'-ETHYLENE-2,2'-BIPYRIDINIUM|,1'-ETHYLENE-2,2'-BIPYRIDYLLIUM	85-00-7	Diquat is a yellow crystalline solid dissolved in a liquid carrier. It is a water emulsifiable liquid. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams. It can cause illness by inhalation, skin absorption and/or ingestion. It is used as a herbicide.	1.0	2.5	5.0	5164.0	511.0	1765.0	918.0	549.0	1571.0	155.0	545.0	296.0	156.0	(BLOB)	Flash point data on this chemical are not available, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3468	DIRECT BLACK 114	C.I. DIRECT BLACK 114|CUPROPHENYL BLACK BWL|DIRECT BLACK 114	61703-05-7	PHYSICAL DESCRIPTION: Black powder. Essentially odorless. (NTP, 1992)	1.0	2.5	5.0	5165.0	512.0	1765.0	918.0	550.0	1572.0	156.0	545.0	296.0	157.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3469	DIRECT BLUE 2	(BLOB)	2429-73-4	PHYSICAL DESCRIPTION: Dark blue-black powder. (NTP, 1992)	1.0	2.5	5.0	5166.0	512.0	1765.0	918.0	550.0	1573.0	156.0	545.0	296.0	157.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3470	DIRECT BLUE 25	BENZO NEW BLUE 5B|BENZO NEW BLUE 5B-CF|BENZO NEW BLUE 5BFS|BENZO NEW BLUE 5BS|C.I. 23790|C.I. DIRECT BLUE 25|C.I. DIRECT BLUE 25, TETRASODIUM SALT|CHLORAMINE NEW BLUE 5B|DERMA BLUE 5B|DIANIL BLUE B|DIAZOL PURE BLUE BR|3,3'-[\(3,3'-DIMETHYL[1,1'-BIPHENYL]-4,4'-DIYL\)BIS\(AZO\)]BIS\[4,4-DIHYDROXY-2,7-NAPHTHALENEDISULFONIC ACID TETRASODIUM SALT|DIPHENYL BRILLIANT BLUE 5B|DIRECT BLUE 25|DIRECT BLUE 5B|DIRECT BRILLIANT BLUE 5BC|DIRECT BRILLIANT BLUE 5BC CONC.|DIRECT NEW BLUE 5B|DIRECT PURE BLUE 5B|HISPAMIN BLUE DB|NIAGARA BLUE 5B|NIPPON NEW BLUE 5BS|PHENAMINE BLUE 5B|PONTAMINE BLUE 5B	2150-54-1	PHYSICAL DESCRIPTION: Deep purple-blue powder. (NTP, 1992)	1.0	2.5	5.0	5166.0	512.0	1765.0	918.0	550.0	1573.0	156.0	545.0	296.0	157.0			
3471	DI-SEC-BUTYL PEROXYDICARBONATE, [TECHNICALLY PURE]	DI-(SEC-BUTYL)PEROXYDICARBONATE|DI-SEC-BUTYL PERDICARBONATE|DI-SEC-BUTYL PEROXYDICARBONATE|DI-SEC-BUTYL PEROXYDICARBONATE, [TECHNICALLY PURE]|LUPERSOL 225|PEROXYDICARBONIC ACID, DI-SEC-BUTYL ESTER|TRIGONOX SBP	19910-65-7	This liquid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide in a water slurry.	2.5	5.0	2.5	5166.0	512.0	1765.0	918.0	550.0	1573.0	156.0	545.0	296.0	157.0	(BLOB)	Special Hazards of Combustion Products: May form explosive peroxides upon contact with air. Toxic fumes such as carbon monoxide may be produced. Behavior in Fire: May polymerize, generating heat and causing the container to burst. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3467	DIQUAT	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids. Insoluble in water.	TOLNAFTATE is a thiocarbamate. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.								0																			(NTP, 1992)		230.9 to 232.7
3468	DIRECT BLACK 114	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and protect it from moisture. (NTP, 1992)	(BLOB)	Slowly hydrolyzes in moist air. Has been involved in dust cloud explosions. Water insoluble. Solution in water is acid to methyl red indicator.	The active ingredient in common aspirin. Incompatible with oxidizers and strong acids. Also incompatible with strong bases. May react with water or nucleophiles (e.g. amines and hydroxy groups). May also react with acetanilide, amidopyrine, phenazone, hexamine, iron salts, phenobarbitone sodium, quinine salts, potassium and sodium iodides, alkali hydroxides, carbonates, stearates and paracetanol. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		482																	(NTP, 1992)		275	
3469	DIRECT BLUE 2	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		482																				
3470	DIRECT BLUE 25			Water soluble.	[[Details on specifics of reactivity not yet available.]]								0																									
3471	DI-SEC-BUTYL PEROXYDICARBONATE, [TECHNICALLY PURE]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere and store it under refrigerated temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. This chemical may be sensitive to prolonged exposure to air, may form explosive peroxide in contact with air. (NTP, 1992)	N-BUTYL GLYCIDYL ETHER, an ether, can act as a base. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		130																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3467	DIQUAT																										(NTP, 1992)		307.43						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C19H17N2OS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	2.0	1.0	1.0
3468	DIRECT BLACK 114	(NIOSH, 2003)	(approx)	0				mm Hg							(NTP, 1992)		1.4				(NTP, 1992)	(decomposes)	284		760		(NTP, 1992)		180.16						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C9H8O4		1.0	0.0	1.0	1.0	1.0
3469	DIRECT BLUE 2																																								Corrosive	C4H10O.xH3O4P		3.0	0.0	3.0	1.0	1.0
3470	DIRECT BLUE 25																																									C14H6Cl2F3NO5.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3471	DI-SEC-BUTYL PEROXYDICARBONATE, [TECHNICALLY PURE]	(NTP, 1992)		3.2		77		mm Hg							(USCG, 1999)		0.91				(NTP, 1992)		327		760		(NTP, 1992)		130.21		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	BGE	Flammable Liquid	C7H14O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3472	DISODIUM CYANODITHIOIMIDOCARBONATE	DISODIUM CYANODITHIOIMIDOCARBONATE	138-93-2	Clear to orangish liquid with distinct odor. Irritates skin and eyes.	2.5	5.0	2.5	5167.0	512.0	1765.0	918.0	550.0	1574.0	156.0	545.0	296.0	157.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3473	DISPERSE BLUE 27	9,10-ANTHRACENEDIONE, 1,8-DIHYDROXY-4-((4-(2-HYDROXYETHYL)PHENYL)AMINO)-5-NITRO-|ANTHRAQUINONE, 1,8-DIHYDROXY-4-(P-2-HYDROXYETHYLANILINO)-5-NITRO-|ARTISIL BLUE BGFL|ATLANTIC DISPERSE BLUE BGLF(C.I. 60767)(C.I. DISPERSE BLUE 27)|1,8-DIHYDROXY-4-NITRO-5-(N-(P-PHENETHYLALCOHOL)AMINO)ANTHRAQUINONE|DISPERSE BLUE 27|EASTMAN FAST BLUE B-GLF|EASTMAN POLYESTER BLUE GLF|1-[4-(2-HYDROXYETHYL)PHENYLAMINO]-4,5-DIHYDROXY-8-NITROANTHRAQUINONE|INTRASIL BLUE GLF NEW|INTRASPERSE BLUE GLF NEW|KAYALON POLYESTER BLUE 2GL-S|4-[P-(HYDROXYETHYL)ANILINO]-5-NITROCHRYSAZIN|SERISOL	15791-78-3	PHYSICAL DESCRIPTION: Dark blue to black powder. (NTP, 1992)	1.0	2.5	5.0	5168.0	512.0	1765.0	920.0	550.0	1575.0	156.0	545.0	298.0	157.0	(BLOB)	Under fire conditions, polymerization may occur. If inside a container, violent rupture of the container may take place. When heated to decomposition, it emits highly toxic fumes. Alkalis or strong acids act as catalysts, causing a condensation reaction and liberating energy. Reaction may be very rapid and violent. Readily converted by oxygen to hazardous peroxides and acids. Unstable, avoid exposure to alkalis, strong acids, oxygen, elevated temperatures, such as fire conditions. (Polymerization inside container could cause violent rupture of container under fire conditions.) (EPA, 1998)	In advanced or massive fires, fire fighting should be done from safe distance or from protected location. Use dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective, but should be used to keep fire-exposed containers cool. If a leak or spill has not ignited, use water spray to disperse vapors. If it is necessary to stop a leak, use water spray to protect men attempting to do so. Water spray may be used to flush spills away from exposures and to dilute spills to nonflammable mixtures. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
3474	DISPERSE BLUE 7	(BLOB)	3179-90-6	PHYSICAL DESCRIPTION: Fine black powder. (NTP, 1992)	1.0	2.5	5.0	5168.0	512.0	1765.0	920.0	550.0	1575.0	156.0	545.0	298.0	157.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3475	DITHIAZANINE IODIDE	ABMINTHIC|ANELMID|ANGUIFUGAN|BENZOTHIAZOLIUM, 3-ETHYL-2-(5-(3-ETHYL-2-BENZOTHIAZOLINYLIDENE)-1,3-PENTADIENYL)-, IODIDE|BENZOTHIAZOLIUM, 3-ETHYL-2-[5-(3-ETHYL-2-BENZOTHIAZOLINYLIDENE)-1,3-PENTADIENYL]-, IODIDE|2-BIS[3-ETHYLBENZOTHIAZOLYL]|PENTAMETHINE CYANINE IODIDE|COMPOUND 01748|DEJO|DELVEX|DESELMINE|DI-5-C2(5)|3,3-DIETHYL-2,2'-THIADICARBOCYANINE IODIDE|3,3'-DIETHYLDITHIACARBODICYANINE IODIDE|3,3-DIETHYLPENTAMETHINETHIACYANINE IODIDE|DIETHYLTHIADICARBOCYANINE IODIDE|3,3'-DIETHYLTHIADICARBOCYANINE IODIDE|DILOMBRIN|DILOMBRINE|DITHIAZANIN IODIDE|DITHIAZANINE	514-73-8	Green, needle-like crystals. Used as a veterinary anthelmintic, as a sensitizer for photographic emulsions and as an insecticides. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5169.0	512.0	1766.0	920.0	550.0	1576.0	156.0	546.0	298.0	157.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3476	DITRIDECYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, DITRIDECYL ESTER|BIS(TRIDECYL) PHTHALATE|DI-(TRIDECYL) PHTHALATE|DI-(TRIDECYL)PHTHALATE|DITRIDECYL PHTHALATE|DTDP|HEXAPLAS DTDP|JAYFLEX DTDP|NUOPLAZ|PHTHALIC ACID, DITRIDECYL ESTER|POLYCIZER 962-BPA|POLYCIZER 962BPA|STAFLEX DTDP|1-TRIDECANOL, PHTHALATE (2:1)|1-TRIDECANOL, PHTHALATE|TRUFLEX DTDP	119-06-2	Nearly colorless oily liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5169.0	512.0	1766.0	920.0	550.0	1576.0	156.0	546.0	298.0	157.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3472	DISODIUM CYANODITHIOIMIDOCARBONATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Extremely slow decomposition by water. Less dense than water and insoluble in water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer 1969].	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2485 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(NFPA, 2010)		66																			
3473	DISPERSE BLUE 27	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. A dangerous fire risk [Hawley]. Water soluble. Reacts slowly and exothermically with water to give 3-hydroxypropionaldehyde. Water solutions of mineral acids (even weakly acidic solutions) and metal ions can initiate polymerization. A hazard can develop from this reaction if acrolein is stored over a layer of water.	ACROLEIN, [INHIBITED] can react violently with oxidizing agents. Polymerizes exothermically on contact with small amounts of acids (including sulfur dioxide), alkalis, volatile amines and pyridines, salts, thiourea, oxidizing agents (air) and on exposure to light and heat. Polymerization initiated by amines and pyridines occurs after a deceptive induction period. Water solutions of mineral acids and metal ions can initiate polymerization. The inhibitor (usually hydroquinone) greatly reduces tendency to polymerize. Undergoes Diels-Alder reaction with itself to give acrolein dimer. This can become a runaway reaction at 90Â°C [Kirk-Othmer, 4th Ed, Vol. 1]. Mixing in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: 2-aminoethanol, ammonium hydroxide, chlorosulfonic acid, ethylenediamine, ethyleneimine [NFPA 1991].	Highly Flammable; Polymerizable; Water-Reactive	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1092 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	3	6		(EPA, 1998)		-15		(EPA, 1998)		2.8		%	(EPA, 1998)		31		%	(USCG, 1999)		453		(EPA, 1998)		-126	
3474	DISPERSE BLUE 7	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water insoluble.	Amines, like acronycine, are weak chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)		347 to 349
3475	DITHIAZANINE IODIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Acrylamide is very soluble in water. The solvent is not necessarily water soluble.	ACRYLAMIDE SOLUTION reacts with azo and diazo compounds to generate toxic gases. Flammable gases are formed with strong reducing agents. Combustion generates mixed oxides of nitrogen (NOx). Spontaneous, violent polymerization occurs at the melting point (86Â°C of the undissolved solid [Bretherick, 5th ed., 1995, p. 428].	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	2	4		(NIOSH, 2003)		280																			
3476	DITRIDECYL PHTHALATE			No rapid reaction with air. No rapid reaction with water.	Peroxides, such as N-BUTYL-4,4-DI-(TERT-BUTYLPEROXY)VALERATE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Strong Oxidizing Agent						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3472	DISODIUM CYANODITHIOIMIDOCARBONATE																																								Poison Inhalation Hazard|Flammable Liquid	C5H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3473	DISPERSE BLUE 27	(EPA, 1998)			135.71 to 210		50 to 68	mm Hg	(EPA, 1998)		1.94				(EPA, 1998)			0.8389 to 0.8621		32 to 68	(EPA, 1998)		126		760		(EPA, 1998)		56.06		(NIOSH, 2003)		2	ppm	(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	ARL	Poison Inhalation Hazard|Flammable Liquid	C2H2CHCHO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3474	DISPERSE BLUE 7																										(NTP, 1992)		321.4						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C20H19NO3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3475	DITHIAZANINE IODIDE														(NIOSH, 2003)			1.12																							Flammable Liquid	C3H5NO (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3476	DITRIDECYL PHTHALATE																																									C17H34O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3477	DIVINYL ETHER, INHIBITED	DIVINYL ETHER|DIVINYL ETHER {VINYL ETHER}|DIVINYL ETHER, INHIBITED|DIVINYL OXIDE|VINESTHENE|VINEST HESIN|VINETHEN|VINETHEN E|VINETHER|VINIDYL|VINY DAN|VINYL ETHER	109-93-3	A clear colorless liquid with a characteristic odor. Less dense than water. Vapors heavier than air. Toxic by inhalation.	2.5	5.0	2.5	5170.0	512.0	1767.0	920.0	550.0	1577.0	156.0	547.0	298.0	157.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3478	D-LIMONENE DIMERCAPTAN	D-LIMONENE DIMERCAPTAN|2,9-DIMERCAPTO-P-MENTHANE|DIPENTENE, P-MENTHANE-2,9-DITHIOL|DIPENTENEDIMER CAPTAN|LIMONENE DIMERCAPTAN|3-MERCAPTO-BETA-4-DIMETHYL-CYCLOHEXANEETHANETHI OL|P-MENTHANE-2,9-DITHIOL|P-METHANE-2,9-DITHIOL	4802-20-4	PHYSICAL DESCRIPTION: Pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5170.0	512.0	1767.0	920.0	550.0	1577.0	156.0	547.0	298.0	157.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3479	DL-METHAMPHETAMINE HYDROCHLORIDE	(BLOB)	300-42-5	PHYSICAL DESCRIPTION: Odorless white crystals or fluffy crystalline powder. Bitter taste. pH (aqueous solutions) about 6. (NTP, 1992)	1.0	2.5	5.0	5171.0	512.0	1767.0	920.0	550.0	1578.0	156.0	547.0	298.0	157.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. Decomposes violently when heated. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3480	D-LYSERGIC ACID DIETHYLAMIDE	ACID|CUBES|D-LSD|D-LYSERGIC ACID DIETHYLAMIDE|DELYSID|9,10-DIDEHYDRO-N,N-DIETHYL-6-METHYL-ERGOLINE-8-BETA-CARBOXAMIDE|9,10-DIDEHYDRO-N,N-DIETHYL-6-METHYLERGOLINE-8BETA-CARBOXAMIDE|ERGOLINE-8BETA-CARBOXAMIDE, 9,10-DIDEHYDRO-N,N-DIETHYL-6-METHYL-|HEAVENLY BLUE|INDOLO(4,3-FG)QUINOLINE, ERGOLINE-8-CARBOXAMIDE DERIV.|LSD|LSD (ALKALOID)|LSD 25|(+)-LSD|LSD-25|LYSERGAMID|LYSERGAM IDE, N,N-DIETHYL-|LYSERGIC ACID DIETHYLAMIDE|(+)-LYSERGIC ACID DIETHYLAMIDE|LYSERGIC ACID DIETHYLAMIDE-25|LYSERGIDE|N,N-DIETHYL-D-LYSERGAMIDE|N,N-DIETHYLLYSERGAMIDE|PE	50-37-3	PHYSICAL DESCRIPTION: Prismatic crystals (from benzene). Tasteless and odorless. A hallucinogen.	1.0	2.5	5.0	5172.0	512.0	1767.0	920.0	550.0	1579.0	156.0	547.0	298.0	157.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated Behavior in Fire: May polymerize and explode (USCG, 1999)	Excerpt from GUIDE 132P [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3481	DODECYL SULFATE, [DIETHANOLAMINE SALT]	DIETHANOLAMINE LAURYL SULFATE SOLUTION|DODECYL SULFATE, DIETHANOLAMINE SALT|DODECYL SULFATE, [DIETHANOLAMINE SALT]|LAURYL SULFATE, DIETHANOLAMINE SALT SOLUTION	143-00-0	Clear to pale-yellow liquid with a mild odor. May float or sink and mix with water. (USCG, 1999)	2.5	5.0	2.5	5172.0	512.0	1767.0	920.0	550.0	1579.0	156.0	547.0	298.0	157.0	INHALATION: Use proper respiratory protection. Remove the victim from the exposure. Administer artificial respiration if breathing stops. Keep at rest. Call for prompt medical attention. INGESTION: If conscious, INDUCE VOMITING, get prompt medical attention. If unconscious, do not give anything by mouth. SKIN: Flush with large amount of water. Use soap if available. EYES: Immediately flush with large amounts of water. Get prompt medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Flammable toxic gas may be released, if thermally decomposed. (USCG, 1999)	Fire Extinguishing Agents: Water spray, alcohol foam or dry chemical. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3477	DIVINYL ETHER, INHIBITED	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as BUTYL BENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NFPA, 2010)		160																		
3478	D-LIMONENE DIMERCAPTAN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N-BUTYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). This compound decomposes on heating. (NTP, 1992)					0																	(NTP, 1992)		205	
3479	DL-METHAMPHETAMINE HYDROCHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously, [MCA Case History 616(1960)].	Occasional explosions have occurred when aluminum hydride was stored in ether. The explosions have been blamed on the presence of carbon dioxide impurity in the ether, [J. Amer. Chem. Soc. 70:877(1948)]. Diethyl ether and chromium trioxide react violently at room temperature. Solid acetyl peroxide in contact with ether or any volatile solvent may explode violently. A 5-gram portion in ether detonated while being carried, [Chem. Eng. News 27:175(1949)]. Nitrosyl perchlorate ignites and explodes with diethyl ether. A mixture of ether and ozone forms aldehyde and acetic acid and a heavy liquid, ethyl peroxide, an explosive, [Mellor 1:911(1946-1947)].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NTP, 1992)		-49		(NTP, 1992)		1.85		%	(NTP, 1992)		36		%	(USCG, 1999)		356		(NTP, 1992)		-177.3	
3480	D-LYSERGIC ACID DIETHYLAMIDE	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Soluble in water. The presence of water, due to different solubilities of the acid and inhibitor (partitioning one from the other), may initiate polymerization.	ACRYLIC ACID may polymerize violently especially when the frozen acid is partially thawed (freezing point 12Â°C or 53Â°F). Frozen acid should be melted at room temperature and the process should be well stirred. Do not use heat during the melting process [Kirk-Othmer, 3rd ed., Vol. 1, 1978, p. 330]. Corrodes iron and steel and polymerization may occur on contact with iron salts. The uninhibited acid polymerizes exothermically at ambient temperature and explodes if confined. The inhibitor (usually hydroquinone) greatly reduces the tendency to polymerize. Explosive polymerization can also occur with strong bases, amines, ammonia, oleum, chlorosulfonic acid, and peroxides. Mixing with 2-aminoethanol, 28% ammonium hydroxide, ethylenediamine or ethyleneimine in a closed container causes an increase in temperature and pressure. Can react violently with oxidizing reagents and strong bases [Bretherick, 5th ed., 1995, p. 419].	Polymerizable	Excerpt from GUIDE 132P [Flammable Liquids Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4		(NTP, 1992)		130		(NTP, 1992)		2.4		%	(NTP, 1992)		8		%	(USCG, 1999)		820		(NTP, 1992)		55	
3481	DODECYL SULFATE, [DIETHANOLAMINE SALT]	Neutralizing Agents for Acids and Caustics: Sodium bicarbonate or lime. (USCG, 1999)	When contact is likely wear long sleeves, chemical resistant gloves, and chemical goggles. Where contact may occur wear safety glasses with side shields. Where overexposure by inhalation may occur, wear approved respirator. (USCG, 1999)	Dust explosion is possible (USCG, 1999). Water insoluble.	(BLOB)							0		(USCG, 1999)		201													(USCG, 1999)		less than 104	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3477	DIVINYL ETHER, INHIBITED																																						Flammable Liquid	C10H14		1.0	0.0	1.0	1.0	1.0
3478	D-LIMONENE DIMERCAPTAN	(NTP, 1992)		116.16					(NTP, 1992)						(NTP, 1992)						(NTP, 1992)						(NTP, 1992)										at 64Â° F	10 to 50	mg/mL		C5H12N2O		3.0	0.0	4.0	1.0	1.0
3479	DL-METHAMPHETAMINE HYDROCHLORIDE	(NTP, 1992)	: 760 mm Hg at 94.3Â° F	442		68		mm Hg	(NTP, 1992)		2.6				(USCG, 1999)		0.714		68		(NTP, 1992)		94.3		760		(NTP, 1992)				(NTP, 1992)	Based on 10% of the lower explosive limit.	1900	ppm	(NTP, 1992)		at 68Â° F	greater than or equal to 100	mg/mL	Flammable Liquid	C4H10O		1.0	0.0	1.0	1.0	1.0
3480	D-LYSERGIC ACID DIETHYLAMIDE	(NTP, 1992)	: 5 mm Hg at 81.1Â° F	3.2		68		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		1.0497		68		(NTP, 1992)		286		760		(NTP, 1992)				(NTP, 1992)				(NTP, 1992)		at 63Â° F	greater than or equal to 100	mg/mL	Corrosive Flammable Liquid	CH2CHC OOH	Cellulose-Based Absorbents;Montmorillonite-Based Clay-Based Absorbents;Diatomaceous Earth	2.0	0.0	3.0	1.0	1.0
3481	DODECYL SULFATE, [DIETHANOLAMINE SALT]	(USCG, 1999)							(USCG, 1999)						(USCG, 1999)		0.92				(USCG, 1999)			482 to 494	760		(USCG, 1999)				NEA												C10H20O2		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3482	DODECYLTRICHLOROSILANE	DODECYL TRICHLOROSILANE|DODECYLTRICHLOROSILANE|TRICHLORODODECYLSILANE	4484-72-4	Dodecyltrichlorosilane is a colorless to yellow liquid with a pungent odor. It will burn though it may take some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	5172.0	512.0	1767.0	920.0	550.0	1579.0	156.0	547.0	298.0	157.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3483	DODINE	DODECYLGUANIDINE MONOACETATE|DODINE	2439-10-3	White crystalline solid. Used as a fungicide.	1.0	2.5	5.0	5172.0	512.0	1768.0	920.0	550.0	1579.0	156.0	548.0	298.0	157.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3484	DOXYLAMINE	2-[ALPHA-(2-DIMETHYLAMINOETHOXY)-ALPHA-METHYLBENZYL] PYRIDINE|2-DIMETHYLAMINOETHOXYPHENYLMETHYL-2-PICOLINE|DOXYLAMINE|(.+-.)-DOXYLAMINE|N,N-DIMETHYL-2-[1-PHENYL-1-(2-PYRIDINYL)ETHOXY]ETHANAMINE|PHENYL-2-PYRIDYLMETHYL-BETA-N,N-DIMETHYLAMINOETHYL ETHER|PYRIDINE, 2-[ALPHA-[2-(DIMETHYLAMINO)ETHOXY]-ALPHA-METHYLBENZYL]-	469-21-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5172.0	512.0	1768.0	920.0	550.0	1579.0	156.0	548.0	298.0	157.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3485	DULCIN	DULCIN|DULCIN (SWEETENER)|DULCINE|(4-ETHOXYPHENYL)UREA|1-(4-ETHOXYPHENYL),UREA|4-ETHOXYPHENYLUREA|N-(4-ETHOXYPHENYL)UREA|NCI-C02073|(P-ETHOXYPHENYL)UREA|P-ETHOXYPHENYLUREA|P-PHENETOLCARBAMIDE|P-PHENETOLECARBAMIDE|P-PHENETYLUREA|PARA-PHENETOLECABAMIDE|PHENETOLCARBAMIDE|SUCROL|UREA, (P-ETHOXYPHENYL)-|4-UREIDOPHENETOLE|VALZIN	150-69-6	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5172.0	512.0	1768.0	920.0	550.0	1579.0	156.0	548.0	298.0	157.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3486	ENDOTHALL	ENDOTHALL	145-73-3	The monohydrate is in the form of colorless crystals. Non corrosive. Used as a selective herbicide.	1.0	2.5	5.0	5173.0	512.0	1768.0	920.0	550.0	1580.0	156.0	548.0	298.0	157.0	(BLOB)	Combustion products may contain hydrocyanic acid (HCN). Vapor may explode if ignited in an enclosed area. When heated to decomposition, it emits highly toxic fumes. Avoid oxidizing material. Hazardous polymerization may not occur. (EPA, 1998)	Wear chemical protective suit with self-contained breathing apparatus. Cool exposed containers with water. Use dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3482	DODECYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N-ETHYL-2-METHYL-4-NITROANILINE is basic. Reacts exothermically with acids to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Reaction with strong reducing agents, such as hydrides may generate flammable gaseous hydrogen.					0																									
3483	DODINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slighly soluble in water	DIETHYL KETONE is incompatible with the following: Strong oxidizers, alkalis, mineral acids, (hydrogen peroxide + nitric acid) (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		55	(USCG, 1999)		1.6		%	(USCG, 1999)		6.4		%	(USCG, 1999)		842		(USCG, 1999)		-44	
3484	DOXYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. (NTP, 1992)	N-ETHYL-4-NITROANILINE is basic. Reacts exothermically with acids to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Reaction with strong reducing agents, such as hydrides may generate flammable gaseous hydrogen.					0																						(NTP, 1992)		205	
3485	DULCIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	ACTINOMYCIN D can react with strong oxidizing agents, strong acids and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)	(decomposes)		467 to 469
3486	ENDOTHALL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	ADIPONITRILE is incompatible with strong oxidizers. It is also incompatible with strong acids, strong bases and strong reducing agents. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(EPA, 1998)		199.4	(EPA, 1998)	at 392F	1		%						(USCG, 1999)		1022		(EPA, 1998)		36.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chiris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3482	DODECYLTRICHLOROSILANE	(USCG, 1999)		25.85				mm Hg							(USCG, 1999)		0.8159		66.2		(USCG, 1999)		216		760		(USCG, 1999)	86.13						(NTP, 1992)	at 68Â° F	5		less than 1	mg/mL	DEK	Flammable Liquid	C9H12N2O2	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0
3483	DODINE																										(USCG, 1999)	166.18						(NTP, 1992)							C8H10O			4.0	0.0	1.0	1.0	1.0
3484	DOXYLAMINE																										(NTP, 1992)	1255.5						(NTP, 1992)	Soluble at 50Â° F					Poison	C8H10N2O2	Cellulose-Based Absorbents[Expanded Polymeric Absorbents	2.0	0.0	5.0	1.0	1.0
3485	DULCIN																										(EPA, 1998)	168.16						(NTP, 1992)	at 73Â° F	50 to 100	mg/mL	ADN	Poison	C6H8N2		1.0	0.0	2.0	1.0	1.0
3486	ENDOTHALL	(NTP, 1992)		2		246		mm Hg	(EPA, 1998)		3.73				(EPA, 1998)		0.965		68		(EPA, 1998)		563		760		(EPA, 1998)																						

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3487	ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-	ETHANIMIDOTHIOIC ACID, 2 (DIMETHYLAMINO)-N-HYDROXY-	30558-43-1	White powder.	1.0	2.5	5.0	5173.0	512.0	1769.0	920.0	550.0	1580.0	156.0	549.0	298.0	157.0	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3488	ETHOXYPROPYL ACETATE	ETHOXPROPYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)|ETHOXYPROPYL ACETATE|ETHOXYPROPYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)|PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE (FLAMMABLE LIQUIDS, N.O.S.) LIQUIDS, N.O.S.)	98516-30-4	A transparent, colorless liquid, with a sweet, ether-like odor. Less dense than water. Vapors are heavier than air. Contact may irritate skin, eyes, and mucous membranes.	2.5	5.0	2.5	5174.0	512.0	1769.0	920.0	550.0	1581.0	156.0	549.0	298.0	157.0	Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
3489	ETHYL BUTYL ETHER	BUTYL ETHYL ETHER|ETHER, BUTYL ETHYL|1-ETHOXYBUTANE|ETHYL BUTYL ETHER|ETHYL N-BUTYL ETHER|N-BUTYL ETHYL ETHER	628-81-9	A clear colorless liquid with an ethereal odor. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	5174.0	512.0	1769.0	920.0	550.0	1581.0	156.0	549.0	298.0	157.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3490	ETHYL CHLOROTHIOFORMATE	CARBONIC ACID, THIO-, ANHYDROSULFIDE WITH THIOHYPOCHLOROUS ACID, ETHYL ESTER|CARBONOCHLORIDOTHIOIC ACID, S-ETHYL ESTER|CHLOROTHIOFORMIC ACID ETHYL ESTER|ETHOXYCARBONYLSULFENYL CHLORIDE|ETHYL (CHLOROSULFENYL)FORMATE|ETHYL (CHLOROTHIO)FORMATE|ETHYL CHLOROTHIOFORMATE|ETHYL CHLOROTHIOLFORMATE|ETHYL CHLOROTHIOLOFORMATE|ETHYL THIOCHLOROFORMATE|FORMIC ACID, CHLOROTHIO-, S-ETHYL ESTER|S-ETHYL CARBONOCHLORIDOTHIOATE|S-ETHYL CHLOROTHIOCARBONATE|S-ETHYL CHLOROTHIOFORMATE|S-ETHYL	2941-64-2	An amber-colored liquid with a pungent penetrating odor. Flash point 125Â°F. Very toxic by inhalation. Corrosive to metals and tissue. Denser than water. Vapors heavier than air.	2.5	5.0	2.5	5175.0	512.0	1769.0	920.0	550.0	1582.0	156.0	549.0	298.0	157.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3491	ETHYL DIPROPYLTHIOCARBAMATE	ALIROX|CARBAMIC ACID, DIPROPYLTHIO-, S-ETHYL ESTER|DIPROPYLTHIOCARBAMIC ACID, S-ETHYL ESTER|EPTAM|EPTAM 6E|EPTC|EPTC (HERBICIDE)|ETHYL DI-N-PROPYLTHIOLCARBAMATE|ETHYL DIPROPYLTHIOCARBAMATE|ETHYL N,N-DI-N-PROPYLTHIOCARBAMATE|FDA 1541|N,N-DIPROPYLTHIOCARBAMIC ACID S ETHYL ESTER|NIPTAN|R 1608|R-1608|S-ETHYL DIPROPYLTHIOCARBAMATE|S-ETHYL N,N-DI-N-PROPYLTHIOCARBAMATE|S-ETHYL-N,N-DIPROPYLTHIOCARBAMATE|STAUFFER R 1608|TORBIN	759-94-4	PHYSICAL DESCRIPTION: Clear yellow or light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5176.0	512.0	1769.0	920.0	550.0	1583.0	156.0	549.0	298.0	157.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3487	ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Almost any reducing agent and all hydrocarbons can form explosive mixtures with liquid air [Chem. Eng. News 27:2612. 1949]. Explosions have occurred when liquid air contacts organic matter. A cracked tube of activated charcoal immersed in liquid air exploded violently [J. Sci. Inst. 5:24. 1928]. Allyldimethylarsine ignites in air and on filter paper [NFPA 491M. 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3488	ETHOXYPROPYL ACETATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	NICKEL METAL is not highly reactive in bulk. A reducing agent. Reacts with (is corroded by) acids to generate flammable hydrogen. Burns when heated in oxygen. Incompatible with oxidizing agents such as oxidizing acids, ammonium nitrate, chlorine, potassium perchlorate, nitryl fluoride. Powdered nickel is much more reactive; can ignite in air [Bretherick 1979 p. 170-171].	Strong Reducing Agent; Known Catalytic Activity; Pyrophoric		(NFPA, 2010)		2	4	1	5																					(NIOSH, 2003)		2831	
3489	ETHYL BUTYL ETHER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles; gloves. (USCG, 1999)	Water soluble yielding acidic corrosive water solutions.	Gives an acidic solution when dissolved in water. Emits highly toxic fumes of metallic nickel, oxides of sulfur, and oxides of nitrogen when heated to decomposition [Lewis, 3rd ed., 1993, p. 910].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)	Not flammable			(NTP, 1992)	(decomposes)	1558	
3490	ETHYL CHLOROTHIOFORMATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	The chloride salt of nicotine-An alkaloid produced from tobacco. Colorless, oily liquid, combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 919].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3491	ETHYL DIPROPYLTHIOCARBAMATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	NICOTINE TARTRATE is a salt of an alkaloid produced from tobacco. This material is combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3487	ETHANIMIDOTHIOIC ACID, 2-(DIMETHYLAMINO)-N-HYDROXY-																																									Non-Flammable Gas(Oxidizer		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3488	ETHOXYPROPYL ACETATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(Metal)	8.9				(NIOSH, 2003)		5139		760		(NIOSH, 2003)		58.7		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NIOSH, 2003)	Insoluble							Ni		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0
3489	ETHYL BUTYL ETHER														(USCG, 1999)		3.68		68		(NTP, 1992)	Decomposes					(NTP, 1992)		154.77		(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3	(NTP, 1992)	weight % at 68Â° F		27.3 to 27.7		NKS	Class 9	NiSO4		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0
3490	ETHYL CHLOROTHIOFORMATE																																									Poison	C10H15ClN2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3491	ETHYL DIPROPYLTHIOCARBAMATE																																									Poison	C10H16N2(C4H5O6)2 (nicotine bitartrate)|C10H16N2(C4H4O6) (nicotine tartrate)		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3492	ETHYL FLUORIDE	ETHYL FLUORIDE|FLUOROETHANE|HFC 161|MONOFLUOROETHANE|R 161|REFRIGERANT GAS R-161	353-36-6	A colorless, odorless, flammable gas. Can cause asphyxiation by the displacement of air. Exposure of the container to prolonged heat or fire may cause it to rupture violently and rocket.	5.0	1.0	1.0	5176.0	512.0	1769.0	920.0	550.0	1583.0	156.0	549.0	298.0	157.0	Call for medical aid. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
3493	ETHYL LINOLENATE	ETHYL (Z,Z,Z)-9,12,15-OCTADECATRIENOATE|ETHYL ALPHA-LINOLENATE|ETHYL CIS,CIS,CIS-9,12,15-OCTADECATRIENOATE|ETHYL LINOLENATE|LINOLENIC ACID, ETHYL ESTER|9,12,15-OCTADECATRIENOIC ACID, ETHYL ESTER, (Z,Z,Z)-|(Z,Z,Z)-9,12,15-OCTADECATRIENOIC ACID, ETHYL ESTER	1191-41-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5176.0	512.0	1769.0	920.0	550.0	1583.0	156.0	549.0	298.0	157.0	No cases of clinical toxicity on record. Supportive and symptomatic medical treatment recommended if massive overexposure occurs. EYES: flush with water if irritation occurs. SKIN: wash with soap and water. INGESTION: induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Irritating oxides of sulfur and nitrogen are formed in fire. Behavior in Fire: Decomposes vigorously in a self-sustaining reaction at or above 225Â°C (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)
3494	ETHYL MERCURY CHLORIDE	CERESAN|CHLOROETHYLMERCURY|CRIPTODIN|CRYPTODIN|CRYPTODINE|EMCONDE|ETHYL MERCURY CHLORIDE|ETHYLMERCURIC CHLORIDE|ETHYLMERCURY (II) CHLORIDE|ETHYLMERCURY CHLORIDE|GRANOSAN|MERCURIETHYL CHLORIDE|MONOETHYLMERCURY CHLORIDE	107-27-7	PHYSICAL DESCRIPTION: Silver iridescent crystals or white fluffy solid . Sublimes easily. Sensitive to light. Highly toxic. Causes skin burns and is absorbed through the skin.	1.0	2.5	5.0	5176.0	512.0	1769.0	920.0	550.0	1583.0	156.0	549.0	298.0	157.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3495	ETHYL NITRATE	ETHYL NITRATE	625-58-1	A clear colorless liquid with a pleasant odor. Prolonged exposure to fire or heat may cause vigorous decomposition and rupturing of the container. Denser than water and insoluble in water. Vapors are heavier than air. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	5177.0	512.0	1769.0	920.0	550.0	1584.0	156.0	549.0	298.0	157.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3496	ETHYL NITRITE, SOLUTION	ETHYL NITRITE|ETHYL NITRITE, SOLUTION|NITROSYL ETHOXIDE|NITROUS ACID, ETHYL ESTER|NITROUS ETHER|NITROUS ETHYL ETHER|SPIRIT OF ETHER NITRITE|SPIRIT OF ETHYL NITRITE|SWEET SPIRIT OF NITER|SWEET SPIRIT OF NITRE	109-95-5	A clear colorless to yellow liquid with a pleasant odor. Flammable over a wide range of vapor-air concentrations. Flash point -31Â°F. Less dense than water and insoluble in water. Vapors are heavier than air and narcotic in high concentrations. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	5178.0	512.0	1769.0	922.0	550.0	1585.0	156.0	549.0	300.0	157.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3497	ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS	DICHLORIDE|DICHLOROETHYLPHOSPHINE SULFIDE|ETHANEPHOSPHONOTHIONODICHLORIDIC ACID|ETHANETHIOPHOSPHONODICHLORIDIC ACID|ETHYL PHOSPHONOTHIOIC DICHLORIDE|ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS|ETHYL PHOSPHONOTHIOIC DICHLORIDE, [ANHYDROUS]|ETHYL PHOSPHONOTHIOYL DICHLORIDE|ETHYL PHOSPHORODICHLORIDO-|ETHYL THIONOPHOSPHORYL|ETHYLPHOSPHONOTHIOIC DICHLORIDE|ETHYLPHOSPHONOTHIONIC DICHLORIDE|ETHYLTHIONOPHOSPHONYL DICHLORIDE|ETHYLTHIOPHOSPHONIC ACID DICHLORIDE|ETHYLTHIOPHOSPHONIC	993-43-1	A clear colorless liquid with a pungent odor. Burns, but may be difficult to ignite. Denser than water. Very toxic by inhalation. Corrosive to metals and tissue.	2.5	5.0	2.5	5178.0	512.0	1769.0	922.0	550.0	1585.0	156.0	549.0	300.0	157.0	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3492	ETHYL FLUORIDE		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Hygroscopic. Water soluble.	TRIETHYLENE GLYCOL DI-(2-ETHYLBUTYRATE) is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).								0		(USCG, 1999)		385																	
3493	ETHYL LINOLENATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; rubber gloves. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	NITRALIN decomposes vigorously in a self-sustaining reaction at or above 225Â°C (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0														(USCG, 1999)		435		(USCG, 1999)		304	
3494	ETHYL MERCURY CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. This chemical may be unstable to prolonged exposure to air. (NTP, 1992). Insoluble in water.	DIETHYLBUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
3495	ETHYL NITRATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble with release of heat and fumes. Addition of acid to water causes spattering.	NITRATING ACID, MIXTURE, (WITH <= 50% NITRIC ACID) is a mixture of nitric with sulfuric acids. Reacts as a strong acid. Exothermically neutralizes all kinds of bases (including amines and amides). Acts as an oxidizing agent and a nitrating agent. May cause ignition in contact with alcohols, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. May react violently with finely divided antimony [Pascal 10:504. 1931-34]. Reacts violently with bromine pentafluoride [Mellor 2, Supp. 1:172. 1956]. May react explosively with phosphine gas [Edin. Roy. Soc. 13:88. 1835]. An explosion occurs when nitric acid is brought into contact with phosphorus trichloride [Comp. Rend. 28:86]. Reacts exothermically with water to produce fumes and possible spattering.	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																			
3496	ETHYL NITRITE, SOLUTION	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Fully soluble in water with release of heat. Reacts violently with water with the production of heat, fumes, and spattering.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	0	0	Oxidizer																(NIOSH, 2003)		-44	
3497	ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Combines with oxygen to form nitrogen dioxide, a brown gas that is deadly poisonous [Merck 11th ed. 1989]. Decomposes in water to form nitric acid and nitric oxide, reacts with alkalis to form nitrate and nitrites [Merck 11th ed.1989].	Liquid nitrogen dioxide (dinitrogen tetraoxide) was fed into a nitration column containing hot cyclohexane, due to an error. An explosion resulted [MCA Case History 128. 1962]. The slow reaction between nitrogen dioxide and formaldehyde becomes explosive when it is near 180Â°C [Trans. Faraday Soc. 45:767-770. 1949]. Manganese or potassium igniters in nitrogen dioxide (Ann. Chem. et Phys.(2) 2:317). Nitrogen dioxide and ozone react with the evolution of light and often explode [J. Chem. Phys. 18:366. 1920]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1975 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3492	ETHYL FLUORIDE														(USCG, 1999)		0.9946		68								(USCG, 1999)		346.52											TGD		C18H34O6		3.0	0.0	4.0	1.0	1.0
3493	ETHYL LINOLENATE														(USCG, 1999)	(est)		greater than 1	68		(USCG, 1999)	(decomposes)		greater than 437	760		(USCG, 1999)		345.2											NTL	Class 9	C13H19N3O6S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3494	ETHYL MERCURY CHLORIDE																										(NTP, 1992)		129.24						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Flammable Liquid|Corrosive	C8H19N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3495	ETHYL NITRATE																																								Corrosive	HNO3 (nitric acid)|H2SO4 (sulfuric acid)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	5.0	1.0	1.0
3496	ETHYL NITRITE, SOLUTION	(NIOSH, 2003)		48				mm Hg							(NIOSH, 2003)		1.5		77		(NIOSH, 2003)		181		760		(NIOSH, 2003)		63		(NIOSH, 2003)		25	ppm	(NIOSH, 2003)	Miscible					Corrosive|Oxidizer	HNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	5.0	1.0	1.0
3497	ETHYL PHOSPHONOTHIOIC DICHLORIDE, ANHYDROUS																																							Poison Gas|Oxidizer|Corrosive	NO (nitric oxide)|N2O4 (nitrogen tetroxide)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3498	ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS	DICHLOROETHYLPHOSPHINE|ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS|ETHYL PHOSPHONOUS DICHLORIDE, [ANHYDROUS]|ETHYLDICHLOROPHOSPHINE|ETHYLPHOSPHONOUS DICHLORIDE|ETHYLPHOSPHORUS DICHLORIDE|PHOSPHINE, DICHLOROETHYL-	1498-40-4	A colorless liquid with a pungent odor. Denser than water. Very toxic by inhalation.	2.5	5.0	2.5	5178.0	512.0	1769.0	922.0	550.0	1585.0	156.0	549.0	300.0	157.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3499	ETHYL PROPYL ETHER	ETHER, ETHYL PROPYL|1-ETHOXYPROPANE|ETHYL N-PROPYL ETHER|ETHYL PROPYL ETHER|PROPYL ETHYL ETHER	628-32-0	A colorless liquid with an ether-like odor. Less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5179.0	512.0	1769.0	922.0	550.0	1586.0	156.0	549.0	300.0	157.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3500	ETHYL TOLUENE	ALPHA-METHYLXYLENE|ETHYL TOLUENE|2-ETHYL TOLUENE|3-ETHYL-2-METHYLBENZENE|ETHYLMETHYLBENZENE|ETHYLTOLUENE|2-ETHYLTOLUENE|1-METHYL-2-ETHYLBENZENE|METHYLETHYLBENZENE|2-METHYLETHYLBENZENE|O-ETHYLMETHYLBENZENE|O-ETHYLTOLUENE|O-METHYLETHYLBENZENE|TOLUENE, AR-ETHYL-|TOLUENE, ETHYL-|TOLUENE, O-ETHYL-	611-14-3	A colorless liquid with an aromatic hydrocarbon odor. Insoluble in water and less dense than water. Vapors heavier than air. Flash point 105Â°F. Boiling point is 324Â°F. Contact may irritate the skin, eyes, and mucous membranes. Used as a solvent.	2.5	5.0	2.5	5180.0	512.0	1769.0	922.0	550.0	1587.0	156.0	549.0	300.0	157.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3501	ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, [TECHNICALLY PURE]	ETHYL 3,3-BIS(TERT-BUTYLPEROXY)BUTANOATE|ETHYL 3,3-BIS(TERT-BUTYLPEROXY)BUTYRATE|ETHYL 3,3-DI(T-BUTYLPEROXY)BUTYRATE|ETHYL 3,3-DI(TERT-BUTYLPEROXY)BUTYRATE|ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE|ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, [TECHNICALLY PURE]|L 233M75|LUPERCO 233XL|LUPERSOL 233|LUPERSOL 233M090|LUPERSOL 233M75|R 233|USP 333	55794-20-2	Colorless to yellow liquid. Insoluble in water. Particularly sensitive to heat, shock, and friction.	2.5	5.0	2.5	5181.0	512.0	1769.0	922.0	550.0	1588.0	156.0	549.0	300.0	157.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3502	ETHYL-3-PHENYLGLYCIDATE	ETHYL 2,3-EPOXY-3-PHENYLPROPIONATE|ETHYL 3-PHENYLGLYCIDATE|ETHYL ALPHA,BETA-EPOXY-ALPHA PHENYLPROPIONATE|ETHYL ALPHA,BETA-EPOXYHYDROCINNAMATE|ETHYL PHENYLGLYCIDATE|ETHYL-3-PHENYLGLYCIDATE|GLYCIDIC ACID, 3-PHENYL-, ETHYL ESTER|3-OXO-3-PHENYLPROPANOIC ACID ETHYL ESTER|3-PHENYL-OXIRANECARBOXYLIC ACID ETHYL ESTER|3-PHENYLGLYCIDIC ACID, ETHYL ESTER	121-39-1	PHYSICAL DESCRIPTION: Clear pale yellow or yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5181.0	512.0	1769.0	922.0	550.0	1588.0	156.0	549.0	300.0	157.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3498	ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Dust mask; rubber gloves; chemical safety goggles (USCG, 1999)	Water Insoluble.	NITRILOTRIACETIC ACID is incompatible with strong oxidizers, aluminum, copper, copper alloy and nickel. It is also incompatible with strong bases. (NTP, 1992)							0																					(NTP, 1992)	(decomposes)	475	
		Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	INORGANIC NITRITES are oxidizing agents. React with acids to form toxic nitrogen dioxide gas. A violent explosion occurs if an ammonium salt is melted with a nitrite salt [Von Schwartz 1918. p 299]. A mixture with potassium cyanide may cause an explosion [Pieters 1957. p. 30].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3500	ETHYL TOLUENE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	NITROANISOLE reacts explosively with (sodium hydroxide + zinc). It reacts vigorously with hydrogen + catalyst (at 482Â° F and 25500 mm Hg). (NTP, 1992)	Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 230																(NTP, 1992)		48.9	
3501	ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, [TECHNICALLY PURE]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It will form a corrosive solution in water. When diluted with water generates considerable heat.	Self-reactive. NITROBENZENESULFONIC ACID is known to decompose violently at about 200Â° C [MCA Case History 1482. 1968].	Strong Oxidizing Agent; Known Catalytic Activity; Water-Reactive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3502	ETHYL-3-PHENYLGLYCIDATE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May be ignited by friction, heat, sparks or flames. Insoluble in water.	NITROCELLULOSE MEMBRANE FILTERS may burn if exposed to heat or flame. Mixtures with reducing agents, including hydrides, sulfides and nitrides, may undergo a vigorous reaction that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			(NFPA, 2010)		2	3	3	6																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3498	ETHYL PHOSPHONOUS DICHLORIDE, ANHYDROUS														(USCG, 1999)			greater than 1	68		(NTP, 1992)	Solid decomposes					(NTP, 1992)		191.14						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL	NAA		C6H9NO6	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3499	ETHYL PROPYL ETHER																																								Oxidizer	NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3500	ETHYL TOLUENE	(NTP, 1992)	; 18.5 mm Hg at 167Â° F; 30.0 mm Hg at 194Â° F	1		127		mm Hg							(NTP, 1992)		1.254		68		(NTP, 1992)		531		760		(NTP, 1992)		153.15						(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C7H7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	4.0	1.0	1.0
3501	ETHYL-3,3-DI-(TERT-BUTYLPEROXY)BUTYRATE, [TECHNICALLY PURE]																																							Corrosive	C6H5NO5S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3502	ETHYL-3-PHENYLGLYCIDATE																																							Flammable Solid	[C12H14N6O22]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3503	ETHYLBENZYL CHLORIDE	1-CHLOROMETHYLETHYLBENZENE|ETHYLBENZYL CHLORIDE|ETHYLBENZYL CHLORIDE (CORROSIVE LIQUIDS, N.O.S.)|TOLUENE, ALPHA-CHLORO-AR-ETHYL-|TOLUENE, ALPHA-CHLOROETHYL-	26968-58-1	A colorless to pale-colored liquid with a pungent odor. Insoluble in water and slightly denser than water. May irritate skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5181.0	512.0	1769.0	922.0	550.0	1588.0	156.0	549.0	300.0	157.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3504	ETHYLDICHLOROSILANE	DICHLOROETHYLSILANE|ETHYL DICHLOROSILANE|ETHYLDICHLOROSILANE|MONOETHYLDICHLOROSILANE	1789-58-8	A colorless fuming liquid with a pungent odor. Flash point 30Â°F. Vapor and liquid may cause burns. Denser than water. Vapors heavier than air.	2.5	5.0	2.5	5182.0	512.0	1770.0	922.0	550.0	1589.0	156.0	550.0	300.0	157.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3505	ETHYLENE GLYCOL DIBUTYL ETHER	1,2-DIBUTOXYETHANE|DIBUTYL CELLOSOLVE|ETHANE, 1,2-DIBUTOXY|ETHER ETHYLENE GLYCOL DIBUTYL|ETHYLENE GLYCOL DIBUTYL ETHER	112-48-1	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5183.0	512.0	1770.0	922.0	550.0	1590.0	156.0	550.0	300.0	157.0	(BLOB)	When heated to decomposition, toxic fumes of nitrogen oxides are emitted. May ignite other combustible materials (wood, paper, oil, etc.). Mixture with fuels may explode. Container may explode in heat of fire. Vapor explosion and poison hazard may occur indoors, outdoors or in sewers. Decomposes in water, forming nitric acid and nitric oxide. Avoid moisture and physical damage to storage container. Incompatible with combustible matter, chlorinated hydrocarbons, ammonia, carbon disulfide. Reacts with alkalies to form nitrates and nitrites. Violent reaction with cyclohexane, fluorine, formaldehyde, alcohols, nitrobenzene, petroleum, and toluene. (EPA, 1998)	Move container from fire area if you can do so without risk. Stay away from ends of tanks. Spray cooling water on containers that are exposed to flames until well after fire is out. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. For massive fire in cargo area, use unmanned hose holder or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (EPA, 1998)
3506	ETHYLENE GLYCOL DIFORMATE	ETHYLENE DIFORMATE|ETHYLENE FORMATE|ETHYLENE GLYCOL DIFORMATE|ETHYLENE GLYCOL, DIFORMATE|GLYCOL DIFORMATE	629-15-2	A water-white liquid. More dense than water. May be toxic by ingestion. Used in embalming fluids.	2.5	5.0	2.5	5183.0	512.0	1770.0	924.0	550.0	1590.0	156.0	550.0	302.0	157.0	INHALATION: remove patient to fresh air and have him breathe as deeply as possible; call a doctor; enforce complete rest for 24-48 hours; keep warm; give oxygen if coughing starts; physician may administer morphine (10 mg.) EYES AND SKIN: flush with water for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Produces toxic gas when heated. Behavior in Fire: Does not burn, but supports combustion of combustible materials such as wood. May cause fire or explode on contact with other materials. (USCG, 1999)	Fire Extinguishing Agents: Stop flow of gas (USCG, 1999)
3507	ETHYLPHENYLDICHLOROSILANE	DICHLOROETHYLPHENYLSILANE|ETHYL PHENYL DICHLOROSILANE|ETHYLPHENYLDICHLOROSILANE	1125-27-5	Ethylphenyldichlorosilane is a colorless liquid with a pungent odor. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	5183.0	512.0	1770.0	924.0	550.0	1590.0	156.0	550.0	302.0	157.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3503	ETHYLBENZYL CHLORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	NITROCELLULOSE, [DRY] may explode if exposed to heat, flame, friction or shock. May undergo a vigorous reaction with reducing agents, including hydrides, sulfides and nitrides, that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)		2	3	3	6																									
3504	ETHYLDICHLOROSILANE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Insoluble in water.	NITROCELLULOSE, SOLUTION, FLAMMABLE burns if exposed to heat or flame. Mixtures with reducing agents, including hydrides, sulfides and nitrides, may undergo a vigorous reaction that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Highly Flammable; Explosive	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																									
3505	ETHYLENE GLYCOL DIBUTYL ETHER	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	(BLOB)	Combines with oxygen to form nitrogen dioxide, a brown gas that is deadly poisonous [Merck 11th ed. (1989). Decomposes in water to form nitric acid and nitric oxide, reacts with alkalis to form nitrate and nitrites [Merck 11th ed. 1989]. The liquid nitrogen oxide is very sensitive to detonation, in the presence of water.	(BLOB)	Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1067 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer					(EPA, 1998)	Does not burn.				(EPA, 1998)	Does not burn.						(EPA, 1998)		15.3	
3506	ETHYLENE GLYCOL DIFORMATE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Rubber gloves; safety goggles and face shield; protective clothing; acid gas canister respirator or self-contained breathing apparatus. (USCG, 1999)	Reacts with water to form nitric acid and nitric oxide.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1067 datasheet. FIRE: If tail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																							(USCG, 1999)	Not flammable			(USCG, 1999)		11.8	
3507	ETHYLPHENYLDICHLOROSILANE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	The triazoles are a group of highly explosive materials that are sensitive to heat, friction, and impact. Sensitivity varies with the type substitution to the triazole ring. Metal chelated and halogen substitution of the triazol ring make for a particularly heat sensitive material. Azido and nitro derivatives have been employed as high explosives. No matter the derivative these materials should be treated as explosives.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If tail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3503	ETHYLBENZYL CHLORIDE																																								Explosive 1.1D	[C12H14N6O22]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3504	ETHYLDICHLOROSILANE																																								Flammable Liquid	[C12H14N6O22]n	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3505	ETHYLENE GLYCOL DIBUTYL ETHER	(EPA, 1998)		720		68		mm Hg	(EPA, 1998)		1.58				(EPA, 1998)		1.448		68		(EPA, 1998)		70.07		760		(EPA, 1998)		46.01		(NIOSH, 2003)		20	ppm	(NIOSH, 2003)	Reacts with water					Poison Gas|Oxidizer|Corrosive	NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3506	ETHYLENE GLYCOL DIFORMATE	(USCG, 1999)		1551				mm Hg							(USCG, 1999)		1.45		68		(USCG, 1999)		70.1		760		(USCG, 1999)		92.02											NOX	Poison Gas|Oxidizer|Corrosive	N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	5.0	1.0	1.0
3507	ETHYLPHENYLDICHLOROSILANE																																								Explosive 1.1D	C2H2N4O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3508	ETHYLTHIOCYANATE	ETHANE, THIOCYANATO-|ETHYL RHODANATE|ETHYL SULFOCYANATE|ETHYL THIOCYANATE|ETHYLTHIO CYANATE|THIOCYANIC ACID, ETHYL ESTER	542-90-5	Liquid. Used as an agricultural insecticide. (EPA, 1998)	2.5	5.0	2.5	5183.0	512.0	1770.0	924.0	550.0	1590.0	156.0	550.0	302.0	157.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3509	FAMPHUR	FAMPHUR	52-85-7	Crystalline powder. Very toxic. Cholinesterase inhibitor. Restricted use as insecticide.	1.0	2.5	5.0	5184.0	512.0	1770.0	924.0	550.0	1591.0	156.0	550.0	302.0	157.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3510	FENARIMOL	.ALPHA.-(2-CHLOROPHENYL)-.ALPHA.-4-CHLOROPHENYL)-5-PYR|.ALPHA.-(2-CHLOROPHENYL)-.ALPHA.-4-CHLOROPHENYL)-5-PYRIMIDINEMETHANOL|FENARIMOL|RUBIGAN	60168-88-9	Pure white crystalline solid. Used as a fungicide. Irritates skin and mucous membranes.	1.0	2.5	5.0	5184.0	512.0	1770.0	924.0	550.0	1591.0	156.0	550.0	302.0	157.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3511	FENOXAPROP ETHYL	2-(4-((6-CHLORO-2-BENZOXAZOLYLEN)OXY)PHENOXY)PROPANOIC ACID, ETHYL ESTER|FENOXAPROP ETHYL	66441-23-4	Coarse light beige to brown powder. Selective herbicide.	1.0	2.5	5.0	5185.0	512.0	1770.0	924.0	550.0	1592.0	156.0	550.0	302.0	157.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3512	FENOXYCARB	FENOXYCARB|(2-(4-PHENOXY-PHENOXY)-ETHYL)CARBAMIC ACID ETHYL ESTER	72490-01-8	White crystalline solid. Selective insecticide.	1.0	2.5	5.0	5186.0	514.0	1770.0	926.0	551.0	1593.0	158.0	550.0	304.0	158.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3508	ETHYLTHIOCYANATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolysis occurs in water.	Explosive mercury or silver salts are rather sensitive to heat and impact, while the pure material is much more insensitive. Organonitrate compounds, such as NITROUREA, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
3509	FAMPHUR	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as DIETHYLDIISOCYANATOBENZENE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3510	FENARIMOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	DIETHYLENE GLYCOL DIACRYLATE polymerizes at high temperatures. It is sensitive to light. This chemical is incompatible with strong oxidizers, reducers, peroxides and other radical initiators. (NTP, 1992)	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		172																					
3511	FENOXAPROP ETHYL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ALDICARB SULFONE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3512	FENOXYCARB	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. May be sensitive to prolonged exposure to air. Can form explosive peroxides. Vapor-air mixtures are explosive above the flash point. Water soluble.	DIETHYLENE GLYCOL DIETHYL ETHER is incompatible with strong acids. It is also incompatible with strong oxidizing agents.(NTP, 1992)	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3		(NTP, 1992)		130														(NTP, 1992)		401		(NTP, 1992)		-47.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	melwgt_source	melwgt_note	melwgt_value	melwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chrts_coef	doc_labels	formulas	incompatible_abnormal_sorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3508	ETHYLTHIOCYANATE																																									Cellulose-Based Absorbents;Exp anded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3509	FAMPHUR																																								C10H22N O5P S2	Cellulose-Based Absorbents;Non Polar & Clay-Based Absorbents;Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3510	FENARMOL	(NTP, 1992)	1.5 mm Hg at 125.5 °F; 26.5 mm Hg at 167°A° F	1		102		mm Hg	(NTP, 1992)			greater than 1			(NTP, 1992)		1.11				(NTP, 1992)		760	greater than 392																C16H14Cl 2N O	Cellulose-Based Absorbents;Min eral-Based & Clay-Based Absorbents;Dirt/ Earth	3.0	0.0	3.0	1.0	1.0
3511	FENOXAPROP ETHYL																																								C16H12N2 O5	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3512	FENOXYCARB	(NTP, 1992)		0.54		77		mm Hg	(NTP, 1992)		5.6						0.9063		68		(NTP, 1992)		372												(NTP, 1992)		at 64A° F					C20H19N O4	Flammable Liquid	3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3513	FENSULFOTHION	AGRICUR|B 25141|BAY 25141|BAYER 25141|BAYER S767|CHEMAGRO 25141|DACONIT|DASANIT|DASANITÂ®|DAZANIT|DESANIT|DIETHYL P-METHYLSULFINYLPHENYL THIOPHOSPHATE|DMSP|ENT 24,945|FENSULFOTHION|O,O-DIETHYL O-(4-(METHYLSULFINYL)PHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-(4-METHYLSULFINYLPHENYL) MONOTHIOPHOSPHATE|O,O-DIETHYL O-(P-(METHYLSULFINYL)PHENYL) PHOSPHOROTHIOATE|O,O-DIETHYL O-(P-METHYLSULFINYL)PHENYL)PHOSPHOROTHIOATE|O,O-DIETHYL O-(4-(METHYLSULFINYL)PHENYL) PHOSPHORODTHIOATE|O,O-DIETHYL O-|P-(METHYLSULFINYL)PHENYL| PHOSPHOROTHIOATE|PHENOL, P-(METHYLSULFINYL)-	115-90-2	Oily yellow or brown liquid. Used as an insecticide, nematocide and mosquito larvicide. (EPA, 1998)	2.5	5.0	2.5	5186.0	514.0	1770.0	926.0	551.0	1593.0	158.0	550.0	304.0	158.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)
3514	FENYRAMIDOL	ABBOLEXIN|ALPHA-(2-PYRIDINYLAMINOMETHYL) BENZENEMETHANOL|ALPHA-(2-PYRIDYLAMINOMETHYL)BENZYL ALCOHOL|ANALEXIN|BENZYL ALCOHOL, ALPHA-[(2-PYRIDYLAMINO)METHYL]-|2-(BETA-HYDROXYPHENETHYLAMINO)PYRIDINE|BONAPAR|CABRAL|ELAN|EVASPIRINE|EVASPRIN|EVASPRINE|FENYRAMIDOL|FENYRIPOL|IN 511|MIODAR|MJ 505|PHENYLRAMIDOL|PHENYRAMIDOL|(.+-.)-PHENYRAMIDOL	553-69-5	PHYSICAL DESCRIPTION: Crystals (from dilute methanol). (NTP, 1992)	1.0	2.5	5.0	5187.0	514.0	1770.0	926.0	551.0	1594.0	158.0	550.0	304.0	158.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3515	FERRIC AMMONIUM FERROCYANIDE	AMMONIUM FERRIC HEXACYANOFERRATE|AMMONIUM IRON HEXACYANOFERRATE|FERRATE(4-), HEXACYANO-, AMMONIUM IRON(3+)|FERRATE(4-), HEXAKIS(CYANO-C)-, AMMONIUM IRON(3+) (1:1:1), (OC-6-11)-|FERRIC AMMONIUM FERROCYANIDE|GIESE SALT|HEXACYANOFERRATE (4-) AMMONIUM IRON(3+)|HEXAKIS(CYANO-C)FERRATE(4-) AMMONIUM IRON(3+) (1:1:1)	25869-00-5	Solid.	1.0	2.5	5.0	5188.0	514.0	1771.0	926.0	551.0	1595.0	158.0	551.0	304.0	158.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3516	FERROUS FLUOROBORATE	FERROUS BOROFLUORIDE|FERROUS FLUOROBORATE|IRON FLUOROBORATE	15283-51-9	Yellow-green odorless aqueous solution. Sinks and mixes with water. (USCG, 1999)	2.5	5.0	2.5	5188.0	514.0	1771.0	926.0	551.0	1595.0	158.0	551.0	304.0	158.0	SKIN OR EYE CONTACT: flush well with water. Consult physician in cases of skin irritation, eye contact, or accidental ingestion. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Foam or water may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical or carbon dioxide (USCG, 1999)
3517	FLUAZIFOP BUTYL	FLUAZIFOP BUTYL|2-(4-(5-(TRIFLUOROMETHYL)-2-PYRIDINYL|OXY}-PHENOXY)PROPANOIC ACID, BUTYL ESTER	69806-50-4	A pale straw colored liquid. Selective herbicide.	2.5	5.0	2.5	5188.0	514.0	1772.0	926.0	552.0	1595.0	158.0	552.0	304.0	159.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3518	FLUOROACETAMIDE	1081|ACETAMIDE, 2-FLUORO-|AFL 1081|ALPHA-FLUOROACETAMIDE|COMPOUND 1081|FAA|FLUORAKIL 100|FLUOROACETAMIDE|2-FLUOROACETAMIDE|FLUOROACETIC ACID AMIDE|FLUTRITEX 1|FUSSOL|MEGATOX|MONOFLUOROACETAMIDE|NAVRON|RODEX|YANOCK	640-19-7	Colorless crystalline powder. Used as a rodenticide. Highly toxic.	1.0	2.5	5.0	5188.0	514.0	1772.0	926.0	552.0	1595.0	158.0	552.0	304.0	159.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated when heated. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3513	FENSULFOTHION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	N-METHYLBENZAMIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																						(NTP, 1992)		180	
3514	FENYRAMIDOL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(NFPA, 2010)		150																				
3515	FERRIC AMMONIUM FERROCYANIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Insoluble in water.	ALDRIN, LIQUID is a chlorinated diene. May be sensitive to prolonged exposure to light. Stable to heat and in the presence of inorganic and organic bases. Stable with hydrated metal chlorides and mild acids. Reacts with concentrated acids and phenols in the presence of oxidizing agents. Can react with acid catalysts, acid oxidizing agents and active metals (NTP, 1992).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NIOSH, 2003)		219	
3516	FERROUS FLUOROBORATE		Eye protection (USCG, 1999)	Water soluble.	1,4-BUTENEDIOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.					0		(USCG, 1999)		263																		(USCG, 1999)		45	
3517	FLUAZIFOP BUTYL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and keep away from oxidizers. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	N-METHYLFORMAMIDE is incompatible with benzene sulfonyl chloride. It is also incompatible with strong oxidizing agents, acids, bases and acid chlorides. It may react with chlorine, bromine, nitrates, nitric acid, triethylaluminum, potassium permanganate, chromic acid, chromic anhydride, chromium trioxide, borohydrides, hydrides, thionyl chloride, metallic sodium, phosphorus trioxide, diborane, (octafluoroisobutyrate + sodium nitrite) and (perchloryl fluoride + potassium methyl 4,4-dinitrobutyrate). (NTP, 1992)					0		(NTP, 1992)		208	(NTP, 1992)		1.8		%	(NTP, 1992)		19.7		%	(NTP, 1992)		613		(NTP, 1992)		-40	
3518	FLUOROACETAMIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water.	DIETHYLENETRIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		215	(USCG, 1999)	(calc.)	1		%	(USCG, 1999)	(calc.)	10		%	(USCG, 1999)		676		(NTP, 1992)		-38	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_tempMMHG	bp_range_tempMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chirls_codes	det_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3513	FENSULFOTHION																				(NTP, 1992)		556		760		(NTP, 1992)		135.18								at 68Â° F	less than 1	mg/mL				C8H9NO		1.0	0.0	1.0	1.0	1.0
3514	FENYRAMIDOL																										(NTP, 1992)		88.11														C4H8O2	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3515	FERRIC AMMONIUM FERROCYANIDE	(NIOSH, 2003)	8.00E-05	0.2		77		mm Hg	(NTP, 1992)		3.48				(USCG, 1999)		0.954		68		(NTP, 1992)		405		760		(NTP, 1992)		103.18						(NTP, 1992)		at 68Â° F	Very soluble				DET	Corrosive	C4H12N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3516	FERROUS FLUOROBORATE														(USCG, 1999)		1.07		77		(USCG, 1999)		453		760		(USCG, 1999)		88.11												BUD	C4H8O2	Cellulose-Based Absorbents/Dirt/ Earth	3.0	0.0	4.0	1.0	1.0
3517	FLUAZIFOP BUTYL	(NTP, 1992)		0.2		77		mm Hg							(NTP, 1992)		1.011		66		(NTP, 1992)		356 to 365		760		(NTP, 1992)		59.07						(NTP, 1992)	greater than or equal to 100	mg/mL				C2H5NO		1.0	0.0	1.0	1.0	1.0
3518	FLUOROACETAMIDE	(NTP, 1992)		0.22		68		mm Hg	(NTP, 1992)		3.48				(USCG, 1999)		0.954		68		(NTP, 1992)		405		760		(NTP, 1992)		103.18						(NTP, 1992)			Very soluble				DET	Corrosive	C4H12N2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3519	FLUOROACETYL CHLORIDE	ACETYL CHLORIDE, FLUORO-|FLUOROACETYL CHLORIDE|2-FLUOROACETYL CHLORIDE|TL 670	359-06-8	Liquid. (EPA, 1998)	2.5	5.0	2.5	5188.0	514.0	1772.0	926.0	552.0	1595.0	158.0	552.0	304.0	159.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3520	FLUOROPHOSPHORIC ACID, ANHYDROUS	FLUOROPHOSPHONIC ACID (F(HO)2PO)|FLUOROPHOSPHORIC ACID|FLUOROPHOSPHORIC ACID (H2PO3F)|FLUOROPHOSPHORIC ACID, ANHYDROUS|FLUOROPHOSPHORIC ACID, [ANHYDROUS]|MONOFLUOROPHOSPHORIC ACID	13537-32-1	A colorless liquid. Corrosive to metals and tissue. Used in metal cleaning, as a chemical polishing agent and as a catalyst.	2.5	5.0	2.5	5188.0	514.0	1772.0	926.0	552.0	1595.0	158.0	552.0	304.0	159.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carabon dioxide, foam or Halon extinguisher. (NTP, 1992)
3521	FLUOROSILICATES, N.O.S.	FLUOROSILICATE|FLUOROSILICATE (SIF62-)|FLUOROSILICATES|FLUOROSILICATES, N.O.S.|FLUOSILICATE|HEXAFLUOROSILICATE|HEXAFLUOROSILICATE (SIF62-)|HEXAFLUOROSILICATE(2-)|HEXAFLUOROSILICATE(2-) ION|SILICOFLUORIDE|SILICOFLUORIDE, [SOLID]|SILICOFLUORIDES, N.O.S.|SILICON HEXAFLUORIDE ION	17084-08-1	A crystalline solid or the solid dissolved in a liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5188.0	514.0	1772.0	928.0	552.0	1595.0	158.0	552.0	306.0	159.0	(BLOB)	When heated to decomposition it emits very toxic fumes of cyanide and nitrogen oxides. Reacts violently with amines, alcohol, bases and warm water causing fire and explosion hazards. Avoid strong oxidizers, water, acids, bases, amines, etc., cause foam and splatter. Avoid heating. Hazardous polymerization may occur. Concentrated alkaline compound such as sodium hydroxide or tertiary amines may cause run-away polymerization. Slow, not hazardous polymerization may occur above 235F. (EPA, 1998)	If water gets below the surface of the liquid, it will turn to steam and cause frothing. Full protective clothing, including self-contained breathing apparatus, rubber gloves, boots and bands around legs, arms, and waist should be provided. No skin surface should be exposed. Move container from fire area if you can do it without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. Dike fire control water for later disposal; do not scatter the material. Water gently applied to surface or foam may cause frothing which will extinguish the fire. If material is on fire or involved in fire do not extinguish fire unless flow can be stopped. Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, carbon dioxide or dry chemical. Use water spray to absorb vapor. (EPA, 1998)
3522	FLUOROXENE	ETHER, 2,2,2-TRIFLUOROETHYL VINYL|FLUOROMAR|FLUOROXENE|2,2,2-TRIFLUOROETHOXYETHENE|2,2,2-TRIFLUOROETHOXYETHENE; 2,2,2-TRIFLUOROETHYL VINYL ETHER|TRIFLUOROETHYL VINYL ETHER|1,1,1-TRIFLUOROETHYL VINYL ETHER|2,2,2-TRIFLUOROETHYL VINYL ETHER	406-90-6	Volatile Liquid. Bp: 43Â°C. Density: 1.14 g cm-3 . Formerly used as an inhalation anesthetic.	2.5	5.0	2.5	5189.0	515.0	1772.0	929.0	553.0	1596.0	159.0	552.0	307.0	160.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. Avoid exposure to ultraviolet light. (EPA, 1998)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3523	FLURAZEPAM DIHYDROCHLORIDE	BENOZIL|DALMADORM|DALMADORM HYDROCHLORIDE|DALMANE|DALMATE|FLURAZEPAM DIHYDROCHLORIDE|FLURAZEPAM HYDROCHLORIDE|2H-1,4-BENZODIAZEPIN-2-ONE, 7-CHLORO-1-(2-(DIETHYLAMINO)ETHYL)-5-(O-FLUORO-PHENYL)-1,3-DIHYDRO-, DIHYDROCHLORIDE|2H-1,4-BENZODIAZEPIN-2-ONE, 7-CHLORO-1-(2-(DIETHYLAMINO)ETHYL]-5-(O-FLUOROPHENYL)-1,3-DIHYDRO-, DIHYDROCHLORIDE|ID 480|ID-480 DIHYDROCHLORIDE|INSUMIN|LUNIPAX|NSC-78559|RO 5-6901|SOMLAN	1172-18-5	PHYSICAL DESCRIPTION: Odorless off-white to yellow crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5189.0	515.0	1772.0	929.0	553.0	1596.0	159.0	552.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3519	FLUOROACETYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Soluble in water.	N-METHYLOLACRYLAMIDE may be sensitive to prolonged exposure to light. Polymerization and generation of heat and flames may occur on exposure to to heat or contaminants. Incompatible with strong oxidizers. (NTP, 1992)	Polymerizable						0																			(NTP, 1992)			165 to 167
3520	FLUOROPHOSPHORIC ACID, ANHYDROUS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]						0																			(NTP, 1992)			466 to 468
3521	FLUOROSILICATES, N.O.S.	(BLOB)	(BLOB)	Reacts with water with the evolution of carbon dioxide and formation of insoluble polyureas that are relatively nontoxic and inert [Merck 11th ed. 1989)].	TOLUENE-2,4-DIISOCYANATE is explosive in the form of vapor when exposed to heat, flame or sparks. Undergoes potentially violent polymerization reaction with strong bases or acyl chlorides. Reacts with water to liberate carbon dioxide. Potential explosion if stored in polyethylene containers due to absorption of water through the plastic. Emits very toxic fumes of oxides of nitrogen when heated to decomposition [Lewis, 3rd ed., 1993, p. 1251].	Polymerizable; Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3		(EPA, 1998)		270		(EPA, 1998)		0.9		%	(EPA, 1998)		9.5		%	(USCG, 1999)			greater than 300	(EPA, 1998)			67.1 to 70.7
3522	FLUOROXENE	Avoid inhalation and skin contact. Spills can be absorbed by celite or commercial spill absorbent. After absorbent containing major share of nitrosamine has been picked-up (avoid dusts; do not sweep), surface should be thoroughly cleaned with strong detergent solution. If major spill occurs outside of ventilated area, room should be evacuated and cleanup operation should be carried out by persons equipped with self-contained breathing apparatus. (EPA, 1998) STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	(BLOB)	Water soluble.	N-NITROSODIMETHYLAMINE is sensitive to exposure to light, especially ultraviolet light. Is stable at room temperature for more than 14 days in aqueous solution at neutral and alkaline pH in the absence of light. Slightly less stable at strongly acid pH at room temperature. Incompatible with strong oxidizing agents. Also incompatible with strong bases. Can be reduced by reducing agents. Incompatible with hydrogen bromide in acetic acid. Also photochemically reactive. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		142																			
3523	FLURAZEPAM DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DIETHYLSTILBESTROL is incompatible with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)			336 to 342

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3519	FLUOROACETYL CHLORIDE																										(NTP, 1992)		101.11						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C4H7NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3520	FLUOROPHOSPHORIC ACID, ANHYDROUS																										(NTP, 1992)		139.18						(NTP, 1992)	Soluble (>=10 mg/ml at 70Â° F)						C3H9NO3S	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3521	FLUOROSILICATES, N.O.S.	(EPA, 1998)		1		176		mm Hg	(EPA, 1998)		6				(EPA, 1998)		1.2244		68		(EPA, 1998)		484		760		(EPA, 1998)		174.15		(NIOSH, 2003)	; A potential human carcinogen.	2.5	ppm	(NTP, 1992)	Decomposes				TDI	Poison	C9H6N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3522	FLUOROXENE	(NTP, 1992)		40		152.8		mm Hg	(NTP, 1992)		2.56				(EPA, 1998)		1.0048		68		(EPA, 1998)		304 to 307	760			(EPA, 1998)		74.08						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C2H6N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3523	FLURAZEPAM DIHYDROCHLORIDE																										(NTP, 1992)		268.36						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Class 9	C18H20O2	Dirt/Earth	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3524	FLUVALINATE	FLUVALINATE|N-(2-CHLORO 4-(TRIFLUOROMETHYL)PHEN YL)-DL-VALINE(+)-CYANO(3-PHENOXYPHENYL)METHYL ESTER|RS-A-CYANO-3-PHENOXYBENZYL-N-(2-CHLORO-A,A,A-TRIFLUORO-P-TOL (YL)-D-VALINATE|SPUR|TAU-FLUVALINATE	69409-94-5	A viscous heavy oil (technical). Formerly used as an insecticide. Production discontinued by Sandoz Agro, Inc. Insoluble in water.	2.5	5.0	2.5	5190.0	515.0	1772.0	929.0	553.0	1597.0	159.0	552.0	307.0	160.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3525	FORMANILIDE	CARBANILALDEHYDE|FORMAMIDOBENZENE|FORMANILIDE|FORMYLANILINE|N-FORMYLANILINE|N-PHENYLFORMAMIDE|N-PHENYL FORMIC ACID, AMIDE|N-PHENYLFORMAMIDE|PHENYL FORMAMIDE	103-70-8	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5190.0	515.0	1772.0	929.0	553.0	1597.0	159.0	552.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3526	FORMETANATE HYDROCHLORIDE	CARBAMIC ACID, METHYL-, ESTER WITH N'-(M-HYDROXYPHENYL)-N,N-DIMETHYLFORMAMIDINE, MONOHYDROCHLORIDE|CARZOL|CARZOL 92SP|CARZOL SP|ENT 27566|EP 332|FORMETANATE|FORMETANATE HYDROCHLORIDE|FORMETANATE MONOHYDROCHLORIDE|M-(((DIMETHYLAMINO)METHYLENE)AMINO)PHENYL METHYLCARBAMATE HYDROCHLORIDE|M-[(DIMETHYLAMINO)METHYLENE]AMINO]PHENYL METHYLCARBAMATE HYDROCHLORIDE|METHANIMIDAMIDE, N,N-DIMETHYL-N'-(3-(((METHYLAMINO)CARBONYL)OXY)PHENYL)-, MONOHYDROCHLORIDE|N,N-DIMETHYL-N'-(3-(((METHYLAMINO)CARBONYL)OXY)PHENYL) METHANIMIDAMIDE|SCHER	23422-53-9	White powder with a faint odor. Used as a plant insecticide, acaricide, and miticide. (EPA, 1998)	1.0	2.5	5.0	5191.0	515.0	1773.0	929.0	553.0	1598.0	159.0	553.0	307.0	160.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3527	FORMULATED FENAMINOSULF	(BLOB)	140-56-7	PHYSICAL DESCRIPTION: Yellow-brown crystals or brown powder. (NTP, 1992)	1.0	2.5	5.0	5192.0	515.0	1773.0	929.0	553.0	1599.0	159.0	553.0	307.0	160.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3528	FOSTHIETAN	AC 64475|ACCONEM|CL 64475|(DIETHOXYPHOSPHINYLIMINO)-1,3-DITHIETANE|2-(DIETHOXYPHOSPHINYLIMINO)-1,3-DITHIETANE|1,3-DITHIETAN-2-YLIDENEPHOSPHORAMIDIC ACID DIETHYL ESTER|1,3-DITHIETANE, PHOSPHORAMIDIC ACID DERIV.|FOSTHIETAN|GEOFOS|IMIDOCARBONIC ACID, PHOSPHONODITHIO-, CYCLIC METHYLENE P,P-DIETHYL ESTER|NEM-A-TAK|NEMATAK|PHOSPHONODITHIOIMI- DOCARBONIC ACID CYCLIC METHYLENE P,P-DIETHYLESTER|PHOSPHORAMIDIC ACID, 1,3 DITHIETAN-2-YLIDENE-, DIETHYL ESTER	21548-32-3	Pale yellow liquid with a mercaptan-like odor. Used as a nematocide and insecticide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5193.0	515.0	1773.0	929.0	553.0	1600.0	159.0	553.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3524	FLUVALINATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 1,4-CYCLOHEXANE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
3525	FORMANILIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DIETHYLSTILBESTROL DIPROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		219	
3526	FORMETANATE HYDROCHLORIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164]. Insoluble in water and less dense than water.	ALLYL ETHYL ETHER may react violently with strong oxidizing agents. Can act as as a base to form salts with strong acids and addition complexes with Lewis acids.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NFPA, 2010)		less than -19																		
3527	FORMULATED FENAMINOSULF	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water but soluble in most organic solvents. Contact with moisture in the air produces highly corrosive and toxic fumes containing hydrogen chloride. Decomposes in water producing acidic products.	DIETHYLTHIOPHOSPHORYL CHLORIDE is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
3528	FOSTHIETAN	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble but relatively unstable in water (NTP, 1992).	[Details on specifics of reactivity not yet available.]	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3524	FLUVALINATE																																								Poison	C8H10N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3525	FORMANILIDE																										(NTP, 1992)		380.52						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C24H28O4	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3526	FORMETANATE HYDROCHLORIDE																																								Flammable Liquid|Poison	C5H10O	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3527	FORMULATED FENAMINOSULF																																								Corrosive	(C2H5O)2P(S)Cl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3528	FOSTHIETAN																						(NTP, 1992)		117 to 118	30		(NTP, 1992)		86.1						(NTP, 1992)	at 77Â° F	30000		ppm		Poison	C3H6N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3529	FUEL OIL, [NO. 4]	FUEL OIL, [NO. 4]|FUEL OILS|NO. 4|OILS, FUEL: 4|RESIDUAL FUEL OIL	68476-31-3	Dark oily liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5193.0	515.0	1773.0	929.0	553.0	1600.0	159.0	553.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3530	FUEL OIL, [NO. 5]	FUEL OIL, [NO. 5]|FUEL OILS|NO. 5|OILS, FUEL: 5|RESIDUAL FUEL OIL	70892-11-4	Oily dark liquid with strong lube oil odor. Insoluble in water. Usually less dense than water. (USCG, 1999)	2.5	5.0	2.5	5194.0	515.0	1773.0	929.0	553.0	1601.0	159.0	553.0	307.0	160.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3531	GILSONITE	ASPHALT, GILSONITE|ASPHALTITE, GILSONITE|BITUMENS, GILSONITE|GILSONITE|MINERAL RUBBER|NCI-C55185|RUBBER, MINERAL|SUPER LUBE FLOW|UINTAHITE|UINTAITE|ZECO 11A|ZECO II	12002-43-6	PHYSICAL DESCRIPTION: Dark brown to black crystalline solid. Nonconductor of electricity. (NTP, 1992)	1.0	2.5	5.0	5195.0	515.0	1773.0	929.0	553.0	1602.0	159.0	553.0	307.0	160.0	Get medical attention as soon as possible following exposures to this compound. INHALATION: remove from exposure and support respiration. EYES: wash with copious volumes of water for at least 15 min. SKIN: wash with large amounts of water for 15 min. INGESTION: if victim is conscious, have him drink large amounts of water followed by milk or milk of magnesia. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic fumes of hydrogen fluoride and phosphoric acid may be formed in fires. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3532	GLYCIDALDEHYDE	EPIHYDRINALDEHYDE|EPOXYPROPANAL|2,3-EPOXYPROPANAL|FORMYLOXIRANE|GLYCIDAL|GLYCIDALDEHYDE|GLYCIDYLALDEHYDE	765-34-4	A colorless liquid. Slightly denser than water and insoluble in water. May irritate skin and eyes. Toxic by ingestion and inhalation. Used to make other chemicals.	2.5	5.0	2.5	5196.0	515.0	1773.0	929.0	553.0	1603.0	159.0	553.0	307.0	160.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3533	GLYCIDYL ACRYLATE	ACRYLIC ACID, 2,3-EPOXYPROPYL ESTER|EPOXYPROPYL ACRYLATE|2,3-EPOXYPROPYL ACRYLATE|GLYCIDYL ACRYLATE|(-+-)-GLYCIDYL ACRYLATE|GLYCIDYL PROPENATE|GLYCIDYL PROPENOATE|1-PROPANOL, 2,3-EPOXY-, ACRYLATE|2-PROPENOIC ACID, OXIRANYL METHYL ESTER (ACI)	106-90-1	PHYSICAL DESCRIPTION: Light amber liquid. (NTP, 1992)	2.5	5.0	2.5	5197.0	515.0	1774.0	929.0	553.0	1604.0	159.0	554.0	307.0	160.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3529	FUEL OIL, [NO. 4]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to humidity and light when pure. Insoluble in water. Slowly decomposes in water. Alkaline hydrolysis produces a highly toxic, irritating and explosive gas.	N-NITROSO-N-METHYLUREA is incompatible with strong acids and bases. Also incompatible with water and nucleophilic reagents. Alkaline hydrolysis produces a highly toxic, irritating and explosive gas. Can detonate with (potassium hydroxide + methylene chloride) (NTP, 1992).	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	255	
3530	FUEL OIL, [NO. 5]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	N-NITROSO-N-METHYLURETHANE is a N-nitrosated carbamate ester. Incompatible with strong acids and bases. Especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen may be produced by the combination with active metals or nitrides Incompatible with oxidizing acids, peroxides, and hydroperoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
3531	GILSONITE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Air line mask or self-contained breathing apparatus; full protective clothing. (USCG, 1999)	Fumes in air. Reacts vigorously with water to form corrosive and toxic hydrofluoric acid and heat.	DIFLUOROPHOSPHORIC ACID, ANHYDROUS reacts exothermically with chemical bases (examples: amines, amides, and inorganic hydroxides). These reactions can generate dangerously large amounts of heat in small spaces. Reacts vigorously with water to form corrosive and toxic hydrofluoric acid and heat. Reacts with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. Generates flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. May catalyze (increase the rate of) chemical reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		-139	
3532	GLYCIDALDEHYDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2), and corrosive (HCl) gases on contact with air it gives off HCl gas. [Handling Chemicals Safely 1980. p. 924]. Nonyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 19 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as NONYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1799 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
3533	GLYCIDYL ACRYLATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A trifluoromethyl pyridazinone derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3529	FUEL OIL, [NO. 4]	(NTP, 1992)	Non-volatile												(NTP, 1992)		less than 1.0										(NTP, 1992)		103.08						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C2H5N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3530	FUEL OIL, [NO. 5]																																								Poison	C4H8N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	3.0	1.0	1.0
3531	GILSONITE														(USCG, 1999)		1.583		77		(USCG, 1999)		241		760		(USCG, 1999)		103											DFA	Corrosive	HPO2F2		1.0	0.0	2.0	1.0	1.0
3532	GLYCIDALDEHYDE																																								Corrosive	C9H19ClO3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3533	GLYCIDYL ACRYLATE																																								Class 9	C12H9ClF3NO	Mineral-Based & Clay-Based Absorbents	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3534	HALAZONE	BENZOIC ACID, P-(DICHLOROSULFAMOYL)-|4-CARBOXY-N,N-DICHLOROBENZENESULFONAMIDE|4-[(DICHLOROAMINO)SULFONYL]BENZOIC ACID|HALAZON|HALAZONE|4-(N,N-DICHLOROSULFAMYL)BENZOIC ACID|P-(DICHLOROSULFAMOYL)BENZOIC ACID|P-(N,N-DICHLOROSULFAMOYL)BENZOIC ACID|P-(N,N-DICHLOROSULFAMYL)BENZOIC ACID|P-CARBOXYBENZENESULFONDICHLOROAMIDE|P-DICHLOROSULFAMOYLBENZOIC ACID|P-SULFONDICHLORAMIDOBENZOIC ACID|P-SULFONDICHLORAMIDOBENZOID ACID|PANTOCID|PANTOCID E|PANTOSID|PARASULFONDICHLOROAMIDO BENZOIC ACID|PENTOCID|ZEPTABS	80-13-7	PHYSICAL DESCRIPTION: Fine white powder with an odor of chlorine. (NTP, 1992)	1.0	2.5	5.0	5197.0	515.0	1774.0	929.0	553.0	1604.0	159.0	554.0	307.0	160.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3535	HALOTHANE	ANESTAN|1-BROMO-1-CHLORO-2,2,2-TRIFLUOROETHANE|2-BROMO-2-CHLORO-1,1,1-TRIFLUOROETHANE|BROMOCHLOROTRIFLUOROETHANE|CHALOTHANE|FLUKTAN|FLUOROTANE|FLUOTHANE|FREON 123B1|FTOROTAN|HALAN|HALOTAN|HALOTHANE|(.+-.)-HALOTHANE|HALSAN|NARCOTAN|NARCOTANE|NARKOTAN|R 123B1|RHODIALOTHAN|2,2,2-TRIFLUORO-1-BROMO-1-CHLOROETHANE|2,2,2-TRIFLUORO-1-CHLORO-1-BROMOETHANE|1,1,1-TRIFLUORO-2,2-CHLOROBROMOETHANE|1,1,1-TRIFLUORO-2-BROMO-2-CHLOROETHANE|1,1,1-TRIFLUORO-2-CHLORO-2-BROMOETHANE	151-67-7	PHYSICAL DESCRIPTION: Clear colorless highly volatile liquid with a sweet chloroform-like odor . Density 1.875 g / cm3. Boiling point 122.4Â°F (50.2Â°C). Noncombustible.	2.5	5.0	2.5	5198.0	515.0	1775.0	929.0	553.0	1605.0	159.0	555.0	307.0	160.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3536	HC YELLOW 7	2-(BIS(2-HYDROXYETHYL)AMINO)-5-NITROPHENOL|HC YELLOW 4|HC YELLOW NO. 4|N-O-DI(2HYDROXYETHYL)-2-AMINO-5-NITROPHENOL|NCI-C56019|2-(3-NITRO-6-(BETA-HYDROXYETHYLAMINO)PHENOXY)ETHANOL|PHENOL, 2-(BIS(2-HYDROXYETHYL)AMINO)-5-NITRO-	104226-21-3	PHYSICAL DESCRIPTION: Canary yellow fluffy powder. (NTP, 1992)	1.0	2.5	5.0	5198.0	515.0	1775.0	929.0	553.0	1605.0	159.0	555.0	307.0	160.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3537	HEPTACHLOR	(BLOB)	76-44-8	Heptachlor is a white to light tan waxy looking solid. Noncombustible. Insoluble in water. Can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. Used as an insecticide.	1.0	2.5	5.0	5199.0	515.0	1775.0	929.0	553.0	1606.0	159.0	555.0	307.0	160.0	(BLOB)	Special Hazards of Combustion Products: Toxic nitrogen oxides are produced in a fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3538	HEPTACHLOR AND METABOLITES	HEPTACHLOR AND METABOLITES	76-44-8	A white to light tan waxy looking solid. Noncombustible. Insoluble in water. Toxic by inhalation, skin absorption or ingestion. Corrosive to metals. Used as an insecticide.	1.0	2.5	5.0	5199.0	516.0	1775.0	929.0	553.0	1606.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this material is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a CO2, foam, and/or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3534	HALAZONE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Insoluble in water.	The neat material may be sensitive to prolonged exposure to air and light. This chemical is incompatible with acids and alkalis. (NTP, 1992)								0																				(NTP, 1992)		244	
3535	HALOTHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that latex gloves may provide protection from contact with this compound. Latex over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-PENTADECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		50	
3536	HC YELLOW 7	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ALPHA-METHYLCINNAMALDEHYDE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		175																							
3537	HEPTACHLOR	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Sensitive to exposure to air and light. Insoluble in water. Napthyl amines can be slowly hydrolyzed, releasing NH3 as a byproduct [N.L. Drake, Org. React. 1, (1942), 105].	ALPHA-NAPHTHYLAMINE is incompatible with oxidizing agents. It is also incompatible with nitrous acid. It reduces warm ammoniacal silver nitrate. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		315													(NTP, 1992)		905		(NTP, 1992)		122	
3538	HEPTACHLOR AND METABOLITES	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is moisture sensitive. (NTP, 1992) Undergoes slow hydrolysis. Insoluble in water.	Isocyanates and thioisocyanates, such as ALPHA NAPHTHYLISOTHIOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)		136	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3534	HALAZONE														(NTP, 1992)		1.544		77								(NTP, 1992)		237.1						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C7H13BrN2O2		3.0	0.0	3.0	1.0	1.0
3535	HALOTHANE														(NTP, 1992)		0.7685		68		(NTP, 1992)		519.13		760		(NTP, 1992)		212.42											Combustible Liquid	C15H32		3.0	0.0	3.0	1.0	1.0
3536	HC YELLOW 7														(NTP, 1992)		1.0407		63		(NTP, 1992)		302		100		(NTP, 1992)		146.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Combustible Liquid	C10H10O	Cellulose-Based Absorbents|Dirt/ Earth	3.0	0.0	3.0	1.0	1.0
3537	HEPTACHLOR	(NTP, 1992)	: 5 mm Hg at 279.9Â° F	1		219.7		mm Hg	(NTP, 1992)		4.93				(USCG, 1999)		1.12		77		(NTP, 1992)		574		760		(NTP, 1992)		143.18		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 66Â° F		less than 1	mg/mL	NAO	Poison	C10H9N		1.0	0.0	1.0	1.0	1.0
3538	HEPTACHLOR AND METABOLITES														(NTP, 1992)		1.81										(NTP, 1992)		185.25						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C11H7NS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3539	HEPTACHLOR EPOXIDE	CIS-HEPTACHLOR EPOXIDE|(+-)-CIS-HEPTACHLOR EPOXIDE|ENT 25,584|ENT 25584|EPOXYHEPTACHLOR|GPKH EPOXIDE|HCE|HEPOX|HEPTACHLOR CIS-OXIDE|HEPTACHLOR EPOXIDE|2,3,4,5,6,7,7-HEPTACHLORO-1A,1B,5,5A,6,6A-HEXAHYDRO-2,5-METHANO-2H-OXIRENO(A)INDENE|1,4,5,6,7,8,8-HEPTACHLORO-2,3-EPOXY-3A,4,7,7A-TETRAHYDRO-4,7-METHANOINDAN|HEPTEPOXIDE|HIPTACHLOR EPOXIDE|2,5-METHANO-2H-INDENO[1,2-B]OXIRENE, 2,3,4,5,6,7,7-HEPTACHLORO-1A,1B,5,5A,6,6A-HEXAHYDRO-,(1AALPHA,1BBETA,2ALPHA,5ALPHA,5ABETA,6BETA,6AALPHA)-|2,5-METHANO-2H-OXIRENO(A)INDENE,	1024-57-3	A degradation product of heptachlor that occurs in soil and in or on crops when treatments with heptachlor, an insecticide, have been made. Forms readily upon exposing heptachlor to air.	1.0	2.5	5.0	5199.0	516.0	1775.0	929.0	553.0	1606.0	160.0	555.0	307.0	160.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
3540	HEPTADECYL HYDROXYETHYLIMIDAZOLINE	AMINE 225|1-(BETA-HYDROXYETHYL)-2-HEPTADECYLIMIDAZOLINE|1-(BETA-HYDROXYETHYL)-2-HEPTADECYLIMIDAZOLINE|CASAMINE SH|CRODAZOLINE O|FUNGICIDE 337|HEPTADECYL HYDROXYETHYLIMIDAZOLINE|2-HEPTADECYL-1-(2-HYDROXYETHYL)-2-IMIDAZOLINE|2-HEPTADECYL-1-HYDROXYETHYL-2-IMIDAZOLINE|2-HEPTADECYL-1-HYDROXYETHYLIMIDAZOLINE|2-HEPTADECYL-2-IMIDAZOLINE-1-ETHANOL|2-HEPTADECYL-3-(BETA-HYDROXYETHYL)IMIDAZOLINE|2-HEPTADECYL-4,5-DIHYDRO-1H-IMIDAZOLE-1-ETHANOL|1-(HYDROXYETHYL)-2-(HEPTADECYL)IMIDAZOLINE|1-(HYDROXYETHYL)-2-	95-19-2	PHYSICAL DESCRIPTION: Cream-colored solid chunks. (NTP, 1992)	1.0	2.5	5.0	5199.0	516.0	1775.0	929.0	553.0	1606.0	160.0	555.0	307.0	160.0	(BLOB)	Special Hazards of Combustion Products: Vapor may travel considerable distance to source of ignition and flashback. Container explosion may occur during fire conditions. Forms explosive mixtures in air. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3541	HEPTAFLUOROPROPANE	HEPTAFLUOROPROPANE|REFRIGERANT GAS R-227	2252-84-8	A nonflammable compressed gas. Heavier than air. May asphyxiate by the displacement of air, especially in a confined space. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Used as a refrigerant.	5.0	1.0	1.0	5199.0	516.0	1775.0	929.0	553.0	1606.0	160.0	555.0	307.0	160.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating hydrogen fluoride gas may be formed in fires. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
3542	HEXABROMOBENZENE	AFR 1001|BENZENE, HEXABROMO|FR-B|HBB|HEXABROMOBENZENE|PERBROMOBENZENE	87-82-1	PHYSICAL DESCRIPTION: Monoclinic needles or white powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5199.0	516.0	1775.0	929.0	553.0	1606.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this compound are unavailable, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a Halon, carbon dioxide, or dry chemical extinguisher. (NTP, 1992)
3543	HEXACHLOROBENZENE	AMATIN|ANTICARIE|BENZENE, HEXACHLORO-|BUNT-CURE|BUNT-NO-MORE|CO-OP HEXA|GRANOX NM|HCB|HEXA C.B.|HEXACHLOROBENZENE|JULIAN'S CARBON CHLORIDE|JULIN'S CARBON CHLORIDE|NO BUNT|NO BUNT 40|NO BUNT 80|NO BUNT LIQUID|PENTACHLOROPHENYL CHLORIDE|PERCHLOROBENZENE|PHENYL PERCHLORYL|SANOCIDE|SMUT-GO|SNIECIOTOX|ZAPRAWA NASIENNA SNIECIOTOX	118-74-1	A white crystalline substance. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5200.0	516.0	1775.0	929.0	553.0	1607.0	160.0	555.0	307.0	160.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3539	HEPTACHLOR EPOXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,4-DIMETHYL-2-NITROBENZENE is incompatible with strong oxidizers and strong bases (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 200																			
3540	HEPTADECYL HYDROXYETHYLIMIDAZOLINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus and protective clothing, rubber boots, and heavy rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	ALPHA-PINENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		91												(USCG, 1999)		491		(NTP, 1992)		-67	
3541	HEPTAFLUOROPROPANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in under ambient temperatures. (NTP, 1992)	Protective gloves; goggles; dust mask (USCG, 1999)	Insoluble in water.	TRIFLURALIN is a trifluoromethyl dinitroaniline derivative. Dinitroaniline has a record of industrial explosions. Nothing has been reported implicating trifluralin in any such accidents. This may be because of the trifluoromethyl substitution may mitigate the instability of the molecule. However, care should be taken in the extremes of heat, shock, and friction sources that may trigger an explosive release of energy.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG,					0		(NTP, 1992)			greater than 185																		(NTP, 1992)		115 to 117
3542	HEXABROMOBENZENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ALPHA-TOCOPHEROL is stable to heat and alkalis in the presence of oxygen, and is not affected by acids up to 212Â° F. It is slowly oxidized by atmospheric oxygen and rapidly oxidized by ferric and silver salts. It gradually darkens on exposure to light. (NTP, 1992).					0																		(NTP, 1992)			36.5 to 38.3
3543	HEXACHLOROBENZENE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Fumes in moist air. Reaction with water can produce acidic HBr, which may destroy containers [Nicholson, D.G. et al. Inorg. Synth. 3, 35 1950]. This reaction may have been catalyzed by something in solution. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Bromide gas will be created in 0.02 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	An acid. May catalyze organic reactions. Corrosive to metals. Solutions of aluminum bromide in dichloromethane should be kept cold as a potentially dangerous exothermic halide exchange reaction occurs on warming, [Acc. Chem. Res., 1986, 19(3), 78].	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1725 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3539	HEPTACHLOR EPOXIDE														(NTP, 1992)		1.132		59		(NTP, 1992)			464 to 466	760		(NTP, 1992)		151.16						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3540	HEPTADECYL HYDROXYETHYLIMIDAZOLINE	(NTP, 1992)		10		99.1		mm Hg	(NTP, 1992)		4.7				(USCG, 1999)		0.858				(NTP, 1992)		313.2		760		(NTP, 1992)		136.24												PIN	Flammable Liquid	C10H16	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3541	HEPTAFLUOROPROPANE	(NTP, 1992)		0.000199		85.1		mm Hg							(USCG, 1999)		1.294		77		(NTP, 1992)	Decomposes					(NTP, 1992)		335.32						(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL	TFR	Class 9	C13H16F3N3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3542	HEXABROMOBENZENE														(NTP, 1992)		0.95		77		(NTP, 1992)	decomposes	662		760		(NTP, 1992)		430.69						(NTP, 1992)	Insoluble						C29H50O2	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3543	HEXACHLOROBENZENE																																								Corrosive	AlBr3		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3544	HEXACHLOROBUTADIENE	1,3-BUTADIENE, 1,1,2,3,4,4-HEXACHLORO-|BUTADIENE, HEXACHLORO-|C 46|DOLEN-PUR|GP-40-66:120|HCB|HCBD|HEXACHLORBUTADIENE|HEXACHLORO-1,3-BUTADIENE|1,1,2,3,4,4-HEXACHLORO-1,3-BUTADIENE|HEXACHLOROBUTADIENE|1,3-HEXACHLOROBUTADIENE|PERCHLORO-1,3-BUTADIENE|PERCHLOROBUTADIENE	87-68-3	A colorless liquid with a mild odor. Insoluble in water and denser than water. Nonflammable. May be toxic by ingestion or inhalation. Used as a solvent and heat transfer fluid.	2.5	5.0	2.5	5200.0	516.0	1775.0	929.0	553.0	1607.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3545	HEXACHLOROPHENE	ACIGENA|ALMEDERM|AT 7|B 32|BIS(2-HYDROXY-3,5,6-TRICHLOROPHENYL)METHANE|BIS(3,5,6-TRICHLORO-2-HYDROXYPHENYL)METHANE|COTOFILM|2,2'-DIHYDROXY-3,3',5,5',6,6'-HEXACHLORODIPHENYLMETHANE|2,2-DIHYDROXY-3,3,5,5,6,6-HEXACHLORODIPHENYLMETHANE|2,2'-DIHYDROXY-3,5,6,3',5',6'-HEXACHLORODIPHENYLMETHANE|DISTODIN|EXOFENE|FESIA-SIN|FOSTRIL|G 11|G 11 (BACTERICIDE)|G-11|GAMOPHEN|GAMOPHENE|GERMA-MEDICA|HEXABALM|2,2',3,3',5,5'-HEXACHLORO-6,6'-DIHYDROXYDIPHENYLMETHANE|HEXACHLOROFEN|HEXACHLOROPHANE|HEXACHLOROPHEN|HEXACHLOROPHENE|HEXAFEN|HEXOPHENE|HEXOSAN|METHANE, BIS(2,3,5-TRICHLORO-6-HYDROXYPHENYL)|2,2-	70-30-4	A white free-flowing odorless powder. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5200.0	516.0	1775.0	929.0	553.0	1607.0	160.0	555.0	307.0	160.0	INGESTION: if victim is conscious have him drink water or milk. Do NOT induce vomiting. SKIN: flush immediately with plenty of water. For eye contact, flush with water for at least 15 mins. and get medical attention immediately. (USCG, 1999)	Behavior in Fire: Reacts violently with water used in extinguishing adjacent fires (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3546	HEXACHLOROPROPENE	HEXACHLOROPROPENE|HEXACHLOROPROPYLENE	1888-71-7	Clear colorless liquid. Insoluble in water. Used as a plasticizer and hydraulic fluid.	2.5	5.0	2.5	5201.0	516.0	1775.0	929.0	553.0	1608.0	160.0	555.0	307.0	160.0	(BLOB)	Literature sources indicate that this chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3547	HEXADECYL SULFATE, [SODIUM SALT]	CETYL SODIUM SULFATE|HEXADECYL SULFATE, SODIUM SALT|HEXADECYL SULFATE, [SODIUM SALT]|SODIUM CETYL SULFATE SOLUTION	1120-01-0	White paste or liquid with a mild odor. May float or sink in water. (USCG, 1999)	2.5	5.0	2.5	5201.0	516.0	1775.0	929.0	553.0	1608.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3548	HEXADECYLTRICHLOROSILANE	CETYLTRICHLOROSILANE|HEXADECYLTRICHLOROSILANE|TRICHLOROHEXADECYLSILANE	5894-60-0	Hexadecyltrichlorosilane is a colorless to yellow liquid with a pungent odor. Material will burn though it may require some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	5201.0	516.0	1775.0	929.0	553.0	1608.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3549	HEXAMETHYLENEDIAMINE, N,N'-DIBUTYL-	HEXAMETHYLENEDIAMINE, N,N'-DIBUTYL-|1,6-HEXANEDIAMINE, N,N'-DIBUTYL-|N,N'-DIBUTYL-1,6-HEXANEDIAMINE|N,N'-DIBUTYLHEXAMETHYLENEDIAMINE|1,6-N,N'-DIBUTYLHEXANEDIAMINE	4835-11-4	A liquid. (EPA, 1998)	2.5	5.0	2.5	5201.0	516.0	1775.0	929.0	553.0	1608.0	160.0	555.0	307.0	160.0	(BLOB)	This material is flammable. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3544	HEXACHLOROBUTADIENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Insoluble in water. Napthyl amines can be slowly hydrolyzed, releasing NH3 as a byproduct [N.L. Drake, Org. React. 1, (1942), 105].	N-PHENYL-1-NAPHTHYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		144	
3545	HEXACHLOROPHENE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	All personnel in the area should wear safety clothing, including fully closed goggles, rubber or plastic-coated gloves, rubber shoes, and coveralls of acid-resistant material. An acid-vapor canister mask should be carried in case of emergency. In certain applications, it may be advisable to wear this equipment on a routine basis. (USCG, 1999)	Fumes in moist air (forms a large amount of hydrogen chloride gas). Reacts with active metals in the presence of moisture to produce hydrogen and HCl gases. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.02 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ALUMINUM CHLORIDE behaves as an acidic salt. Self-reactive. After long storage in closed containers, explosions often occur upon opening [Chem. Abst. 41:6723d 1947]. Can cause ethylene(also other alkenes) to polymerize violently [J. Inst. Pet. 33:254 1947]. Causes ethylene oxide to rearrange and polymerize, liberating heat [J. Soc. Chem. Ind. 68:179 1949]. Can catalyze violent polymerization of allyl chloride [Ventrone 1971]. Addition to nitrobenzene containing about 5% phenol caused a violent explosion [Chem. Eng. News 31:4915 1953]. Mixtures with nitromethane may explode when organic matter is present [Chem. Eng. News 26:2257 1948].	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1726 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																(USCG, 1999)	Not flammable			(USCG, 1999)		381	
3546	HEXACHLOROPROPENE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and protect it from light. (NTP, 1992)	(BLOB)	Insoluble in water. Napthyl amines can be slowly hydrolyzed, releasing NH3 as a byproduct [N.L. Drake, Org. React. 1, (1942), 105].	N-PHENYL-2-NAPHTHYLAMINE may react with strong oxidizing agents (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		226	
3547	HEXADECYL SULFATE, [SODIUM SALT]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sparingly water soluble (NTP, 1992).	N-PHENYLMALEIMIDE is an imide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		192 to 194	
3548	HEXADECYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	N-PHENYLMALEISOIMIDE is an imide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																										
3549	HEXAMETHYLENEDIAMINE, N,N'-DIBUTYL-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: PVA, Butyl rubber to 370 minutes (NTP, 1992)	Highly flammable. Insoluble in water.	N-PROPYL METHACRYLATE may be heat sensitive. Has a tendency to polymerize (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		86																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3544	HEXACHLOROBUTADIENE																				(NTP, 1992)		635		528		(NTP, 1992)		219.3						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C16H13N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3545	HEXACHLOROPHENE														(USCG, 1999)		2.44		77								(USCG, 1999)		133.34											ACL	Corrosive	AlCl3		5.0	0.0	5.0	1.0	1.0
3546	HEXACHLOROPROPENE														(NTP, 1992)		1.24				(NTP, 1992)		743		760		(NTP, 1992)		219.29		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Corrosive	C16H13N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3547	HEXADECYL SULFATE, [SODIUM SALT]																				(NTP, 1992)		324		12		(NTP, 1992)		173.18						(NTP, 1992)	Sparingly soluble					Poison	C10H7NO2	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3548	HEXADECYLTRICHLOROSILANE																										(NTP, 1992)		161.17													C9H7NO2	Dirt/Earth	2.0	0.0	4.0	1.0	1.0
3549	HEXAMETHYLENEDIAMINE, N,N'-DIBUTYL-														(NTP, 1992)		0.9022		68		(NTP, 1992)		286		760		(NTP, 1992)		128.17						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)					Flammable Liquid	C7H12O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3550	HEXANAMIDE	CAPROAMIDE|CAPROIC AMIDE|CAPROMIDE|CAPRONAMIDE|HEXAMIDE|HEXANAMIDE|HEXANOIC ACID, AMIDE|HEXYLAMIDE|N-CAPROAMIDE|N-HEXANAMIDE|NCI-C02142	628-02-4	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	5202.0	516.0	1775.0	929.0	553.0	1609.0	160.0	555.0	307.0	160.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
3551	HEXANITRODIPHENYLAMINE	BIS(2,4,6-TRINITROPHENYL)AMINE|DIPHENYLAMINE, 2,2',4,4',6,6'-HEXANITRO-|DIPICRYLAMINE|HEXAMINE|HEXAMINE (POTASSIUM REAGENT)|HEXANITRODIPHENYLAMINE|2,2',4,4',6,6'-HEXANITRODIPHENYLAMINE|2,4,6,2',4',6'-HEXANITRODIPHENYLAMINE|HEXYL|HEXYL (REAGENT)|2,4,6-TRINITRO-N-(2,4,6-TRINITROPHENYL)BENZENAMINE	131-73-7	A yellow solid. Decomposes violently at high temperatures. Insoluble in water and alcohol. Used as a booster explosive. May explode under prolonged exposure to heat or fire. Primary hazard is the blast effect of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5202.0	516.0	1775.0	929.0	553.0	1609.0	160.0	555.0	307.0	160.0	EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase the intensity of fire when in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3552	HEXANITROSTILBENE	HEXANITROSTILBENE	20062-22-0	An explosive. May explode under prolonged exposure to heat. Primary hazard is the blast effect of an instantaneous explosion and not flying projectiles and fragments. Forms yellow crystals.	1.0	2.5	5.0	5203.0	516.0	1775.0	929.0	553.0	1610.0	160.0	555.0	307.0	160.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If irritation occurs, gently blot or brush away excess. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
3553	HEXYLTRICHLOROSILANE	HEXYLTRICHLOROSILANE|N-HEXYLTRICHLOROSILANE|TRICHLOROHEXYLSILANE	928-65-4	Hexyltrichlorosilane is a colorless liquid with a pungent odor. It is decomposed by moist air or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue. It is used as a chemical intermediate.	2.5	5.0	2.5	5203.0	516.0	1775.0	929.0	553.0	1610.0	160.0	555.0	307.0	160.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3554	HYDRAMETHYLNON	HYDRAMETHYLNON|TETRAHYDRO-5,5-DIMETHYL-2(1H)-PYRIMIDINONE|3-(4-(TRIFLUOROMETHYL)PHENYL)-1-(2-(4-(TRIFLUOROMETHYL)PHENYL)ETHENYL)-2-PROPENYLIDENE|HYDRAZONE	67485-29-4	Odorless yellow crystals. Insoluble in water. Used as an insecticide.	1.0	2.5	5.0	5204.0	516.0	1775.0	929.0	553.0	1611.0	160.0	555.0	307.0	160.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3550	HEXANAMIDE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Ignites in moist air. Ignites in air with or without oxygen enrichment [Bretherick 1979 p. 221]. Explosively hydrolyzed by water (forms hydrogen gas) [Ruff J.K. Inorg. Synth 1967, 9, 34].	ALUMINUM HYDRIDE is a powerful reducing agent. May react violently with oxidizers. Prolonged exposure to heat may cause spontaneous decomposition. Can also decompose spontaneously at ambient temperature with explosive violence. Occasionally, explosions have occurred when it was stored in ether. The explosions have been blamed on the presence of carbon dioxide impurity in the ether [J. Amer. Chem. Soc. 70:877 1948]. Can emit toxic fumes on contact with acid or fumes from an acid. [Lewis]. At elevated temperatures, the hydride reduces carbon dioxide or sodium hydrogen carbonate to methane and ethane. These gases are the explosive products formed when CO2 extinguishers have been used during hydride fires. The 1:1 complexes of the hydride (as a complex with ether or dimethylamine) and various tetrazole derivatives are explosive. Tetrazoles include, 2-methyl, 2-ethyl, 5-ethyl, 2-methyl-5-vinyl, 5-amino-2-ethyl, etc., [US Pat. 3 396 170, 1968].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3551	HEXANITRODIPHENYLAMINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Goggles or face shield; dust respirator; rubber gloves (USCG, 1999)	Deliquescent. Water soluble. Aqueous solutions are acidic.	ALUMINUM NITRATE is an oxidizing agent. Mixtures with alkyl esters may explode. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)		163	
3552	HEXANITROSTILBENE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	ALUMINUM OXIDE is chemically amphoteric (behaves as a weak acid in the presence of base and as a weak base in the presence of acid). May act catalytically. May cause the exothermic polymerization of ethylene oxide. May cause the vigorous polymerization of vinyl chloride [MCA SD-75, 1970]. The degree of subdivision of the aluminum oxide may affect the vigor of such reactions.	Known Catalytic Activity						0																							(NIOSH, 2003)		3632	
3553	HEXYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Dust may form an explosive mixture in air. Insoluble in water.	O-AMINOAZOTOLUENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is sensitive to profonged exposure to heat. This chemical is incompatible with strong oxidizing agents. (NTP, 1992)							0																							(NTP, 1992)		214 to 216	
3554	HYDRAMETHYLNON	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes in moist air and in water to give toxic gaseous phosphine which often ignites [Merck 11th ed. 1989]. It is included as a water reactive despite the fact that the coating applied to the particles in the pesticide application is likely to slow the hydrolysis. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ALUMINUM PHOSPHIDE PESTICIDE is a reducing agent. Can react vigorously with oxidizing agents [Sax, 9th ed., p. 119]. Produces highly toxic phosphine gas upon contact with water or alkali. Evolves phosphine with explosive violence in contact with mineral acids [Wang, C. C. et al.; J. Inorg. Nucl. Chem., 1963, 25, p. 327]. Decomposes when heated to give highly toxic fumes of oxides of phosphorus.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3048 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6	No Water																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3550	HEXANAMIDE																																								Dangerous When Wet	AlH3		3.0	0.0	3.0	1.0	1.0
3551	HEXANITRODIPHENYLAMINE														(USCG, 1999)			greater than 1	68								(USCG, 1999)		375.13												ALN	Oxidizer	Al(NO3)3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3552	HEXANITROSTILBENE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		4				(NIOSH, 2003)		5396		760		(NIOSH, 2003)		101.9						(NIOSH, 2003)	Insoluble						Al2O3		2.0	0.0	3.0	1.0	1.0
3553	HEXYLTRICHLOROSILANE														(NTP, 1992)		0.57				(NTP, 1992)	Sublimes above 302Â° F					(NTP, 1992)		225.32						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C14H15N3		3.0	0.0	3.0	1.0	1.0
3554	HYDRAMETHYLNON																																								Poison	AIP		1.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3555	HYDROGEN SELENIDE, ANHYDROUS	DIHYDROGEN MONOSELENIDE|DIHYDROGEN SELENIDE|HYDROGEN SELENIDE|HYDROGEN SELENIDE, ANHYDROUS|SELANE|SELENIUM ANHYDRIDE|SELENIUM D|HYDRIDE|SELENIUM HYDRIDE|SELENIUM HYDRIDE (H2SE)	7783-07-5	Hydrogen selenide is a colorless gas with an offensive odor. It is highly flammable and toxic. It may be irritating to eyes and mucous membranes. It is heavier than air. Long term exposure to low concentrations or short term exposure to high concentrations can result in adverse health effects from inhalation. If exposed to prolonged fire or intense heat the containers may violently rupture or rocket. Rate of onset: Immediate Persistence: Minutes - hours Odor threshold: 0.3 ppm Source/use/other hazard: Metals &semiconductor preparation; highly flammable/explosive; can cause burns/frostbite; decomposes rapidly to form elemental selenium	5.0	1.0	1.0	5205.0	516.0	1775.0	931.0	553.0	1612.0	160.0	555.0	309.0	160.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3556	HYDROGENATED TERPHENYLS	HYDROGENATED DIPHENYLBENZENES|HYDROGENATED PHENYLBIPHENYLS|HYDROGENATED TERPHENYL|HYDROGENATED TERPHENYLS|HYDROGENATED TRIPHENYLS	61788-32-7	Clear, oily, pale-yellow liquid with a faint odor. A mixture of numerous compounds and isomers depending on the degree and conditions of hydrogenation The 40% hydrogenated mixture has bp: 340ÂºC, density: 1.00 g cm-3, and is insoluble in water. Used as a plasticizer and as a heat-transfer medium. Can be absorbed through the skin and by ingestion.	2.5	5.0	2.5	5205.0	516.0	1775.0	931.0	553.0	1612.0	160.0	555.0	309.0	160.0	(BLOB)	Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. This material may burn but does not ignite readily. Container may explode in heat of fire. Slight explosion and fire hazard in the form of vapor when exposed to heat or flame. When heated to decomposition, it emits highly toxic fumes. Reacts violently with nitric acid, oleum, and chlorosulfonic acid. Hazardous polymerization may not occur. (EPA, 1998)	Use water to keep fire-exposed containers cool. Fight fire from a maximum distance. Dike fire control water for later disposal; don't scatter the material. Wear positive pressure breathing apparatus and full protective clothing. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Water to blanket the fire and dry chemical, foam, or carbon dioxide to extinguish the flames. Extinguish small fires with dry chemical, carbon dioxide, water spray, or foam. For large fires use water spray, fog, or foam. Move container from fire area if you can do so without risk. (EPA, 1998)
3557	INDENO(1,2,3-CD)PYRENE	INDENO(1,2,3-C,D) PYRENE|INDENO(1,2,3-C,D)PYRENE|INDENO(1,2,3-CD)PYRENE|1,10-(O-PHENYLENE)PYRENE|O-PHENYLENEPYRENE|2,3-O-PHENYLENEPYRENE|ORTHO PHENYLENEPYRENE|2,3-ORTHO-PHENYLENEPYRENE|1,10-(1,2-PHENYLENE)PYRENE	193-39-5	Yellow crystals.	1.0	2.5	5.0	5205.0	516.0	1775.0	931.0	553.0	1612.0	160.0	555.0	309.0	160.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3558	IODINATED GLYCEROL	IODINATED GLYCEROL|2-(1-IODOETHYL)-1,3-DIOXOLANE-4-METHANOL MIXED WITH 2-(2-IODOETHYL)-1,3-DIOXOLANE-4-METHANOL (2:1)|2-(1-IODOETHYL)-1,3-DIOXOLANE-4-METHANOL|IODOGLYCERIN|IODOPROPYLIDENE GLYCEROL|NCI-C55469|ORGANIDIN	5634-39-9	PHYSICAL DESCRIPTION: Viscous pale yellow or yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5206.0	516.0	1775.0	931.0	553.0	1613.0	160.0	555.0	309.0	160.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3559	ISOBUTYL ANTHRANILATE	2-AMINOBENZOIC ACID, 2-METHYLPROPYL ESTER|ANTHRANILIC ACID, ISOBUTYL ESTER|ISOBUTYL 2-AMINOBENZOATE|ISOBUTYL ANTHRANILATE|ISOBUTYL O-AMINOBENZOATE|2-METHYLPROPYL 2-AMINOBENZOATE	7779-77-3	PHYSICAL DESCRIPTION: Brown liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5207.0	516.0	1775.0	931.0	553.0	1614.0	160.0	555.0	309.0	160.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3555	HYDROGEN SELENIDE, ANHYDROUS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Sensitive to moisture. Hydrolyzes slowly. Solutions in water or alcohol may be unstable. Insoluble in water.	TRIMELLITIC ANHYDRIDE reacts exothermically with water. This reaction is expected to be slow, but can become vigorous if local heating accelerates it. Reaction with water is accelerated by acids. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases. Incompatible with strong oxidizing agents, strong acids or strong bases. (NTP, 1992).						0		(NTP, 1992)		440.6														(NTP, 1992)			329 to 336
3556	HYDROGENATED TERPHENYLS	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Sensitive to light and air. Insoluble in water.	O-CRESOL is incompatible with oxidizing agents and bases. Mixing it with chlorosulfonic acid, nitric acid and oleum in a closed contained caused the temperature and pressure to increase. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(EPA, 1998)		177.8 to 181.4	(EPA, 1998)	at 300F	1.4		%	(EPA, 1998)	at 300F				(USCG, 1999)		1110		(EPA, 1998)		88	
3557	INDENO(1,2,3-CD)PYRENE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. The solid will spontaneously heat in the presence of air and moisture; the heat generation may suffice to ignite surrounding combustible materials.	ALUMINUM RESINATE reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Reactions with oxidizing agents may be violent.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
3558	IODINATED GLYCEROL	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2), and corrosive (HCl) gases. On contact with air it gives off HCl gas [Handling Chemicals Safely 1980. p. 924]. Octadecyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 2.8 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 420 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as OCTADECYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1800 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water	(NFPA, 2010)		193																			
3559	ISOBUTYL ANTHRANILATE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. On contact with air it gives off HCl gas. [Handling Chemicals Safely 1980. p. 924]. Octyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 2.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as OCTYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1801 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3555	HYDROGEN SELENIDE, ANHYDROUS	(NTP, 1992)		4.00E-06		77		mm Hg	(NTP, 1992)		6.6				(NTP, 1992)		1.55		68		(NTP, 1992)			464 to 473	14		(NTP, 1992)		192.13						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C9H4O5	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3556	HYDROGENATED TERPHENYLS	(EPA, 1998)		1		100.76		mm Hg	(EPA, 1998)		3.72				(EPA, 1998)		1.047		68		(EPA, 1998)		376		760		(EPA, 1998)		108.15		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	CRO	Poison|Corrosive	C7H8O		3.0	0.0	3.0	1.0	1.0
3557	INDENO(1,2,3-CD)PYRENE																																							Flammable Solid	C60H87AlO6		4.0	0.0	4.0	1.0	1.0
3558	IODINATED GLYCEROL																																							Corrosive	C18H37CI3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3559	ISOBUTYL ANTHRANILATE																																							Corrosive	C8H17CI3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3560	ISOBUTYL NITRITE	BLACKJACK|BN|ISO-BUTYL NITRITE|ISOBUTYL NITRITE|NCI-C61052|NITROUS ACID, 2-METHYLPROPYL ESTER|NITROUS ACID, ISOBUTYL ESTER	542-56-3	PHYSICAL DESCRIPTION: Clear colorless to pale yellow liquid. Boiling point 154.4Â°F (68Â°C).	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	INGESTION: do NOT induce vomiting; seek medical attention. ASPIRATION: enforce bed rest; administer oxygen. EYES: wash with copious quantity of water. SKIN: remove solvent by wiping and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
3561	ISODECALDEHYDE	ISODECALDEHYDE|ISODECALDEHYDE, MIXED ISOMERS|TRIMETHYLHEPTANALS	3085-26-5	Colorless liquid with a fruity odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	EYES: flush with water for at least 15 min. INGESTION: do NOT induce vomiting. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing; water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
3562	ISODECYL DIPHENYL PHOSPHATE	DIPHENYL ISODECYL PHOSPHATE|IDPP|ISODECYL ALCOHOL, DIPHENYL PHOSPHATE|ISODECYL DIPHENYL PHOSPHATE|PHOSFLEX 390|SANTICIZER C 148	29761-21-5	PHYSICAL DESCRIPTION: Viscous clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	EYES: flush with water for at least 15 min. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
3563	ISONONYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	ISONONYL ACETATE|ISONONYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)|ISONONYL ALCOHOL, ACETATE	40379-24-6	A clear colorless liquid with a sweet ester odor. Less dense than water. Vapors heavier than air. Eye contact may cause irritation. Frequent or prolonged skin contact may cause irritation and dermatitis. Vapors irritate the eyes and respiratory tract and may cause headaches and dizziness. Vapors are anesthetic and may have other central nervous system effects. Vapors may also cause liver and kidney disorder. Ingestion of the liquid into the respiratory system may cause bronchopneumonia or pulmonary edema.	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	INGESTION: Do not induce vomiting; SKIN: Wipe off, wash with soap and water; EYES: Wash with water for at least 15 min. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
3564	ISOOCTENE	ISOOCTENE	11071-47-9	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Vapors are lighter than air.	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide (USCG, 1999)
3565	ISOPRENE OXIDE	ISOPRENE EPOXIDE|ISOPRENE OXIDE	1838-94-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3566	ISOPROPYL ACID PHOSPHATE	DIHYDROGEN ISOPROPYL PHOSPHATE|ISOPROPYL ACID PHOSPHATE|ISOPROPYL ACID PHOSPHATE, [SOLID]|ISOPROPYL DIHYDROGEN PHOSPHATE|ISOPROPYL HYDROGEN PHOSPHATE|ISOPROPYL PHOSPHATE|ISOPROPYL PHOSPHATE ((C3H7O)(HO)2PO)|MONOISOPROPYL PHOSPHATE|PHOSLEX A 3|PHOSPHORIC ACID, MONOISOPROPYL ESTER	1623-24-1	Isopropyl acid phosphate is a white crystalline solid. It is corrosive to metals and tissue.	1.0	2.5	5.0	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3560	ISOBUTYL NITRITE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Flammable. Insoluble in water.	May be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce mostly carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		100		(USCG, 1999)		1.3		%	(USCG, 1999)		6		%					(USCG, 1999)		-30	
3561	ISODECALDEHYDE		Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: PALM react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.						0		(USCG, 1999)		373											(USCG, 1999)		600		(USCG, 1999)		80	
3562	ISODECYL DIPHENYL PHOSPHATE		Goggles or face shield. (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: SOYA BEAN react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		540											(USCG, 1999)		833		(USCG, 1999)		-4	
3563	ISONONYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield (USCG, 1999)	Insoluble in water.	OILS: CLARIFIED react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3564	ISOOCTENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Impervious gloves; goggles or face shield; impervious apron (USCG, 1999)	Keep this compound well closed: protect it from air and light. (NTP, 1992). May form peroxides upon exposure to air. This is taken to account for an explosion that occurred, by the mixing of the acid with aluminum, [J. Chem. Educ., 1956, 36, 308]. Water Insoluble.	(BLOB)	Peroxidizable Compound		(NFPA, 2010)		1	1	0	1		(NTP, 1992)		372											(USCG, 1999)		685		(NTP, 1992)		61.3	
3565	ISOPRENE OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	In aqueous solution, O-METHYLHYDROXYLAMINE HYDROCHLORIDE behaves as an acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		300 to 304
3566	ISOPROPYL ACID PHOSPHATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water. Slightly acidic.	[[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)		216 to 225

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3560	ISOBUTYL NITRITE														(USCG, 1999)			0.81 to 0.85	59		(USCG, 1999)			380 to 560	760															OOD	Flammable Liquid			3.0	0.0	3.0	1.0	1.0
3561	ISODECALDEHYDE														(USCG, 1999)		0.906		100.4																						OPM			Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3562	ISODECYL DIPHENYL PHOSPHATE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.922		68		(USCG, 1999)	Very high																	OSB			Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3563	ISONONYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)														(USCG, 1999)	(est.)	0.85		68																						OCF	Class 9			3.0	0.0	3.0	1.0	1.0
3564	ISOOCTENE														(USCG, 1999)		0.89		77		(NTP, 1992)		547		100		(NTP, 1992)		282.52						(NTP, 1992)	Insoluble				OLA		C18H34O2		1.0	0.0	1.0	1.0	1.0
3565	ISOPRENE OXIDE																										(NTP, 1992)		83.53						(NTP, 1992)	Soluble				Corrosive	CH5NO.ClH	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3566	ISOPROPYL ACID PHOSPHATE																										(NTP, 1992)		470.02						(NTP, 1992)	Slightly soluble (1-10 mg/ml at 72Â° F)					C17H21NO.C7H7ClN4O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3567	ISOPROPYL GLYCIDYL ETHER	1,2-EPOXY-3-ISOPROPOXYPROPANE|2,3-EPOXYPROPYL ISOPROPYL ETHER|GLYCIDYL ISOPROPYL ETHER|(+-)-GLYCIDYL ISOPROPYL ETHER|IGE|3-ISOPROPOXY-1,2-EPOXYPROPANE|ISOPROPOXYMETHYL OXIRANE|ISOPROPOXYMETHYL)OXIRANE|ISOPROPYL EPOXYPROPYL ETHER|ISOPROPYL GLYCIDYL ETHER|3-ISOPROPYLOXYPROPYLENE OXIDE|NCI-C56439|OXIRANE, ((1-METHYLETHOXY)METHYL)-|PROPANE, 1,2-EPOXY-3-ISOPROPOXY-	4016-14-2	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5208.0	517.0	1775.0	933.0	554.0	1615.0	161.0	555.0	311.0	161.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3568	ISOPROPYL ISOBUTYRATE	ISOBUTYRIC ACID, ISOPROPYL ESTER|ISOPROPYL 2-METHYLPROPANOATE|ISOPROPYL ISOBUTYRATE	617-50-5	A colorless liquid. Less dense than water. Vapors heavier than air. Used as a solvent and to make flavorings.	2.5	5.0	2.5	5209.0	517.0	1776.0	933.0	554.0	1616.0	161.0	556.0	311.0	161.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3569	ISOPROPYL METHACRYLATE	ISOPROPYL 2-METHYL-2-PROPENOATE|ISOPROPYL METHACRYLATE|METHACRYLIC ACID, ISOPROPYL ESTER|1-METHYL-2-PROPENOIC ACID, 1-METHYLETHYL ESTER|1-METHYLETHYL 2-METHYLPROPENOATE|2-METHYLPROPENOIC ACID, ISOPROPYL ESTER	4655-34-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5209.0	517.0	1776.0	933.0	554.0	1616.0	161.0	556.0	311.0	161.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3570	ISOPROPYL PHENYLACETATE	ACETIC ACID, PHENYL-, ISOPROPYL ESTER|BENZENEACETIC ACID, 1-METHYLETHYL ESTER|ISOPROPYL PHENYLACETATE|PHENYLACETIC ACID, ISOPROPYL ESTER	4861-85-2	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5210.0	517.0	1777.0	933.0	554.0	1617.0	161.0	557.0	311.0	161.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3571	ISOPROPYLAMINOETHANOL	ETHANOL, 2-(ISOPROPYLAMINO)-|2-(ISOPROPYLAMINO)ETHANOL|ISOPROPYLAMINOETHANOL|2-(MONO(ISOPROPYLAMINO)ETHANOL|N-(HYDROXYETHYL)ISOPROPYLAMINE|2-(N-ISOPROPYLAMINO)ETHANOL|N-ISOPROPYLAMINOETHANOL|N-ISOPROPYLETHANOLAMINE	109-56-8	An amber to straw colored liquid. Slightly less dense than water. May emit toxic oxides of nitrogen at high temperatures. Used to make other chemicals.	2.5	5.0	2.5	5211.0	517.0	1777.0	933.0	554.0	1618.0	161.0	557.0	311.0	161.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3572	ISOPROPYL-N-(3-CHLOROPHENYL)CARBAMATE	BUD NIP|BYGRAN|CARBANILIC ACID, M-CHLORO-, ISOPROPYL ESTER|CHLORIFC|CHLOR IFK|CHLOR IPC|CHLORO-IPC|3-CHLOROCARBANILIC ACID, ISOPROPYL ESTER|(3-CHLOROPHENYL)CARBAMIC ACID, 1-METHYLETHYL ESTER|CHLOROPROPHAM|CHLORPROPHAM|CI-IPC|CIPC|CL-IFK|ELBANIL|ENT 18,060|FURLOE|FURLOE 3E|IPCPC|ISOPROPYL 3-CHLOROCARBANILATE|ISOPROPYL 3-CHLOROPHENYLCARBAMATE|ISOPROPYL M-CHLOROCARBANILATE|ISOPROPYL META-CHLOROCARBANILATE|ISOPROPYL N-(3-CHLOROPHENYL)CARBAMATE|ISOPROPYL N-(M-CHLOROPHENYL)CARBAMATE|ISOPROPYL-N-(3-CHLOROPHENYL)CARBAMA	101-21-3	PHYSICAL DESCRIPTION: Brown chunky solid. (NTP, 1992)	1.0	2.5	5.0	5211.0	517.0	1777.0	933.0	554.0	1618.0	161.0	557.0	311.0	161.0	(BLOB)	When heated to decomposition, can emit toxic fumes of oxides of nitrogen, phosphorus, and sulfur. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Container may explode in heat of fire. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Runoff from fire control or dilution water may cause pollution. Avoid extreme heat. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3567	ISOPROPYL GLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is very sensitive to exposure to light and air. (NTP, 1992). Slightly soluble in water.	O-PHENETIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)			greater than 200																	(NTP, 1992)			less than -4
3568	ISOPROPYL ISOBUTYRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	This chemical turns brown on exposure to light. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200																				
3569	ISOPROPYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from light. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ORTHO-BENZYL-PARA-CHLOROPHENOL is incompatible with acids and oxidizing agents (NTP, 1992). Is sensitive to light. Stable at temperatures up to 77Â°F when protected from light, but storage at 140Â° F causes decomposition.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		370																	(NTP, 1992)		119.3	
3570	ISOPROPYL PHENYLACETATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A dinitroaniline derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3571	ISOPROPYLAMINOETHANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-TOLUALDEHYDE is incompatible with strong bases and strong reducing agents. It is also incompatible with strong oxidizers. It may react with ketones, sulfuric acid, nitric acid, caustics and ammonia. (NTP, 1992).						0		(NTP, 1992)		153																				
3572	ISOPROPYL-N-(3-CHLOROPHENYL)CARBAMATE	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as AMITON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3567	ISOPROPYL GLYCIDYL ETHER	(NTP, 1992)	; 25 mm Hg at 271Â° F	1		152.6		mm Hg							(NTP, 1992)		1.044		69.4		(NTP, 1992)			444 to 450	760		(NTP, 1992)		137.18						(NTP, 1992)	at 76.1Â° F		5 to 10	mg/mL		Poison	C8H11NO		3.0	0.0	3.0	1.0	1.0
3568	ISOPROPYL ISOBUTYRATE														(NTP, 1992)			0.86 to 0.88	77																(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Combustible Liquid			4.0	0.0	4.0	1.0	1.0
3569	ISOPROPYL METHACRYLATE	(NTP, 1992)		0.1		68		mm Hg							(NTP, 1992)		1.22				(NTP, 1992)			320 to 324	3.5		(NTP, 1992)		218.68						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Class 9	C13H11ClO		2.0	0.0	2.0	1.0	1.0
3570	ISOPROPYL PHENYLACETATE																				(EPA, 1998)			230		0.2	(EPA, 1998)		269.38												Class 9	C12H18N4O6S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3571	ISOPROPYLAMINOETHANOL	(NTP, 1992)	; 8.0 mm Hg at 163Â° F; 26.0 mm Hg at 207Â° F	1		140		mm Hg							(NTP, 1992)		1.0386		66		(NTP, 1992)			392 to 396	760		(NTP, 1992)		120.15						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C8H8O	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3572	ISOPROPYL-N-(3-CHLOROPHENYL)CARBAMATE																				(EPA, 1998)			230		0.2	(EPA, 1998)		269.38												Poison	C10H24NO3PS	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3573	ISOPROPYLPHENYL DIPHENYL PHOSPHATE	DIPHENYL ISOPROPYLPHENYL PHOSPHATE|ISOPROPYLPHENYL DIPHENYL PHOSPHATE|PHOSPHORIC ACID, (1-METHYLETHYL)PHENYL DIPHENYL ESTER	28108-99-8	PHYSICAL DESCRIPTION: Viscous light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5212.0	517.0	1777.0	933.0	554.0	1619.0	161.0	557.0	311.0	161.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and flammable vapors may form in fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3574	ISOSAFROLE	BENZENE, 1,2-(METHYLENEDIOXY)-4-PROPENYL-|BENZENE,1,2-(METHYLENEDIOXY)-4-PROPENYL|1,3-BENZODIOXOLE,5-(1-PROPENYL)-|ISOSAFROLE|3,4-(METHYLENEDIOXY)-1-PROPENYLBENZENE|1,2-(METHYLENEDIOXY)-4-PROPENYLBENZENE|3,4-METHYLENEDIOXY-1-PROPENYLBENZENE|1,2-METHYLENEDIOXY-4-PROPENYLBENZENE|5-(1-PROPENYL)-1,3-BENZODIOXOLE|6-(1-PROPENYL)-1,3-BENZODIOXOLE|4-PROPENYL-1,2-METHYLENEDIOXYBENZENE|4-PROPENYLCATECHOLMETHYLENE ETHER	120-58-1	PHYSICAL DESCRIPTION: Colorless fragrant liquid with odor of anise. Used in small quantities in root beer and sarsaparilla flavors.	2.5	5.0	2.5	5213.0	518.0	1778.0	933.0	555.0	1620.0	162.0	558.0	311.0	162.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3575	KETENE	CARBOMETHENE|ETHENONE|KETENE|KETENE (C2H2O)|KETENE; (CARBOMETHENE, ETHENONE)|KETO-ETHYLENE|KETOETHYLENE	463-51-4	A colorless highly reactive gas with a penetrating odor. mp: -150Â°C, bp: -56Â°C. Reacts violently with water. Soluble in diethyl ether and acetone. Severely irritates the eyes, the skin and the respiratory tract. Used is the manufacture of acetic anhydride, sorbic acid, cinnamic acids, chloroacetyl chloride and other materials. Readily polymerizes and cannot be shipped or stored. Is obtained instead as needed from diketene. DIKETENE (CAS: 674-82-8; Formula: C4H2O2) is a colorless liquid with a pungent odor. mp: -6.5Â° C; bp: 127Â°C. Density 1.08 g/cm3. Reacts violently with water. Is obtained from the dimerization of ketene and can be stored and transported under refrigeration. A severe lachrymator (irritates the eyes, the respiratory tract, and the skin as well). Depolymerizes at 650Â°C to give ketene.	5.0	1.0	1.0	5214.0	518.0	1779.0	933.0	555.0	1621.0	162.0	559.0	311.0	162.0	(BLOB)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3576	LAURYL GLYCIDYL ETHER	DODECYL 2,3-EPOXYPROPYL ETHER|DODECYL ALCOHOL GLYCIDYL ETHER|DODECYL GLYCIDYL ETHER|((DODECYLOXY)METHYL)OXIRANE|(DODECYLOXY)METHYL)OXIRANE|1,2-EPOXY-3-(DODECYLOXY)PROPANE|ETHER, DODECYL 2,3-EPOXYPROPYL|GLYCIDYL DODECYL ETHER|GLYCIDYL LAURYL ETHER|LAURYL GLYCIDYL ETHER|N-DODECYL GLYCIDYL ETHER|PROPANE, 1-(DODECYLOXY)-2,3-EPOXY-	2461-18-9	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5214.0	518.0	1779.0	933.0	555.0	1621.0	162.0	559.0	311.0	162.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3577	LEAD ARSENATE	LEAD ARSENATE|LEAD ARSENATE (PB3(ASO4)2)|LEAD ARSENATES|LEAD(2+) ORTHOARSENATE (PB3(ASO4)2)|NU REXFORM|PLUMBOUS ARSENATE	3687-31-8	Lead arsenate is a white powder. It is insoluble in water. It is toxic by skin absorption, inhalation and by ingestion.	1.0	2.5	5.0	5215.0	518.0	1779.0	933.0	555.0	1622.0	162.0	559.0	311.0	162.0	INHALATION: move to uncontaminated atmosphere. If breathing is difficult, give oxygen. EYES: flush with water for at least 15 min. SKIN: wash with soap and water. Ingestion: if conscious, induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic ammonia gas and other nitrogen compounds or oxides of carbon may form in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3573	ISOPROPYLPHENYL DIPHENYL PHOSPHATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Becomes reddish brown upon exposure to air and light [Hawley]. Slightly soluble in water.	TOLUIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Emits very toxic oxides of nitrogen when heated to decomposition. Undergoes a hypergolic reaction with red fuming nitric acid [Kit and Evered, 1960, p. 239, 242].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		185		(NTP, 1992)		1.5		%						(USCG, 1999)		900		(NTP, 1992)		2.7	
3574	ISOSAFROLE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	O-TOLUIDINE HYDROCHLORIDE acts as a weak acid. Incompatible with oxidizing agents and with alkalis (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		419	
3575	KETENE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	XYLENE reacts exothermically with sulfuric acid, nitric acid, and strong oxidizing agents [Handling Chemicals Safely 1980. p. 962].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		78		(NTP, 1992)		1		%	(NTP, 1992)		7		%	(NTP, 1992)		870					
3576	LAURYL GLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A hydroxylated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																		(NTP, 1992)		219 to 220	
3577	LEAD ARSENATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Safety glasses, gloves; NIOSH approved respirator in high concentrations. (USCG, 1999)	Water soluble.	Avoid strong mineral acids and strong alkalis. Special Hazards of Combustion Products: Irritating and toxic ammonia gas and other nitrogen compounds or oxides of carbon may form in fires (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		388	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vd_value_tempDegF	vd_range_tempDegF	vd_value	vd_note	vd_source	vd_unit	vp_unit	vd_range	bp_value	bp_note	bp_source	bp_range_tempDegF	sg_range_tempDegF	sg_value	sg_range	sg_value	sg_note	sg_source	sg_range_tempDegF	vd_value_tempDegF	vd_range	vd_value	vd_note	vd_source	vd_unit	vp_range_tempDegF	vp_value_tempDegF	vp_range	vp_value	vp_note	vp_source	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	adh_value	adh_note	solbly_source	solbly_temp	solbly_value	solbly_range	solbly_unit	formulas	incompatible_solvents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3576	LAURYL GLYCIDYL ETHER	(NTP, 1992)	0.1 mm Hg at 86°F	0.1	68	mm Hg	(NTP, 1992)	3.69	(NTP, 1992)	68	0.998	(USCG, 1999)	(NTP, 1992)	392 to 396	760	(NTP, 1992)	467.73	(NTP, 1992)	less than 1	mg/mL	(NTP, 1992)	at 73°F	(NTP, 1992)	760	ppm	50	; A potential human carcinogen.	(NIOSH, 2003)	107.16	5 to 10	mg/mL	TLI	Poison	C7H9N	3.0	0.0	3.0	4.0	1.0	1.0
3577	LEAD ARSENATE											(USCG, 1999)	1.26	77				(USCG, 1999)	139.15																									ABZ	Class 9	C7H6O2. H3N		2.0	0.0	3.0	1.0	1.0
3573	ISOPROPYL PHENYL DIPHENYL PHOSPHATE	(NTP, 1992)	; 0.3 mm Hg at 86°F	0.1	68	mm Hg	(NTP, 1992)	3.69	(NTP, 1992)	68	0.998	(USCG, 1999)	(NTP, 1992)	392 to 396	760	(NTP, 1992)	467.73	(NTP, 1992)	less than 1	mg/mL	(NTP, 1992)	at 73°F	(NTP, 1992)	760	ppm	50	; A potential human carcinogen.	(NIOSH, 2003)	107.16	5 to 10	mg/mL	TLI	Poison	C7H9N	3.0	0.0	3.0	4.0	1.0	1.0
3574	ISOSAFROLE													468		(NTP, 1992)		(NTP, 1992)				at 72°F	(NTP, 1992)	760					143.62	less than 1	mg/mL		Class 9	C7H9NC IH	3.0	0.0	3.0		1.0	1.0
3575	KETENE	(NTP, 1992)	; 10 mm Hg at 82A° F	6.72	70	mm Hg	(NTP, 1992)	3.7		68	0.86	(NTP, 1992)		279 to 291	760	(NTP, 1992)	106.17	less than 1	mg/mL		Flammable Liquid	C8H10		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3578	LEAD AZIDE	LEAD AZIDE|LEAD AZIDE (PBN6)|LEAD DIAZIDE|LEAD(2+) AZIDE|RD 1333	13424-46-9	Needles or white powder. Explodes at 350Â°C. Insoluble in water. May explode from shock, heat, flame or friction when dry. The primary hazard is the blast effect of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5216.0	518.0	1779.0	933.0	555.0	1623.0	162.0	559.0	311.0	162.0	Begin first aid as quickly as possible. INHALATION: remove victim to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. INGESTION: perform gastric lavage with lime water or 1% calcium chloride solution; support respiration; call a physician. EYES: flush with water for at least 15 min.; consult physician. SKIN: flush with water; treat burns. OTHER: remove all contaminated clothing in the shower at once. (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia, hydrogen fluoride, hydrofluoric acid, and hydrogen gases may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3579	LEAD PERCHLORATE	LEAD DIPERCHLORATE|LEAD PERCHLORATE|LEAD PERCHLORATE (PB(CLO4)2)|LEAD PERCHLORATE, SOLID|LEAD PERCHLORATE, SOLUTION|LEAD(2+) PERCHLORATE	13637-76-8	A white crystalline solid. A dangerous fire risk when in contact with reducing materials. Very toxic by ingestion. Used to make paints and in electric storage batteries.	1.0	2.5	5.0	5217.0	518.0	1779.0	935.0	555.0	1624.0	162.0	559.0	313.0	162.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3580	LEAD STYPHNATE, [WETTED WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]	2,4-DIOXA-3-PLUMBABICYCLO[3.3.1]NONA-1(9),5,7-TRIENE, 3,3-DIDEHYDRO-6,8,9-TRINITRO-|LEAD STYPHNATE|LEAD STYPHNATE, [WETTED WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]|LEAD TRICINATE|LEAD TRINITRORESORCINATE|LEAD, [STYPHNATO(2-)]-|RESORCINOL, 2,4,6-TRINITRO-, LEAD(2+) SALT (1:1)/TRICINAT	15245-44-0	A slurry or wet mass of orange-yellow crystals. Must be shipped wet with at least 20% water or water and denatured ethyl alcohol mixture. May explode due to shock, heat, flame, or friction if dried. Used as an initiating explosive. The primary hazard is the blast of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5218.0	518.0	1779.0	935.0	555.0	1625.0	162.0	559.0	313.0	162.0	INHALATION: move to fresh air. EYES: flush with water or physiological saline; get medical care if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia gas may form in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3581	LEAD THIOSULFATE	LEAD HYPOSULFITE|LEAD THIOSULFATE|THIOSULFURIC ACID, LEAD SALT	26265-65-6	White crystalline solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	5218.0	518.0	1779.0	935.0	555.0	1625.0	162.0	559.0	313.0	162.0	(BLOB)	Material is normally stable even under fire exposure conditions and is not hazardously reactive with water. It is incompatible with strong oxidizers and strong ammonia solutions. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Dike fire control water for later disposal. Do not scatter material. To extinguish small fires use water, foam, carbon dioxide, and dry chemicals. For large fires use water spray, fog, or foam. Move container from fire area if you can do it without risk. Cool containers exposed to flames with water. Fight fire from a maximum distance. (EPA, 1998)
3582	LEAD TUNGSTATE	LEAD TUNGSTATE|LEAD WOLFRAMATE|RASPITE|SCHEELITE|STOLZITE	7759-01-5	White to pale yellow powdery solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5219.0	518.0	1779.0	935.0	555.0	1626.0	162.0	559.0	313.0	162.0	INHALATION: move victim to fresh air at once; enforce rest, and keep warm; get medical attention immediately. EYES: flush with water for at least 15 min.; if irritation persists, get medical attention. SKIN: flush with plenty of water and wash thoroughly; get treatment for any lasting irritation. INGESTION: if large amounts are swallowed, induce vomiting by tickling the back of the throat with the finger or by giving an emetic such as two tablespoons of common salt in a glass of warm water; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating sulfur dioxide is formed. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3578	LEAD AZIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	NIOSH approved respirator; rubber gloves; safety goggles; chemical resistant clothing. (USCG, 1999)	Dissolves in water and forms a weak solution of hydrofluoric acid.	AMMONIUM BIFLUORIDE reacts violently with bases. In presence of moisture will corrode glass, cement, and most metals. Flammable hydrogen gas may collect in enclosed spaces. Do not use steel, nickel, or aluminum containers (USCG, 1999).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)		258	
3579	LEAD PERCHLORATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Highly flammable. Water soluble. Hydrolyzes slowly upon contact with water.	DIMETHYL METHYLPHOSPHONATE is incompatible with strong oxidizing agents and strong bases. It reacts with organic halides at 302-392Â° F. When heated to temperatures greater than 302Â° F, it will act as an alkylating agent with basic nitrogen compounds and phenols. It reacts with enol lactones. This compound has plasticizing properties and may soften or deteriorate some plastics and elastomers (particularly vinyl-based resins, neoprene and natural rubbers) upon contact. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		110																				
3580	LEAD STYPHNATE, [WETTED WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Approved dust respirator; eye goggles (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM CITRATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3581	LEAD THIOSULFATE	(BLOB)	(BLOB)	Water soluble.	Pure DIMETHYL SULFATE and concentrated aqueous ammonia react extremely violently with one another, as is the case for tertiary organic bases, [NFPA 491M, 1991]. Dimethyl sulfate ignites in contact with unheated barium chlorite, due to the rapid formation of unstable methyl chlorite. The product of methylating an unnamed material at 110Â° C was allowed to remain in a reactor for 80 min. before the reactor exploded. This involved a sulfur ester such as dimethyl sulfate, [MCA Case History No. 1786].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1595 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	1	3		(EPA, 1998)		182		(EPA, 1998)	Moderate fire potential when exposed to heat or flame.				(EPA, 1998)	Moderate fire potential when exposed to heat or flame.				(USCG, 1999)		370		(EPA, 1998)		-25.15	
3582	LEAD TUNGSTATE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Respirator with organic vapor canister; rubber or plastic gloves; goggles or face shield. (USCG, 1999)	Highly flammable. Slightly soluble in water.	Organosulfides, such as DIMETHYL SULFIDE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Dimethyl sulfide rapidly decomposes dibenzoyl peroxide explosively in the absence of solvent, [J. Org. Chem., 1972, 37, 2885]. The sulfide also decomposes xenon difluoride explosively at ambient temps, [J, Chem Soc., 1984, 2827]. Interaction of dimethyl sulfide and oxygen is explosive at 210Â°C and above, [Atmos. Environ., 1967, 1, 491-497]. A delayed explosion occurred in a system containing nitric acid, dimethyl sulfide, and 1, 4-dioxane, even with cooling with liquid nitrogen, [Chem. Abs., 1972, 76, 13515].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(USCG, 1999)		-36		(USCG, 1999)		2.2		%	(USCG, 1999)		19.7		%	(USCG, 1999)		403		(USCG, 1999)		-144	

id	name	yp_source	yp_note	yp_value	yp_range	yp_value_tempDegF	yp_range_tempDegF	yp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	tdh_source	tdh_note	tdh_value	tdh_unit	solbty_source	solbty_note	solbty_no	solbty_value	solbty_unit	solbty_range	chris_codes	dot_labels	formulas	incompatible_substants	# of Reactions Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3581	LEAD THIOSULFATE	(EPA, 1998)																			(EPA, 1998)	68	0.1 to 0.5						4.35				(EPA, 1998)				mm Hg																		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3583	LEUCO VAT BLUE 1	[2,2'-BI-1H-INDOLE]-3,3'-DIOL|[2,2'-BIINDOLE]-3,3'-DIOL|[2,2'-BIINDOLE]-3,3-DIOL|C.I. REDUCED VAT BLUE|2,2'-DIINDOXYL|INIGO WHITE|LEUCO VAT BLUE 1|LEUCO-INDIGO|LEUCOINDIGO	6537-68-4	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5220.0	518.0	1779.0	935.0	555.0	1627.0	162.0	559.0	313.0	162.0	Begin first aid as quickly as possible. INHALATION: remove to fresh air. INGESTION: perform gastric lavage with limewater or 1% calcium chloride solution; support respiration; call a physician. EYES: flush with water for 15 min.; consult physician. SKIN: shower immediately with large quantities of water; remove all contaminated clothing in the shower at once; consult physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia and hydrogen fluoride gases are formed in fires. Behavior in Fire: May sublime when hot and condense on cool surfaces (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3584	LINALYL ANTHRANILATE	ANTHRANILIC ACID, 1,5-DIMETHYL-1-VINYL-4-HEXENYL ESTER|ANTHRANILIC ACID, LINALYL ESTER|3,7-DIMETHYL-1,6-OCTADIEN-3-YL ORTHO-AMINOBENZOATE|3,7-DIMETHYL-1,6-OCTADIENE-3-OL,-2-AMINOBENZOATE|1,5-DIMETHYL-1-VINYL-4-HEXEN-1-YL ORTHO-AMINOBENZOATE|1,5-DIMETHYL-1-VINYL-4-HEXENYL ANTHRANILATE|LINALYL ANTHRANILATE|LINALYL ORTHO-AMINOBENZOATE|1,6-OCTADIEN-3-OL, 3,7-DIMETHYL-, ANTHRANILATE	7149-26-0	PHYSICAL DESCRIPTION: Yellow-orange liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5220.0	518.0	1779.0	935.0	555.0	1627.0	162.0	559.0	313.0	162.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Some materials may burn but none of them ignite easily. Container may explode in the heat of fire. When heated to decomposition, it emits very toxic fumes of oxides of sulfur and phosphorus. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Poisonous gases may be generated from the fire or runoff water. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
3585	LITHIUM ACETYLIDE-ETHYLENEDIAMINE COMPLEX	ETHYNYL LITHIUM-ETHYLENE DIAMINE COMPLEX|LITHIUM ACETYLIDE (LI(C2H)), COMPOUND WITH 1,2-ETHANEDIAMINE|LITHIUM ACETYLIDE-ETHYLENE DIAMINE COMPLEX|LITHIUM ACETYLIDE-ETHYLENEDIAMINE COMPLEX	39990-99-3	Lithium acetylide-ethylene diamine complex is a crystalline solid. It can absorb moisture from the air and spontaneously heat and ignite. It reacts with water to form lithium hydroxide, a corrosive material, and acetylene, a flammable gas. The heat of this reaction may be sufficient to ignite the acetylene.	1.0	2.5	5.0	5220.0	518.0	1779.0	935.0	555.0	1627.0	162.0	559.0	313.0	162.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3586	LITHIUM HYPOCHLORITE MIXTURE	LITHIUM CHLORIDE OXIDE (LICLO)|LITHIUM HYPOCHLORITE|LITHIUM HYPOCHLORITE (LICLO)|LITHIUM HYPOCHLORITE COMPOUND, [DRY, WITH > 39% AVAILABLE CHLORINE]|LITHIUM HYPOCHLORITE MIXTURE|LITHIUM HYPOCHLORITE MIXTURES, DRY|LITHIUM HYPOCHLORITE, DRY|LITHIUM OXYCHLORIDE	13840-33-0	A white granular solid or tablets compressed from the granules, with an odor of chlorine. Noncombustible but accelerates the burning of combustible material. Prolonged exposure of closed containers to heat may result in vigorous decomposition and rupture of the container. Used as a dry bleach. Generally toxic. An irritant.	1.0	2.5	5.0	5221.0	518.0	1779.0	935.0	555.0	1628.0	162.0	559.0	313.0	162.0	INHALATION: remove to fresh air. EYES: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may be formed in a fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam (USCG, 1999)
3587	LITHIUM NITRIDE	LITHIUM NITRIDE/TRILITHIUM NITRIDE/TRILITHIUM NITRIDE (LI3N)	26134-62-3	A reddish brown powder. Insoluble in most organic solvents. Used in metallurgy and chemical synthesis.	1.0	2.5	5.0	5221.0	518.0	1779.0	935.0	555.0	1628.0	162.0	559.0	313.0	162.0	EYES OR SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and sulfur may form in fires. (USCG, 1999)	
3588	MAGNESIUM ARSENATE	ARSENIC ACID MAGNESIUM SALT|MAGNESIUM ARSENATE|MAGNESIUM ARSENATE, [SOLID]	10103-50-1	A white crystals or powder when pure. Insoluble in water. Very toxic by inhalation and ingestion. Used as an insecticide.	1.0	2.5	5.0	5222.0	518.0	1780.0	935.0	555.0	1629.0	162.0	560.0	313.0	162.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3589	MAGNESIUM CHLORATE	DE-FOL-ATE|E-Z-OFF|KHMD 58|MAGNESIUM CHLORATE|MAGNESIUM DICHLORATE|MAGRON|MC DEFOLIANT|ORTHO MC	10326-21-3	White deliquescent crystals or powder. Soluble in water and denser than water. Poses a dangerous fire risk when in contact with organic materials or heat. May be irritating to skin, eyes and mucous membranes. Used to make other chemicals.	1.0	2.5	5.0	5223.0	518.0	1780.0	935.0	555.0	1630.0	162.0	560.0	313.0	162.0	(BLOB)	Vapor may explode if ignited in an enclosed area. Reacts vigorously with water to generate hydrogen chloride. Hydrogen chloride and phosgene gases may be formed upon heating or in fire. Runoff to sewer may create fire or explosion hazard. (EPA, 1998)	Avoid contact with skin, eyes, or clothing. Wear acid-vapor respirator, rubber gloves, chemical worker's goggles, other protective and corrosive-resistant equipment as needed. Runoff from fire control or dilution water may cause pollution. Isolate for one-half mile in all directions if tank car or truck involved in fire. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. Move container from fire area if it can be done without risk. Do not get water inside container. Cool containers that are exposed to fire from outside until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or discoloration of tank due to fire. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3583	LEUCO VAT BLUE 1	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Dissolves in water and forms dilute solution of hydrofluoric acid. May corrode glass, cement, and most metals (USCG, 1999). Water soluble.	Salts, basic, such as AMMONIUM FLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																									
3584	LINALYL ANTHRANILATE	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Do not touch spilled material. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as OXYDISULFOTON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3585	LITHIUM ACETYLIDE-ETHYLENEDIAMINE COMPLEX	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	TRIS(AZIRIDINYL)PHOSPHINE SULFIDE polymerizes readily upon exposure to heat or moisture, especially at acidic pH.	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		124.7	
3586	LITHIUM HYPOCHLORITE MIXTURE		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM LACTATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.					0																									
3587	LITHIUM NITRIDE		Rubber gloves; goggles or face shield (USCG, 1999)	Water soluble.	Acidic inorganic salts, such as AMMONIUM LAURYL SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid.					0																									
3588	MAGNESIUM ARSENATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as DIMETHYLCYCLOHEXANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NFPA, 2010)		52																			
3589	MAGNESIUM CHLORATE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Fumes in air. May react violently with water (moisture in air or soil) to generate hydrogen chloride, Title 46(1966). Dimethyldichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.75 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as DIMETHYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1162 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4	No Water	(EPA, 1998)		16		(EPA, 1998)		3.4		%	(EPA, 1998)		9.5		%	(USCG, 1999)		750		(EPA, 1998)		-123	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3583	LEUCO VAT BLUE 1														(USCG, 1999)		1.32		77		(USCG, 1999)		212		760		(USCG, 1999)		37.04											AFR	Poison	FH4N	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3584	LINALYL ANTHRANILATE																									(EPA, 1998)		290.42												Poison	C8H19O3PS3		2.0	0.0	2.0	1.0	1.0
3585	LITHIUM ACETYLIDE-ETHYLENEDIAMINE COMPLEX																				(NTP, 1992)	Decomposes at 282Â° F					(NTP, 1992)		189.23						(NTP, 1992)	at 77Â° F	19		g/100 mL		Poison	C6H12N3PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3586	LITHIUM HYPOCHLORITE MIXTURE														(USCG, 1999)		1.2		59								(USCG, 1999)		107.11											ALT		C3H9NO3		3.0	0.0	4.0	1.0	1.0
3587	LITHIUM NITRIDE														(USCG, 1999)		1.03		68								(USCG, 1999)	(solute only)	283											ALS		C12H26O4S.H3N	Dirt/Earth	2.0	0.0	4.0	1.0	1.0
3588	MAGNESIUM ARSENATE																																							Flammable Liquid	C8H16		1.0	0.0	1.0	1.0	1.0
3589	MAGNESIUM CHLORATE	(EPA, 1998)		100		63.5		mm Hg	(EPA, 1998)		4.45				(EPA, 1998)		1.1				(EPA, 1998)		158		760		(EPA, 1998)		129.07											DMD	Flammable Liquid|Corrosive	C2H6Cl2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3590	MAGNESIUM HYDRIDE	MAGNESIUM DIHYDRIDE|MAGNESIUM HYDRIDE	7693-27-8	Magnesium hydride is a white crystalline solid. It reacts violently with water and may ignite upon contact with air. It is used to make other chemicals.	1.0	2.5	5.0	5224.0	518.0	1780.0	935.0	555.0	1631.0	162.0	560.0	313.0	162.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3591	MALAOXON	(BLOB)	1634-78-2	PHYSICAL DESCRIPTION: Colorless viscous oily liquid with a weak unpleasant odor. (NTP, 1992)	2.5	5.0	2.5	5224.0	518.0	1781.0	935.0	555.0	1631.0	162.0	561.0	313.0	162.0	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing, Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3592	MALEIC HYDRAZIDE, DIETHANOLAMINE SALT	DIETHANOLAMMONIUM MALEIC HYDRAZIDE|ETHANOL, 2,2'-IMINOBIS-, COMPOUND WITH 1,2-DIHYDRO-3,6-PYRIDAZINEDIONE (1:1)|ETHANOL, 2,2'-IMINODI-, COMPOUND WITH 1,2-DIHYDRO-3,6-PYRIDAZINEDIONE (1:1)|6-HYDROXY-3(2H)-PYRIDAZINONE, DIETHANOLAMINE SALT|6-HYDROXY-3-(2H)-PYRIDAZINONE, DIETHANOLAMINE SALT|2,2'-IMINODIETHANOL COMPOUND WITH 1,2-DIHYDRO-3,6-PYRIDAZINEDIONE (1:1)|MALEIC ACID HYDRAZIDE DIETHANOLAMINE|MALEIC ACID HYDRAZIDE DIETHANOLAMINE SALT|MALEIC HYDRAZIDE DIETHANOLAMINE|MALEIC HYDRAZIDE DIETHANOLAMINE	5716-15-4	PHYSICAL DESCRIPTION: Clear golden brown liquid. (NTP, 1992)	2.5	5.0	2.5	5224.0	519.0	1782.0	937.0	556.0	1631.0	163.0	562.0	315.0	163.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
3593	MALONALDEHYDE, SODIUM SALT	MALONALDEHYDE|MALONALDEHYDE SODIUM SALT|MALONALDEHYDE, ION (1-), SODIUM|MALONALDEHYDE, ION(1-), SODIUM|MALONALDEHYDE, SODIUM DERIV.|MALONALDEHYDE, SODIUM SALT|MALONICALDEHYDE|MALONODIALDEHYDE|PROPANEDIAL|PROPANEDIAL SODIUM|PROPANEDIAL, ION (1-),SODIUM (9CI)|1,3-PROPANEDIAL|SODIUM BETA-OXYACROLEIN|SODIUM MALONALDEHYDE, ION (1-) (8CI)|SODIUM MALONDIALDEHYDE	24382-04-5	PHYSICAL DESCRIPTION: Light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5225.0	519.0	1782.0	937.0	556.0	1632.0	163.0	562.0	315.0	163.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3594	MECHLORETHAMINE	BETA,BETA-DICHLORODIETHYL-N-METHYLAMINE|BIS(2-CHLORO-ETHYL)METHYLAMINE|BIS(2-CHLOROETHYL)METHYLAMINE|BIS(BETA-CHLOROETHYL)METHYLAMINE|CARYOLYSIN|CHLORAMINE(THE NITROGEN MUSTARD)|CHLORETHAZINE|CHLORMETHINE|2-CHLORO-N-(2-CHLOROETHYL)- N-METHYLETHANAMINE|2-CHLORO-N-(2-CHLOROETHYL)-N-METHYLETHANAMINE|CLORAMIN|DI(2-CHLOROETHYL)METHYLAMINE|DI(2-CHLOROETHYL)METHYLAMINE|DICHLOR AMINE|2,2'-DICHLORO-N-METHYLDIETHYLAMINE|DIETHYLAMINE, 2,2'-DICHLORO-N-METHYL-|EMBICHIN|ENT-25294|ETHANAMINE, 2-	51-75-2	Mobile liquid; faint odor of herring. Used as a drug for the treatment of cancer. Formerly used as a gas warfare agent.	2.5	5.0	2.5	5226.0	519.0	1782.0	937.0	556.0	1633.0	163.0	562.0	315.0	163.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3590	MAGNESIUM HYDRIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Water soluble.	DIMETHYLETHYLAMINE, [LIQUID] is a base. Neutralize acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols, epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3591	MALAOXON	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Propellant; ignites upon contact with alcohols, alkali metals, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. Heat of water will vigorously vaporize liquid oxygen, pressures may build to dangerous levels if this occurs in a closed container. Liquid oxygen gives a detonable mixture when combined with powdered aluminum [NFPA 491M. 1991]. Contact of very cold liquefied gas with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid gas contacts water in a closed container [Handling Chemicals Safely 1980].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																							
3592	MALEIC HYDRAZIDE, DIETHANOLAMINE SALT	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	O-XYLENE may react with oxidizing materials. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		63		(USCG, 1999)		0.9		%	(USCG, 1999)		6.7		%	(USCG, 1999)		869		(NTP, 1992)			-13 to -9
3593	MALONALDEHYDE, SODIUM SALT	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble	AMMONIUM NITRATE FERTILIZER is an oxidizing agent. Does not itself readily burn, but accelerates the burning of combustible material with which it may be contaminated. Produces toxic oxides of nitrogen during such reactions. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Mixtures with aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony) can be used as explosives. A number of explosions in which ammonium nitrate and aluminum were mixed with carbon or hydrocarbons, with or without oxidizing agents have occurred [Mellor 5:219 1946-47]. Mixtures with acetic acid ignite when warmed, especially if concentrated [Von Schwartz p. 322 1918]. Causes the decomposition of sodium hypochlorite within a few seconds [Mellor 2 Supp. 1:550 1956].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																							
3594	MECHLORETHAMINE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Simple aromatic halogenated organic compounds, such as XYLYL BROMIDE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3590	MAGNESIUM HYDRIDE																																								Corrosive	C4H11N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	5.0	1.0	1.0
3591	MALAOXON																																								Non-Flammable Gas(Oxidizer	O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3592	MALEIC HYDRAZIDE, DIETHANOLAMINE SALT	(NTP, 1992)		10		89.8		mm Hg	(NTP, 1992)		3.66				(USCG, 1999)		0.88		68		(NTP, 1992)			289 to 293	760		(NTP, 1992)		106.17		(NIOSH, 2003)		900	ppm	(NTP, 1992)	Insoluble				XLO	Flammable Liquid	C8H10		2.0	0.0	2.0	1.0	1.0
3593	MALONALDEHYDE, SODIUM SALT																																								Oxidizer	NH4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3594	MECHLORETHAMINE																																								Poison	C8H9Br		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3595	MEPHOSFOLAN	AC 47470|CL 47470|CYCLIC PROPYLENE(DIETHOXY-PHOSPHINYL)DITHIOIMIDO CARBONATE|CYTROLANE|(DIETHOXYPHOSPHINYL)DIT HIOIMIDOCARBONIC ACID CYCLIC PROPYLENE ESTER|2-(DIETHOXYPHOSPHINYLIMI NO)-4- METHYL-1,3-DITHIOLANE|DIETHYL(4-METHYL-1,3-DITHIOLAN-2-YLIDENE) PHOSPHORO-AMIDATE|1,3-DITHIOLANE, 2 (DIETHOXYPHOSPHINYLIMI NO)-4-METHYL-|EI 47470|EI-47470|ENT-25,99|IMIDOCARBONIC ACID, PHOSPHONODITHIO-, CYCLIC PROPYLENE P,P-DIETHYL ESTER|MEPHOSFOLAN|P,P-DIETHYL CYCLIC PROPYLENE ESTER OF PHOSPHONODITHIO-IMIDOCARBONIC ACID|1,2-PROPANEDITHIOL, CYCLIC ESTER WITH P,P-DIETHYL PHOSPHONODITHIOIMIDOC	950-10-7	Yellow to amber liquid. Works as an insecticide and acaricide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5227.0	519.0	1782.0	937.0	556.0	1634.0	163.0	562.0	315.0	163.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3596	MERCAPTODIMETHUR	B 37344|BAY 37344|BAY 5024|BAY 9026|BAYER 37344|CARBAMIC ACID, METHYL-, 3,5-DIMETHYL-4-(METHYLTHIO)PHENYL ESTER|CARBAMIC ACID, METHYL-, 4-(METHYLTHIO)-3,5-XYLYL ESTER|CARBAMIC ACID, METHYL-,4-(ETHYLTHIO)-3,5 XYLYL ESTER|DCR 736|3,5-DIMETHYL- 4-(METHYLTHIO)PHENYL METHYLCARBAMATE|3,5-DIMETHYL-4-(METHYLTHIO)PHENOL METHYLCARBAMATE|3,5-DIMETHYL-4-(METHYLTHIO)PHENYL METHYLCARBAMATE|3-5-DIMETHYL-4-METHYLMERCAPTOPHENYL-N-METHYLCARBAMATE|3,5-DIMETHYL-4-METHYLTHIOPHENYL N-METHYLCARBAMATE|DRAZA|ENT 25,726|H 321|MERCAPTODIMETHURIM	2032-65-7	White crystalline powder with a mild odor. Used as an insecticide and immobilizing agent for birds, acaricide and molluscicide. (EPA, 1998)	1.0	2.5	5.0	5227.0	519.0	1783.0	937.0	556.0	1634.0	163.0	563.0	315.0	163.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3597	MERCURIC ARSENATE	C.I. 77762|MERCURIC ARSENATE	7784-37-4	A yellow powder. Insoluble in water. Soluble in hydrochloric acid. Toxic by ingestion, skin absorption and inhalation. A strong irritant. Used to make waterproof paints.	1.0	2.5	5.0	5228.0	519.0	1783.0	937.0	556.0	1635.0	163.0	563.0	315.0	163.0	INHALATION: remove to fresh air. EYES: wash with water for 20 min.; call a physician. SKIN: wash with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and sulfuric acid fumes may form in fire. Behavior in Fire: Decomposes with loss of oxygen that increases intensity of fire (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3598	MERCURIC CYANIDE	CIANURINA|DICYANOMERCURY|MERCURIC CYANIDE|MERCURIC CYANIDE (HG(CN)2)|MERCURIC CYANIDE, [SOLID]|MERCURY (II) CYANIDE|MERCURY CYANIDE|MERCURY DICYANIDE|MERCURY(II) CYANIDE	592-04-1	Odorless tetragonal crystals or white powder. Toxic by inhalation (dust, and the hydrogen cyanide from decomposition) and by ingestion. Toxic oxides of nitrogen are produced in fires.	1.0	2.5	5.0	5229.0	519.0	1783.0	937.0	556.0	1636.0	163.0	563.0	315.0	163.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3599	MERCURIC POTASSIUM CYANIDE	DIPOTASSIUM TETRACYANOMERCURATE|DIPOTASSIUM TETRACYANOMERCURATE(2-)|MERCURATE(2-), TETRACYANO-, DIPOTASSIUM|MERCURATE(2-), TETRAKIS(CYANO-C)-, DIPOTASSIUM, (T-4)-|MERCURIC POTASSIUM CYANIDE|MERCURIC POTASSIUM CYANIDE, [SOLID]|MERCURY POTASSIUM CYANIDE (HGK2(CN)4)|POTASSIUM CYANOMERCURATE(II)|POTASSIUM TETRACYANOMERCURATE (K2HG(CN)4)|POTASSIUM TETRACYANOMERCURATE(II)	591-89-9	A colorless crystalline solid. Denser than water. Toxic by inhalation and ingestion. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5230.0	519.0	1783.0	937.0	556.0	1637.0	163.0	563.0	315.0	163.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3595	MEPHOSFOLAN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slowly decomposes in air to yield ammonia.	P-AMINOCYCLOHEXYLMETHANE is incompatible with acids and oxidizing agents. Neutralizes acids exothermically to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Generates flammable gaseous hydrogen in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3596	MERCAPTODIMETHUR	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DI-N-HEXYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react with oxidizing materials and strong alkaline materials. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		350																		(NTP, 1992)		-72	
3597	MERCURIC ARSENATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	U.S. Bu. Mines approved toxic dust mask; chemical goggles; rubber gloves; neoprene-coated shoes (USCG, 1999)	Soluble in water.	AMMONIUM PERSULFATE is a potent oxidizing agent. A powdered mixture with aluminum and water can explode [NFPA 491M 1991]. A mixture with sodium peroxide will explode if subjected to friction (crushing in a mortar), heating, or if a stream of carbon dioxide is passed over it [Mellor 10:464 1946-47]. Acidic solutions dissolve iron violently, [Mellor, 1947, Vol. 10, 470].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3598	MERCURIC CYANIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	An explosion occurred during the diazotization using nitrosylsulfuric acid which resulted to several fatalities. The explosion was blamed on the high concentration of the reactants dinitroaniline hydrochloride and nitrosylsulfuric acid, [MCA Case History 1763(1971)].	Explosive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2,4-dinitroaniline, CAS number 97-02-9.	3	1	3	4																							
3599	MERCURIC POTASSIUM CYANIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	DINITROPHENOL SOLUTION serves as a slight to strong oxidizing agent. If mixed with reducing agents, including hydrides, sulfides and nitrides, may begin a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide. Severe explosion hazard when dry.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3595	MEPHOSFOLAN																																								Corrosive	C7H15N	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3596	MERCAPTODIMETHUR								(NTP, 1992)		11.5				(NTP, 1992)		0.995		68		(NTP, 1992)		662		735		(NTP, 1992)		334.5						(NTP, 1992)	Insoluble					Class 9	C20H30O4		2.0	0.0	3.0	1.0	1.0
3597	MERCURIC ARSENATE														(USCG, 1999)		1.98		68								(USCG, 1999)		228.2											APE	Oxidizer	H3N.1|2H2O8S2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3598	MERCURIC CYANIDE																																							Poison	C6H5N3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3599	MERCURIC POTASSIUM CYANIDE																																							Poison	(NO2)2C6H3OH	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3600	MERCUROUS SULFATE	DIMERCURY SULFATE|MERCUROUS SULFATE|MERCUROUS SULFATE, [SOLID]|MERCUROUS SULPHATE|MERCURY SULFATE (HG2SO4)	7783-36-0	White to yellow crystalline powder. Soluble in hot sulfuric acid, dilute nitric acid. Highly toxic.	1.0	2.5	5.0	5230.0	519.0	1783.0	937.0	556.0	1637.0	163.0	563.0	315.0	163.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3601	MERCURY OXIDE	MERCUROUS OXIDE|MERCUROUS OXIDE (HG2O)|MERCUROUS OXIDE, BLACK, [SOLID]|MERCURY OXIDE|MERCURY OXIDE BLACK	15829-53-5	Black or brownish-black powder. Not a true compound but rather an intimate mixture of metallic mercury and mercuric oxide. Insoluble in water and denser than water (density 9.8 g / cm3). Hence sinks in water.	1.0	2.5	5.0	5230.0	519.0	1783.0	938.0	556.0	1637.0	163.0	563.0	316.0	163.0	(BLOB)	Flash point data for this compound are not available. It is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3602	MERPHOS	BUTIFOS|MERPHOS|TRIBUFOS	150-50-5	Emulsifiable oil.	2.5	5.0	2.5	5231.0	519.0	1783.0	938.0	556.0	1638.0	163.0	563.0	316.0	163.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3603	METHACRYLONITRILE, INHIBITED	ALPHA-METHACRYLONITRILE|ALPHA-METHYLACRYLONITRILE|2-CYANO-1-PROPENE|2-CYANOPROPENE-1|2-CYANOPROPENE|ISOPRENE CYANIDE|ISOPROPENE CYANIDE|ISOPROPENYLNITRILE|MAN|METHACRYLNITRILE|METHACRYLONITRILE, INHIBITED|2-METHYL-2-PROPENENITRILE|2-METHYL-2-PROPENENITRILE|METHYLACRYLONITRILE|2-METHYLACRYLONITRILE|1-METHYLETHENYL CYANIDE|2-METHYLPROPENENITRILE|2-PROPENE- NITRILE, 2-METHYL-|2-PROPENENITRILE, 2-METHYL-|2-PROPENENITRILE, 2-METHYL|USAF ST-40|USAF ST40	126-98-7	A clear colorless liquid. Less dense than water. Flash point 55Â°F. Boiling point 195Â°F. Very be toxic by ingestion, inhalation and skin absorption. Used to make plastics and coatings.	2.5	5.0	2.5	5231.0	519.0	1783.0	938.0	556.0	1638.0	163.0	563.0	316.0	163.0	(BLOB)	Avoid strong oxidizers. (EPA, 1998)	This material is a bipyridilium compound. Procedures for bipyridilium pesticides are as follows. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
3604	METHANEARSONIC ACID, [SODIUM SALT]	ANSAR 170|ANSAR 170L|ANSAR 529|ARSONATE LIQUID|ARSONIC ACID, METHYL-, MONOSODIUM SALT|BUENO|DACONATE|DAL-E-RAD|DISODIUM METHANE ARSONATE|DISODIUM METHYL ARSONATE|DSMA|GEPIRON|HERB-ALL|MERGE|MESAMATE|MESAMATE CONCENTRATE|METHANEARSONIC ACID, MONOSODIUM SALT|METHANEARSONIC ACID, SODIUM SALT|METHANEARSONIC ACID, [SODIUM SALT]|METHYLARSENIC ACID, SODIUM SALT|METHYLARSONIC ACID, MONOSODIUM SALT|MONOSODIUM ACID METHANEARSONATE|MONOSODIUM ACID METHARSONATE|MONOSODIUM METHANE	2163-80-6	Odorless colorless solid. Solution may be red or green. Solid may float or sink in water; solid and solution mix with water. (USCG, 1999)	1.0	2.5	5.0	5231.0	520.0	1783.0	940.0	556.0	1638.0	164.0	563.0	318.0	163.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3600	MERCUROUS SULFATE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Nitrophenolates range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Severe explosion hazard when dry.	Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3601	MERCURY OXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a freezer and away from all acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	AMMONIUM THIOGLYCOLATE may be sensitive to heat. This compound is incompatible with acids. (NTP, 1992)	Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3602	MERPHOS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions. Keep it away from strong oxidizers, acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	11-AMINOUNDECANOIC ACID is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992)							0																			(NTP, 1992)			374 to 378
3603	METHACRYLONITRILE, INHIBITED	(Non-Specific -- Bipyridilium Pesticide) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	(BLOB)	Water soluble.	PARAQUAT DICHLORIDE is stable in acidic media, but unstable in alkaline media. It is photochemically decomposed by UV irradiation in aqueous solutions and is rapidly inactivated by soil. The neat chemical may be sensitive to light. This compound is corrosive to metal and it can react with strong acids, bases, and oxidizing agents. It is hydrolyzed by alkali compounds and it is inactivated by inert clays and anionic surfactants. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)	Decomposes 572Â°F		
3604	METHANEARSONIC ACID, [SODIUM SALT]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound is a Schedule II DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is hygroscopic (NTP, 1992). Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																							(NTP, 1992)			313 to 316

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3600	MERCUROUS SULFATE																																								Flammable Solid|Poison	C6H3N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3601	MERCURY OXIDE																									(NTP, 1992)		108.15						(NTP, 1992)	Miscible					Poison	C2H4O2S.H3N		2.0	0.0	3.0	1.0	1.0
3602	MERPHOS																									(NTP, 1992)		201.31						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C11H23NO2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3603	METHACRYLONITRILE, INHIBITED	(EPA, 1998)	Approximately 0												(NTP, 1992)			1.24 to 1.26	68		(NIOSH, 2003)	Decomposes					(EPA, 1998)		257.18		(NIOSH, 2003)		1	mg/m3	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	C12H14N2.2Cl		5.0	0.0	5.0	1.0	1.0
3604	METHANEARSONIC ACID, [SODIUM SALT]																									(NTP, 1992)		226.28						(NTP, 1992)	at 65.3Â° F		less than 1	mg/mL			C11H18N2O3	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3605	METHANESULFONYL FLUORIDE	FLUORO METHYL SULFONE|FUMETTE|MESYL FLUORIDE|METHANESULFONYL FLUORIDE|METHANESULPHONYL FLUORIDE|METHYLSULFONYL FLUORIDE|MSF	558-25-8	Liquid. (EPA, 1998)	2.5	5.0	2.5	5232.0	520.0	1783.0	940.0	556.0	1639.0	164.0	563.0	318.0	163.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3606	METHAPYRILENE HYDROCHLORIDE	(BLOB)	135-23-9	PHYSICAL DESCRIPTION: White crystalline powder or solid with a faint odor. Bitter taste. pH (aqueous solution) 5.5. (NTP, 1992)	1.0	2.5	5.0	5233.0	520.0	1784.0	940.0	556.0	1640.0	164.0	564.0	318.0	163.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3607	METHAZOLE	2-(3,4-DICHLOROPHENYL)-4-METHYL-1,2,4-OXADIAZOLIDINE-3,5-DIONE|METHAZOLE	20354-26-1	Colorless crystals to light tan solid. Non corrosive. Herbicide.	1.0	2.5	5.0	5233.0	520.0	1784.0	940.0	556.0	1640.0	164.0	564.0	318.0	163.0	(BLOB)	This is a dinitrophenol herbicide. (Non-Specific -- Dinitrophenol, Flammable Solid). It is dangerously explosive. When not water wet it is a high explosive. Dry, the material is easily ignited and it will burn very vigorously. On decomposition, nitro compounds such as this emit toxic fumes. Appear to be stable in acid solution, but are susceptible to decomposition by ultraviolet radiation in alkaline solution. (EPA, 1998)	This is a dinitrophenol herbicide. (Non-Specific -- Dinitrophenol, Flammable Solid) Wear self-contained breathing apparatus and full protective clothing. If fire becomes uncontrollable, evacuate for a radius of 5000 feet. This material is a dinitrophenol herbicide. (Non-Specific -- Dinitrophenol, Flammable Solid) Extinguish by flooding with water. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. (EPA, 1998)
3608	METHDILAZINE HYDROCHLORIDE	DILOSYN|DISYNCRAN|METHDILAZINE HYDROCHLORIDE|METHDILAZINE MONOHYDROCHLORIDE|10-((1-METHYL-3-PYRROLIDINYL)METHYL)-10H-PHENOTHIAZINE HYDROCHLORIDE|10-((1-METHYL-3-PYRROLIDINYL)METHYL)PHENOTHIAZINE HYDROCHLORIDE|MJ 5022|PHENOTHIAZINE, 10-((1-METHYL-3-PYRROLIDINYL)METHYL)-, HYDROCHLORIDE|PHENOTHIAZINE, 10-[(1-METHYL-3-PYRROLIDINYL)METHYL]-, MONOHYDROCHLORIDE|TACARYL|TACARYL HYDROCHLORIDE	1229-35-2	PHYSICAL DESCRIPTION: White microcrystalline powder with a slight odor. pH (1% aqueous solution) 4.8-6. (NTP, 1992)	1.0	2.5	5.0	5233.0	520.0	1784.0	940.0	556.0	1640.0	164.0	564.0	318.0	163.0	(BLOB)	When heated to decomposition it emits toxic nitrogen oxide fumes. (EPA, 1998)	(Non-Specific -- Dinitro-o-cresol) Isolate hazard area, stay upwind, and keep out of low areas. Wear self-contained breathing apparatus and full protective clothing. (Non-Specific -- Dinitro-o-cresol) Use dry chemical, carbon dioxide, water spray, or foam for small fires, and water spray, fog, or foam for large fires. Move container from fire area if possible. (EPA, 1998)
3609	METHOXONE SODIUM SALT	(4-CHLORO-2-METHYLPHENOXY) ACETATE SODIUM SALT|METHOXONE SODIUM SALT	3653-48-3	Colorless plates. Corrosive. Used as an herbicide.	1.0	2.5	5.0	5233.0	520.0	1784.0	940.0	556.0	1640.0	164.0	564.0	318.0	163.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3605	METHANESULFONYL FLUORIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is slightly soluble in water.	Violent reaction when PARATHION is used as solvent to dissolve endrin. When heated to decomposition it emits very toxic fumes of oxides of sulfur, phosphorus and nitrogen [Lewis, 3rd ed., 1993, p. 984].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3606	METHAPYRILENE HYDROCHLORIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NFPA, 2010)		67																				
3607	METHAZOLE	This is a dinitrophenol herbicide. (Non-Specific - Dinitrophenol, Flammable Solid) Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water. Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Keep spilled material wet. Do not attempt to sweep up dry material. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	DINOSEB is a powerful oxidizing agent. (NTP, 1992). It is dangerously explosive. When not water wet it is a high explosive. Dry, the material is easily ignited and it will burn very vigorously. On decomposition, nitro compounds such as this emit toxic fumes. Appear to be stable in acid solution, but are susceptible to decomposition by ultraviolet radiation in alkaline solution. [EPA, 1998].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)	for 3 commercial products		60.1 to 84.9																(EPA, 1998)			100 to 108
3608	METHDILAZINE HYDROCHLORIDE	Avoid inhalation. (Non-Specific -- Dinitro-o-Cresol) Do not touch spilled material; stop source of spill or leak if it can be done without risk. Take up small spills with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover. Remove from spill area for later removal. Dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly soluble in water.	Nitrophenolates, such as DINOTERB, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Severe explosion hazard when dry.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(EPA, 1998)		259	
3609	METHOXONE SODIUM SALT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: A laboratory coat and leather shoes should provide you with adequate protection for working with this chemical. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	Toxic gases are formed by mixing 1-ACETYL-2-PICOLINOYLHYDRAZINE with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and by mixing with strong oxidizing or reducing agents. Flammable gases are formed by mixing with alkali metals.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3605	METHANESULFONYL FLUORIDE																													(NIOSH, 2003)	(as parathion)	10	mg/m3							Poison	C10H14NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3606	METHAPYRILENE HYDROCHLORIDE																																								Flammable Liquid	C5H12O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3607	METHAZOLE	(EPA, 1998)		1		303.98		mm Hg	(EPA, 1998)		7.73				(EPA, 1998)		1.2647		113								(EPA, 1998)		240.2													Poison	C10H12N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3608	METHDILAZINE HYDROCHLORIDE																										(EPA, 1998)		240.24												Poison	C10H12N2O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3609	METHOXONE SODIUM SALT																										(NTP, 1992)		179.18						(NTP, 1992)	Soluble					Poison	C8H9N3O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3610	METHOXYCHLOR	(BLOB)	72-43-5	Methoxychlor is a white crystalline solid which is often dissolved in a liquid carrier such as diesel oil. It can cause illness by inhalation, skin absorption and/or ingestion. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. If dissolved in a liquid carrier, it can easily penetrate the soil and contaminate groundwater and nearby streams. It is used as a pesticide.	1.0	2.5	5.0	5234.0	520.0	1784.0	940.0	556.0	1641.0	164.0	564.0	318.0	163.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3611	METHOXYETHYL MERCURY CHLORIDE	AGALLOL|AGALLOL 3|AGALLOLA1|AGALOL|ARATAN|ARETAN|ARETAN 6|ATIRAN|BAYTAN|(BETA-METHOXYETHYL)MERCURIC CHLORIDE|(BETA-METHOXYETHYL)MERCURY CHLORIDE|BETA-METHOXYETHYLMERCURY CHLORIDE|CEKUSIL UNIVERSAL C|CELMERCERANIT 6|CERESAN UNIVERSAL NAZBEIZE|CERESAN UNIVERSAL WET|CERESAN-UNIVERSAL NASSBEIZE|CHLORO(2-METHOXYETHYL)MERCURY|EMISAN|EMISAN 6|FALISAN|GRAMISAN|HIGOSAN|MEMC|MERCHLORATE|METHOXYETHYL MERCURIC CHLORIDE|METHOXYETHYL MERCURY CHLORIDE|(METHOXYETHYL)MERCURIC CHLORIDE|(2-METHOXYETHYL)MERCURIC	123-88-6	PHYSICAL DESCRIPTION: White powder with black granules. (NTP, 1992)	1.0	2.5	5.0	5234.0	521.0	1784.0	940.0	556.0	1641.0	165.0	564.0	318.0	163.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3612	METHOXYETHYLMERCURIC ACETATE	ACETATO(2-METHOXYETHYL)MERCURY|(ACETATO-O)(2-METHOXYETHYL)MERCURY|BA 2743|LANDISAN|MEEHG|MEMA|MEMA RM|MERCURAN|MERCURY, (ACETATO)(2-METHOXYETHYL)-|MERCURY, (ACETATO-O)(2-METHOXYETHYL)-|MERCURY, ACETOXY(2-METHOXYETHYL)-|MERCURY,(ACETATO)(2-METHOXYETHYL)-|MERKURAN|METHOXYETHYL MERCURIC ACETATE|(2-METHOXYETHYL)MERCURY ACETATE|METHOXYETHYL MERCURIC ACETATE|PANOGEN|PANOGEN (NEW)|PANOGEN-METOX|RADOSAN	151-38-2	Crystals. Formerly used as a pesticide in seed treatment for cotton and small grains. Exhibits high fungicidal activity against leaf stripe of barley, stinking smut of wheat, snow mold of rye; against seedling diseases in beets and legumes, and for dressing "seed" potatoes, bulbs, and tubers. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5234.0	521.0	1784.0	941.0	557.0	1641.0	165.0	564.0	319.0	164.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3613	METHOXYFLURANE	ANALGIZER|ANECOTAN|DA 7592|2,2-DICHLORO-1,1-DIFLUORO-1-METHOXYETHANE|2,2-DICHLORO-1,1-DIFLUOROETHYL METHYL ETHER|1,1-DIFLUORO-2,2-DICHLOROETHYL METHYL ETHER|ETHER, 2,2-DICHLORO-1,1-DIFLUOROETHYL METHYL|NGALANE|NHALAN|METHOFLURANE|METHOXANE|METHOXYFLURAN|METHOXYFLUORANE|METHOXYFLURAN|METHOXYFLURANE|METHYL 1,1-DIFLUORO-2,2-DICHLOROETHYL ETHER|METOFANE|METOXFLURAN|METOXIFLURAN|MOF|NSC-110432|PENTHRANE|PENTRAN|PENTRANE	76-38-0	PHYSICAL DESCRIPTION: Clear colorless liquid with a sweet fruity odor. (NTP, 1992)	2.5	5.0	2.5	5235.0	521.0	1784.0	941.0	557.0	1642.0	165.0	564.0	319.0	164.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3614	METHYL 2-CHLOROACRYLATE	ACRYLIC ACID, 2-CHLORO-, METHYL ESTER|2-CHLORO-2 PROPENOIC ACID, METHYL ESTER|2-CHLOROACRYLIC ACID METHYL ESTER|2-CHLOROACRYLIC ACID, METHYL ESTER|METHYL 2-CHLORO-2-PROPENOATE|METHYL 2-CHLOROACRYLATE|METHYL 2-CHLOROPROPENOATE|METHYL ALPHA-CHLOROACRYLATE|METHYL-ALPHA-CHLOROACRYLATE|PROPENOIC ACID, 2-CHLORO-, METHYL ESTER|2-PROPENOIC ACID, 2-CHLORO-, METHYL ESTER	80-63-7	Colorless liquid. Used to make acrylic high polymer with properties closely resembling those of polymethylmethacrylate. Monomer for specialty polymers (e.g., aircraft glazing). (EPA, 1998)	2.5	5.0	2.5	5235.0	521.0	1784.0	941.0	557.0	1642.0	165.0	564.0	319.0	164.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fires involving this chemical should be extinguished with water, foam, carbon dioxide and/or dry chemical. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3610	METHOXYCHLOR	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzes generate heat.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for sulfuric acid, CAS number 7664-93-9.	3	1	2	3	No Water																							
3611	METHOXYETHYL MERCURY CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to prolonged exposure to light and air. Insoluble in water.	Aqueous solutions may be more stable over prolonged periods of exposure to air and light if kept between pH 4 and 10. This compound yields a volatile base in concentrated sodium hydroxide and can bleach KMnO4 or Br2CCl4. (NTP, 1992)					0																						(NTP, 1992)	(decomposes)		greater than 338
3612	METHOXYETHYLMERCURIC ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	AMPICILLIN TRIHYDRATE absorbs insignificant amounts of moisture at 77Â° F and relative humidities up to approximately 80%, but under damper conditions it absorbs significant amounts. A pH-rate profile reveals that hydrolysis is catalyzed by specific acids and bases. The pH of maximum stability is 5.8. (NTP, 1992)					0																						(NTP, 1992)	(decomposes)		388 to 392
3613	METHOXYFLURANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P-BROMOTOLUENE is incompatible with strong oxidizing agents. (NTP, 1992)			(NFPA, 2010)		2	2	0	2		(NTP, 1992)		185															(NTP, 1992)		83.3	
3614	METHYL 2-CHLOROACRYLATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: Store at or below ambient; protect from light. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		286																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3610	METHOXYCHLOR																																								Corrosive	C7H7SO3H (toluenesulfonic acid)H2SO4 (sulfuric acid)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3611	METHOXYETHYL MERCURY CHLORIDE																									(NTP, 1992)		924.21						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C47H73NO17	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3612	METHOXYETHYLMERCURIC ACETATE																									(NTP, 1992)		403.5						(NTP, 1992)	at 70Â° F		1 to 10	mg/mL			C16H19NO4S.3H2O	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3613	METHOXYFLURANE	(NTP, 1992)	; 5 mm Hg at 117.5Â° F; 10 mm Hg at 142.0Â° F	1		50.5		mm Hg	(NTP, 1992)		5.9				(NTP, 1992)		1.399		68		(NTP, 1992)		363		760		(NTP, 1992)		171.04						(NTP, 1992)	at 75Â° F		less than 1	mg/mL			C7H7BrO		4.0	0.0	4.0	1.0	1.0
3614	METHYL 2-CHLOROACRYLATE																				(NTP, 1992)			554 to 617	760															Class 9			4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3615	METHYL 2-CYANOACRYLATE	ACRYLIC ACID, 2-CYANO-, METHYL ESTER|AD-HERE|ADHERE|ALPHA-CYANOACRYLIC ACID METHYL ESTER|CA 7|CA 7 (ADHESIVE)|CEMEDINE 3000|CEMEDINE 3000 TYPE-II|CEMEDINE 3000DX|COAPT|2-CYANO-2-PROPENOIC ACID METHYL ESTER|2-CYANOACRYLIC ACID METHYL ESTER|2-CYANOACRYLIC ACID, METHYL ESTER|CYANOBOND 5000|CYANOBOND SS|CYANOLIT|EASTMAN 910|EASTMAN 910 ADHESIVE|EASTMAN 910 MONOMER|EASTMAN 910 SUPER GLUE|FIMOFIX P 1048|MECRILAT|MECRILATE|MECRYLATE|METHYL 2-CYANO-2-PROPENOATE|METHYL 2-CYANOACRYLATE|METHYL ALPHA-CYANOACRYLATE|METHYL CYANOACRYLATE|METHYL	137-05-3	PHYSICAL DESCRIPTION: Clear slightly yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5235.0	521.0	1784.0	941.0	557.0	1642.0	165.0	564.0	319.0	164.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3616	METHYL ACID PHOSPHATE	METHYL ACID PHOSPHATE|METHYL ACID PHOSPHATE, [CORROSIVE MATERIAL]|METHYL PHOSPHATE|NCI-C03781|O,O,O-TRIMETHYL PHOSPHATE|PHOSPHORIC ACID, TRIMETHYL ESTER|TMP|TMPA|TMPO|TRIMETHOXYPHOSPHINE OXIDE|TRIMETHYL ORTHOPHOSPHATE|TRIMETHYL PHOSPHATE	512-56-1	A pale straw colored liquid. Inhalation may irritate or seriously burn respiratory tract. vapor or liquid may irritate or severely burn skin or eyes. Ingestion may irritate or burn the mucous membranes of the gastrointestinal tract.	2.5	5.0	2.5	5236.0	521.0	1784.0	941.0	557.0	1643.0	165.0	564.0	319.0	164.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3617	METHYL ISOCYANATE	ISO-CYANATOMETHANE|ISOCYANATOMETHANE|ISOCYANIC ACID, METHYL ESTER|METHANE, ISOCYANATO-|METHYL CARBONIMIDE|METHYL ESTER ISOCYANIC ACID|METHYL ESTER OF ISOCYANIC ACID|METHYL ISOCYANATE|MIC|TL 1450	624-83-9	A colorless low-boiling liquid (b.p. 39Â°C) that is denser than water. Flash point is less than 20Â° F. Very toxic by inhalation. Can be absorbed through the skin. Has a sharp odor, but the sense of smell cannot be relied upon to warn of the presence of vapors at low concentrations. Rate of onset: Immediate Persistence: Minutes to hours Odor threshold: 2.1 ppm Source/use/other hazard: Intermediate in manufacturing; reacts with H20 (don't use in fire).	2.5	5.0	2.5	5237.0	521.0	1785.0	941.0	557.0	1644.0	165.0	565.0	319.0	164.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3618	METHYL ISOPROPENYL KETONE, INHIBITED	ISOPROPENYL METHYL KETONE|METHYL ISOPROPENYL KETONE|METHYL ISOPROPENYL KETONE, INHIBITED|METHYL ISOPROPENYL KETONE, [INHIBITED]|2-METHYL-1-BUTENE-3-ONE|3-METHYL-3-BUTEN-2-ONE|3-METHYLENE-2-BUTANONE|PROPEN-2-YL METHYL KETONE	814-78-8	A clear colorless liquid. Flash point of 52Â°F. Denser than water and insoluble in water. Hence sinks in water. Vapors heavier than air.	2.5	5.0	2.5	5238.0	521.0	1785.0	941.0	557.0	1645.0	165.0	565.0	319.0	164.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3619	METHYL MERCURY HYDROXIDE	HYDROXO(METHYL)MERCURY|HYDROXYMETHYLMERCURY|METHYL MERCURY HYDROXIDE|METHYLHYDROXYMERCURY|METHYLMERCURIC HYDROXIDE|METHYLMERCURY HYDROXIDE|PANOGEN SOIL DRENCH	1184-57-2	PHYSICAL DESCRIPTION: Greenish-white powder or flakes with an unpleasant odor. (NTP, 1992)	1.0	2.5	5.0	5239.0	521.0	1785.0	941.0	557.0	1646.0	165.0	565.0	319.0	164.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Sulfur dioxide gas is formed Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3615	METHYL 2-CYANOACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		286																				
3616	METHYL ACID PHOSPHATE	(Non-Specific -- Poisonous Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		131Â° F o-Isomer 93.6Â° F m-Isomer 212Â° F p-Isomer			
3617	METHYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3618	METHYL ISOPROPENYL KETONE, INHIBITED	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PENTABROMOPHENOL reacts as a weak acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat may be generated by the acid-base reaction with bases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		445.1	
3619	METHYL MERCURY HYDROXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	AMYL MERCAPTAN is incompatible with oxidizing agents, reducing agents, alkali metals, calcium hypochlorite, concentrated nitric acid (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		65														(USCG, 1999)		-105	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3615	METHYL 2-CYANOACRYLATE																				(NTP, 1992)			644 to 707	760																Class 9			2.0	0.0	2.0	1.0	1.0
3616	METHYL ACID PHOSPHATE														(EPA, 1998)	1.393 at 32Â° F o-Isomer 1.302 at 68Â° F m-Isomer 1.417 at 32Â° F p-Isomer					(EPA, 1998)	462 to 466Â° F o-Isomer 482 to 491Â° F m-Isomer 464 to 473Â° F p-Isomer (decomposes)					(EPA, 1998)		175.07												Poison|Corrosive	C8H8Cl2		3.0	0.0	4.0	1.0	1.0
3617	METHYL ISOCYANATE																																		(NTP, 1992)	Insoluble (< 1mg/ml at 68.9Â° F)					Class 9	C12H5Br5O		2.0	0.0	2.0	1.0	1.0
3618	METHYL ISOPROPENYL KETONE, INHIBITED																				(NTP, 1992)	Sublimes					(NTP, 1992)		488.59					(NTP, 1992)	Insoluble					Poison	C6HBr5O		2.0	0.0	2.0	1.0	1.0
3619	METHYL MERCURY HYDROXIDE	(NIOSH, 2003)		14		77		mm Hg							(USCG, 1999)		0.8392		77		(USCG, 1999)		248		760		(USCG, 1999)		104.2						(NIOSH, 2003)	Insoluble				AMM	Flammable Liquid	C5H12S		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3620	METHYL MERCURY(II)CHLORIDE	CASPAN|CHLOROMETHYLMERCURY|MERCURY METHYL CHLORIDE|MERCURYMETHYLCHLORIDE|METHYL MERCURY(II)CHLORIDE|METHYLMERCURIC CHLORIDE|METHYLMERCURY CHLORIDE|METHYLMERCURY MONOCHLORIDE|MMC|MONOMETHYL MERCURY CHLORIDE	115-09-3	PHYSICAL DESCRIPTION: White microcrystals or crystals. (NTP, 1992)	1.0	2.5	5.0	5240.0	521.0	1786.0	941.0	557.0	1647.0	165.0	566.0	319.0	164.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Closed containers may explode when exposed to extreme heat. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3621	METHYL NITRITE	METHYL NITRITE	624-91-9	A liquid or gas Boils at 10.4Â°F. Moderately toxic by inhalation. Narcotic in high concentrations. Used as a rocket propellant. Differs from nitromethane (H3CNO2).	5.0	1.0	1.0	5241.0	521.0	1786.0	941.0	557.0	1648.0	165.0	566.0	319.0	164.0	INHALATION: move to fresh air; if exposure is severe, get medical attention. INGESTION: induce vomiting, followed by prompt and complete gastric lavage, cathartics, and demulcents. EYES: flush with water for at least 10 min.; consult physician if irritation persists. SKIN: wash with soap and water. (USCG, 1999)		
3622	METHYL PHOSPHONOTHIOIC DICHLORIDE, [ANHYDROUS]	DICHLOROMETHYLPHOSPHINE SULFIDE|METHANEPHOSPHONOTHIOIC DICHLORIDE|METHYL PHOSPHONOTHIOIC DICHLORIDE|METHYL PHOSPHONOTHIOIC DICHLORIDE, [ANHYDROUS]|METHYLDICHLOROPHOSPHINE SULFIDE|METHYLPHOSPHONOTHIOIC DICHLORIDE|METHYLPHOSPHONOTHIOYL DICHLORIDE|METHYLTHIONOPHOSPHONIC DICHLORIDE|METHYLTHIOPHOSPHONIC ACID DICHLORIDE|METHYLTHIOPHOSPHONIC DICHLORIDE|MPTD	676-98-2	A colorless liquid with a pungent odor. Noncombustible. Toxic by inhalation. Denser than water. Corrosive to metal and tissue.	2.5	5.0	2.5	5241.0	521.0	1786.0	941.0	557.0	1648.0	165.0	566.0	319.0	164.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3623	METHYL PROPYL ETHER	ALPHA-METHOXYPROPANE|ETHER, METHYL PROPYL|1-METHOXYPROPANE|METHYL N-PROPYL ETHER|METHYL PROPYL ETHER|METOPRYL|NEOTHYL|PROPYL METHYL ETHER	557-17-5	A colorless volatile liquid with an ether-like odor. Less dense than water and insoluble in water. Vapors heavier than air. May be narcotic by inhalation in high concentrations. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	5241.0	521.0	1786.0	941.0	557.0	1648.0	165.0	566.0	319.0	164.0	(BLOB)	The flash point of this compound has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. Because this material is potentially explosive, fire should be fought from a safe distance. (NTP, 1992)
3624	METHYL THIOCYANATE	METHYL RHODANATE|METHYL SULFOCYANATE|METHYL THIOCYANATE|THIOCYANATOMETHANE|THIOCYANIC ACID, METHYL ESTER	556-64-9	Colorless liquid and an odor of onions. Used as an agricultural insecticide, a fumigant and as a research chemical. No evidence of commercial production in the U.S. (EPA, 1998)	2.5	5.0	2.5	5242.0	521.0	1787.0	941.0	557.0	1649.0	165.0	567.0	319.0	164.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3625	METHYL VINYL SULFONE	METHYL VINYL SULFONE|METHYL VINYL SULPHONE|SULFONE, METHYL VINYL|URI 718	3680-02-2	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5242.0	521.0	1787.0	941.0	557.0	1649.0	165.0	567.0	319.0	164.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3620	METHYL MERCURY(II)CHLORIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Slightly soluble in water.	AMYL METHYL KETONE reacts exothermically with many acids and bases to produce flammable gases (e.g., H2). The heat may be sufficient to start a fire in the unreacted portion. Reacts with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas and heat. Incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. Incompatible with many oxidizing agents including nitric acid, nitric acid/hydrogen peroxide mixture, and perchloric acid. May form peroxides (USCG, 1999).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		102		(USCG, 1999)		1.1		%	(USCG, 1999)		7.9		%	(USCG, 1999)		739		(USCG, 1999)		-31	
3621	METHYL NITRITE		Bu. Mines approved respirator; rubber gloves; chemical goggles (USCG, 1999)	Water soluble.	Salts, basic, such as ZINC ACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.					0																							
3622	METHYL PHOSPHONOTHIOIC DICHLORIDE, [ANHYDROUS]	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	PENTAERYTHRITE TETRANITRATE is a high explosive. An oxidizing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. Emits highly toxic nitrogen oxide fumes on decomposition.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																							
3623	METHYL PROPYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PENTAERYTHRITOL TRIACRYLATE is explosively unstable at temperatures near its boiling point (NTP, 1992). [[Details on specifics of reactivity not yet available.]]	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
3624	METHYL THIOCYANATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as PENTAMETHYLHEPTANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
3625	METHYL VINYL SULFONE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Aromatic nitro compounds, such as PENTOLITE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3620	METHYL MERCURY(II)CHLORIDE	(NIOSH, 2003)		3				mm Hg							(USCG, 1999)		0.82				(USCG, 1999)		300		760		(USCG, 1999)		114.19		(NIOSH, 2003)		800	ppm	(NIOSH, 2003)		0.4		%	MAK	Flammable Liquid	C7H14O		1.0	0.0	1.0	1.0	1.0
3621	METHYL NITRITE														(USCG, 1999)		1.74		68								(USCG, 1999)		219.49											ZNA		Zn(C2H3O2)2(Zn(C2H3O2)2 . 2H2O		2.0	0.0	2.0	1.0	1.0
3622	METHYL PHOSPHONOTHIOIC DICHLORIDE, [ANHYDROUS]																																								Explosive 1.1D	C5H8N4O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3623	METHYL PROPYL ETHER																				(NTP, 1992)	(Detonates)	401 to 419	760		(NTP, 1992)		298.32							(NTP, 1992)	Insoluble (<1 mg/ml at 64Â° F)					Corrosive	C14H18O7	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3624	METHYL THIOCYANATE																																								Flammable Liquid	C12H26		4.0	0.0	5.0	1.0	1.0
3625	METHYL VINYL SULFONE																																								Explosive 1.1D	C7H5N3O6.C5H8N4O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3626	METHYLCHLOROSILANE	CHLOROMETHYLSILANE|METHYL CHLOROSILANE|METHYLCHLOROSILANE	993-00-0	Methyl chlorosilane is a colorless gas with a distinctive odor. It is insoluble in water. Its vapors are heavier than air. Contact with the material causes severe irritation to skin, eyes, and mucous membranes. It is toxic by ingestion and skin absorption. It is also a dangerous fire risk. It is used to make water repellent materials. Prolonged exposure of container to fire or intense heat may result in their violent rupturing and rocketing.	5.0	1.0	1.0	5242.0	521.0	1787.0	941.0	557.0	1649.0	165.0	567.0	319.0	164.0	INHALATION: remove victim to fresh air and call a doctor; give artificial respiration and oxygen if needed. EYES: flush with water for at least 15 minutes; consult an eye doctor. SKIN: flush with water, wash with soap and water. (USCG, 1999)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3627	METHYLCYCLOHEXANOL	HEXAHYDROCRESOL|HEXAHYDROMETHYLPHENOL|1-HYDROXY-1-METHYLCYCLOHEXANE|METHYL CYCLOHEXANOL|1-METHYL-1-CYCLOHEXANOL|METHYLCYCLOHEXANOL|1-METHYLCYCLOHEXANOL|METHYLCYCLOHEXANOLS|1-METHYLCYCLOHEXYL ALCOHOL|METHYLHEXALIN	25639-42-3	Colorless viscous liquids with a menthol-like odor. Less dense than water. Flash point 136Â°F. Vapors heavier than air. May be toxic by ingestion. Used as a solvent and to make soaps and detergents.	2.5	5.0	2.5	5243.0	521.0	1787.0	941.0	558.0	1650.0	165.0	567.0	319.0	165.0	(BLOB)	Very irritating vapors formed from hot material; may form phosgene gas, hydrogen chloride, and sulfur dioxide. At high temperatures this compound will decompose to carbon tetrachloride, sulfur chloride, heavy oil polymers, phosgene gas, hydrogen chloride, and sulfur dioxide. Reacts with iron or steel, evolving carbon tetrachloride. Corrosive to most metals. Reacts with water only when hot to give carbon dioxide, hydrochloric acid, and sulfur. Hazardous polymerization may not occur. (EPA, 1998)	Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Positive pressure breathing apparatus and special protective clothing should be worn. This compound is neither flammable nor a serious fire hazard, although it will support combustion. Fight small fires with dry chemical, carbon dioxide, water spray, or foam, and large fires with water spray, fog, or foam. Move containers containing this compound away from fire area if possible. (EPA, 1998)
3628	METHYLCYCLOPENTADIENE (FLAMMABLE LIQUIDS, N.O.S.)	CYCLOPENTADIENE, METHYL-|METHYL-1,3-CYCLOPENTADIENE|METHYLCYCLOPENTADIENE|METHYLCYCLOPENTADIENE (FLAMMABLE LIQUIDS, N.O.S.)|MONOMETHYLCYCLOPENTADIENE	26519-91-5	A pale yellow liquid or crystalline solid. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. Vapor can injure the eyes and respiratory tract and may cause headaches and dizziness. Vapor is anesthetic and may have other central nervous system effects. Vapor may also cause liver and kidney disorder. Ingestion of the liquid into the respiratory system, or from vomiting, may cause bronchopneumonia or pulmonary edema.	2.5	5.0	2.5	5243.0	522.0	1787.0	943.0	559.0	1650.0	166.0	567.0	321.0	166.0	(BLOB)	Flash point data for this chemical are not available, however literature indicates that this material is flammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3629	METHYLCYCLOPENTANE	CYCLOPENTANE, METHYL|CYCLOPENTANE, METHYL-|METHYL CYCLOPENTANE|METHYLCYCLOPENTANE	96-37-7	A colorless liquid. Insoluble in water and less dense than water. Flash point near 20Â°F. Very dangerous fire risk. Vapors may be narcotic and irritating. Used to make other chemicals.	2.5	5.0	2.5	5243.0	522.0	1788.0	943.0	559.0	1650.0	166.0	568.0	321.0	166.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3630	METHYLENEDIAMINE DIHYDROCHLORIDE	DIAMINOMETHANE DIHYDROCHLORIDE|METHANEDIAMINE, DIHYDROCHLORIDE|METHYLENEDIAMINE BISHYDROCHLORIDE|METHYLENEDIAMINE DIHYDROCHLORIDE	57166-92-4	PHYSICAL DESCRIPTION: White granular solid. Decomposes at approximately 275Â°F (changes to white puffy solid), then slowly darkens until total decomposition at approximately 464Â°F. (NTP, 1992)	1.0	2.5	5.0	5244.0	522.0	1788.0	943.0	559.0	1651.0	166.0	568.0	321.0	166.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen are formed. Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3626	METHYLCHLOROSILANE	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Wear goggles and self-contained breathing apparatus. (USCG, 1999)	Highly flammable and easily ignited. Water soluble.	TRIMETHYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Contamination of an ethylene oxide tank with trimethylamine caused an explosion [BCISC Quart. Safety Summ., 1966, 37, 44].	Highly Flammable	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(USCG, 1999)	Not Applicable. Gas.			(USCG, 1999)		2		%	(USCG, 1999)		11.6		%	(USCG, 1999)		374		(USCG, 1999)		-178.8	
3627	METHYLCYCLOHEXANOL	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water. Slowly decomposed by moisture in the air. Reacts with hot water to give carbon dioxide, hydrochloric acid and sulfur.	PERCHLOROMETHYL MERCAPTAN is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Reacts readily with oxidizing agents.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1670 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3628	METHYLCYCLOPENTADIENE (FLAMMABLE LIQUIDS, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Insoluble in water.	TRANS-1,3-DICHLOROPROPENE reacts with aluminum, aluminum alloys, with other active metals and with some metal salts and halogens. Can react vigorously with oxidizing materials. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3629	METHYLCYCLOPENTANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	PERFLUORO(METHYLVINYL ETHER) oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																									
3630	METHYLENEDIAMINE DIHYDROCHLORIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles or face shield; self-contained breathing apparatus; protective gloves and clothing. (USCG, 1999)	Highly flammable. Decomposes on exposure to air, light, or water. Many of the decomposition products, but not all, will be colorless flammable toxic gases. Insoluble in water. Reaction with moisture in air or with water produces nitric acid.	AMYL NITRITE is an oxidizing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides.	Highly Flammable; Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		50													(USCG, 1999)		410					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3626	METHYLCHLOROSILANE	(USCG, 1999)		1487.83		70		mm Hg	(USCG, 1999)		2				(USCG, 1999)		0.633		68		(USCG, 1999)		37.2		760		(USCG, 1999)		59.11											TMA	Flammable Gas	C3H9N	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3627	METHYLCYCLOHEXANOL	(EPA, 1998)		25		123.8		mm Hg	(EPA, 1998)		6.414				(EPA, 1998)		1.6947		68		(EPA, 1998)			297 to 298	760		(EPA, 1998)		185.87		(NIOSH, 2003)		10	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	PCM	Poison Inhalation Hazard	CCl4S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3628	METHYLCYCLOPENTADIENE (FLAMMABLE LIQUIDS, N.O.S.)	(NTP, 1992)		34		77		mm Hg							(NTP, 1992)		1.224		68		(NTP, 1992)		234		760		(NTP, 1992)		110.97						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Flammable Liquid	C3H4Cl2	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3629	METHYLCYCLOPENTANE																																								Flammable Gas	C3F6O	Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3630	METHYLENEDIAMINE DIHYDROCHLORIDE	(NTP, 1992)	; 85.6 mm Hg at 75Â° F: 174.5 mm Hg at 115Â° F	43.5		34		mm Hg	(NTP, 1992)		4				(USCG, 1999)		0.8758		68		(NTP, 1992)		219		760		(NTP, 1992)		117.15						(NTP, 1992)	Decomposes				ANI	Flammable Liquid	C5H11ONO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3631	METHYLPENTACHLOROSTEARATE	METHYL PENTACHLOROSTEARATE|METHYLPENTACHLOROSTEARATE|OCTADECANOIC ACID, PENTACHLORO-, METHYL ESTER	26638-28-8	PHYSICAL DESCRIPTION: Pale yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5244.0	523.0	1789.0	943.0	560.0	1651.0	167.0	569.0	321.0	167.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3632	METHYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)	2,2',2"-|(METHYLSTANNYLIDYNE)TRIS(THIO)|TRISACETIC ACID TRIISOOCTYL ESTER|METHYLTIN S,S',S"-TRIS(ISOOCTYL MERCAPTOACETATE)|METHYLTIN TRIS(ISOOCTYL MERCAPTOACETATE)|METHYLTIN TRIS(ISOOCTYL THIOGLYCOLATE)|METHYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)|MONOMETHYLTIN ISOOCTYL THIOGLYCOLATE|MONOMETHYLTIN TRIS(ISOOCTYL MERCAPTOACETATE)|MONOMETHYLTIN TRIS(ISOOCTYL THIOGLYCOLATE)	54849-38-6	PHYSICAL DESCRIPTION: Pale yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5244.0	524.0	1789.0	943.0	560.0	1651.0	168.0	569.0	321.0	167.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3633	METHYLTRIS(TRIMETHYLSILOXY)SILANE	1,1,1,3,5,5,5-HEPTAMETHYL-3-((TRIMETHYLSILYL)OXY)TRISILOXANE|1,1,1,3,5,5,5-HEPTAMETHYL-3-(TRIMETHYLSILOXY)TRISILOXANE|METHYLTRIS(TRIMETHYLSILOXY)SILANE|TRISILOXANE, 1,1,1,3,5,5,5-HEPTAMETHYL-3-((TRIMETHYLSILYL)OXY)-|TRISILOXANE, 1,1,1,3,5,5,5-HEPTAMETHYL-3-(TRIMETHYLSILOXY)-	17928-28-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5244.0	524.0	1789.0	943.0	560.0	1651.0	168.0	569.0	321.0	167.0	(BLOB)	The flash point of this chemical has not been determined. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3634	METIRAM	METIRAM	9006-42-2	Yellow powder. Non corrosive. Insoluble in water. Used as an fungicide.	1.0	2.5	5.0	5244.0	524.0	1789.0	943.0	560.0	1651.0	168.0	569.0	321.0	167.0	(BLOB)	This compound is combustible. (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3635	METOLCARB	CARBAMIC ACID, METHYL-, 3-METHYLPHENYL ESTER|CARBAMIC ACID, METHYL-, 3-TOLYL ESTER|CARBAMIC ACID, METHYL-, M-TOLYL ESTER|CARBAMIC ACID, METHYL-, M-TOLYL-ESTER|DICRESYL|DRC 3341|KUMIAI|M-CRESYL ESTER OF N-METHYLCARBAMIC ACID|M-CRESYL METHYLCARBAMATE|M-CRESYL N-METHYLCARBAMATE|M-METHYLPHENYL METHYLCARBAMATE|M-METHYLPHENYL N-METHYLCARBAMATE|M-TOLYL METHYLCARBAMATE|M-TOLYL N-METHYLCARBAMATE|METACRATE|3-METHYLPHENYL METHYLCARBAMATE|3-METHYLPHENYL N-METHYLCARBAMATE|METOLCARB|MTMC|S 10653-	1129-41-5	Colorless crystalline solid. Metolcarb is an insecticide for the control of rice leafhoppers, planthoppers, codling moth, citrus mealybug, onion thrips, fruit flies, bollworms and aphids. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5244.0	524.0	1789.0	943.0	560.0	1651.0	168.0	569.0	321.0	167.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_flre_resp	proc_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_sour ce	nfpa_note	nfpa_phsh	nfpa_flam	nfpa_reac	nfpa_spec ial	fp_source	fp_note	fp_value	fp_range	fp_temp	hel_source	hel_note	hel_value	hel_range	hel_unit	hel_source e	hel_note	hel_value	hel_range	hel_unit	al_source	al_note	al_value	al_range	mp_source e	mp_note	mp_value	mp_range
3635	METOLCARB	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Aqueous solutions are acidic.	DIPHENHYDRAMINE HYDROCHLORIDE dyes acidic solutions in water. Neutralizes bases. May react with strong oxidizing and strong reducing agents. May catalyze organic reactions. Slowly darkens on exposure to light.	Known Catalytic Activity		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3631	METHYLPENTACHLOROSTEARATE																				(NTP, 1992)	Decomposes					(NTP, 1992)		179.22						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H13NO2		2.0	0.0	2.0	1.0	1.0
3632	METHYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)																									(NTP, 1992)		249.7						(NTP, 1992)	at 68Â° F		0.1 to 1.0	mg/mL		Poison	C11H11N5.ClH		2.0	0.0	2.0	1.0	1.0
3633	METHYLTRIS(TRIMETHYLSILOXY)SILANE																									(NTP, 1992)		290.82						(NTP, 1992)	at 68.9Â° F		1 to 10	mg/mL			C17H22N2.ClH	Mineral-Based & Clay-Based Absorbents	2.0	0.0	5.0	1.0	1.0
3634	METIRAM														(NTP, 1992)		0.9882				(NTP, 1992)		454.1		760		(NTP, 1992)		148.21						(NTP, 1992)	Slightly soluble					Combustible Liquid	C10H12O	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3635	METOLCARB																									(NTP, 1992)		291.82						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL			C17H21NO.ClH		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3636	MEVINPHOS	(BLOB)	7786-34-7	A colorless to amber colored liquid absorbed on a dry carrier. Denser than water and slightly soluble in water. Hence sinks in water. Toxic by inhalation, skin absorption, and/or ingestion. Flash point 175Â°F. or higher. May emit toxic chloride fumes and phosgene gas when heated to high temperatures. Used as a pesticide.	2.5	5.0	2.5	5245.0	524.0	1789.0	943.0	560.0	1652.0	168.0	569.0	321.0	167.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3637	MEVINPHOS MIXTURE, [LIQUID]	2-CARBOMETHOXY-1-METHYLVINYL DIMETHYL PHOSPHATE|MEVINPHOS|MEVINPHOS MIXTURE, [LIQUID]|PHOSDRIN	7786-34-7	A yellow to orange liquid with a weak odor. A water emulsifiable liquid. Toxic by inhalation, skin absorption, and ingestion. When heated to high temperatures it emits toxic oxides of phosphorus and irritating fumes. Used as a pesticide.	2.5	5.0	2.5	5245.0	524.0	1789.0	943.0	560.0	1652.0	168.0	569.0	321.0	167.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound may be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3638	MEVINPHOS, [LIQUID]	(BLOB)	7786-34-7	Pale yellow to orange liquid, with a weak odor. Used as an insecticide and acaricide on vegetables, alfalfa, deciduous fruits and nuts. (EPA, 1998)	2.5	5.0	2.5	5246.0	524.0	1789.0	943.0	560.0	1653.0	168.0	569.0	321.0	167.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3639	MEVINPHOS, [OTHER THAN LIQUID]	2-CARBOMETHOXY-1-METHYLVINYL DIMETHYL PHOSPHATE|MEVINPHOS|MEVINPHOS, [OTHER THAN LIQUID]|PHOSDRIN	7786-34-7	Pale-yellow to orange liquid with a weak odor. Insecticide that may be absorbed on a dry carrier. (NIOSH, 1997)	2.5	5.0	2.5	5246.0	524.0	1789.0	943.0	560.0	1653.0	168.0	569.0	321.0	167.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3640	MEZEREIN	(12-BETA(E,E))-12-((1-OXO-5-PHENYL-2,4-PENTADIENYL)OXY)DAPHNETOXIN|DAPHNETOXIN, 12-[(1-OXO-5-PHENYL-2,4-PENTADIENYL)OXY]-, [12BETA(2E,4E)]-|6H-2,8BETA-EPOXYOXIRENO[6,7]AZULENO[5,4-E]-1,3-BENZODIOXOLE, DAPHNETOXIN DERIVATIVE|MESEREIN|MEZEREIN|MEZEREINE|2,4-PENTADIENOIC ACID, 5-PHENYL-, 3A,3B,3C,4A,5,5A,8A,9,10,10A-DECAHYDRO-5,5A-DIHYDROXY-4A-(HYDROXYMETHYL)-7,9-DIMETHYL-10A-(1-METHYLETHENYL)-6-OXO-2-PHENYL-6H-2,8B-EPOXYOXIRENO[6,7]AZULENO[5,4-E]-1,3-BENZODIOXOL-10-YL ESTER, [2S-[2ALPHA,3ABETA,3BBETA,3CBETA,4ABETA,5BETA,5ABETA,8AALPHA,8BALPHA,9ALPHA,10BETA(2E,4E),10ABETA]]	34807-41-5	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	5247.0	524.0	1789.0	943.0	560.0	1654.0	168.0	569.0	321.0	167.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: Dust may be explosive if mixed with air in critical proportions and in the presence of a source of ignition. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3636	MEVINPHOS	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ZINC ARSENATE-ZINC ARSENITE MIXTURE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3637	MEVINPHOS MIXTURE, [LIQUID]	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PHENETHYL ANTHRANILATE forms salts readily with acids. Hydrolyzes under alkaline pH conditions. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3638	MEVINPHOS, [LIQUID]	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Amines, such as PHENETIDINES, are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3639	MEVINPHOS, [OTHER THAN LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PHENFORMIN HYDROCHLORIDE gives weakly acidic aqueous solutions. May react with strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
3640	MEZEREIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Dust may be explosive if mixed with air in critical proportions and in the presence of a source of ignition (USCG, 1999). Insoluble in water.	DIPHENYLAMINE discolors in light. This chemical can react violently with hexachloromelamine and trichloromelamine. It is incompatible with strong oxidizing agents and strong acids. It is also incompatible with iron and silver salts. It reacts with nitrogen oxides. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		307												(USCG, 1999)		1175		(NTP, 1992)			129 to 131

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3636	MEVINPHOS																													(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3								Poison	Zn3(AsO4)2 (zinc arsenate);Zn3(AsO2)2 (zinc arsenite)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3637	MEVINPHOS MIXTURE, [LIQUID]														(NTP, 1992)		1.14		77								(NTP, 1992)		241.31						(NTP, 1992)	Insoluble (<1 mg/ml at 68.0Â° F)					Class 9	C15H15NO2		3.0	0.0	3.0	1.0	1.0
3638	MEVINPHOS, [LIQUID]																																								Poison	C8H11NO	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3639	MEVINPHOS, [OTHER THAN LIQUID]																										(NTP, 1992)		241.76						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C10H15N5.ClH	Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3640	MEZEREIN	(NTP, 1992)	; 60 mm Hg at 404.4Â° F	1		226.9		mm Hg	(NTP, 1992)		5.82				(USCG, 1999)		1.068		141.8		(NTP, 1992)		576		760		(NTP, 1992)		169.23						(NTP, 1992)	at 61Â° F		less than 1	mg/mL	DAM	Poison	C12H11N		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3641	MIREX	1,1A.,2,2,3,3A,4,5,5,5A,5B,6-DODECACHLOROOCTAHYDRO-1,3,4-METHENO-1H-CYCLOBUTA(CD)PENTALENE|BICHLORENDO|CG-1283|1,3-CYCLOPENTADIENE, 1,2,3,4,5,5-HEXACHLORO-, DIMER|DECHLORANE|DECHLORANE 4070|DODECACHLOR|DODECACHLOROOCTAHYDRO-1,3,4-METHENO-1H-CYCLOBUTA(CD)PENTALENE|DODECACHLOROOCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA(C,D)PENTALENE|DODECACHLOROOCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA[CD]PENTALENE|DODECACHLOROPENTACYCLO(3.2.2.0(SUP 2,6),0(SUP 3,9),0(SUP 5,10))DECANE|DODECACHLOROPENTACYCLODECANE|DODECACLOR|ENT 25,719|ENT 25719|FERRIAMICIDE|GC 1283|1,2,3,4,5,5-HEXACHLORO-1,3-	2385-85-5	Odorless white crystalline solid. (USCG, 1999)	1.0	2.5	5.0	5248.0	524.0	1789.0	943.0	560.0	1655.0	168.0	569.0	321.0	167.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3642	MOLINATE	1H-AZEPINE-1 CARBOTHIOIC ACID, HEXAHYDRO-S-ETHYL ESTER|MOLINATE	2212-67-1	Clear liquid with aromatic odor. Non corrosive. Used as an herbicide.	2.5	5.0	2.5	5248.0	524.0	1789.0	943.0	560.0	1655.0	168.0	569.0	321.0	167.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
3643	MONO(2-ETHYLHEXYL)PHTHALATE	BAR 1|1,2-BENZENEDICARBOXYLIC ACID, MONO-(2-ETHYLHEXYL)ESTER|1,2-BENZENEDICARBOXYLIC ACID, MONO-2-ETHYLHEXYL ESTER|2-ETHYLHEXYL HYDROGEN PHTHALATE|MEHP|MONO(2-ETHYLHEXYL) PHTHALATE|MONO(2-ETHYLHEXYL)PHTHALATE|MONOETHYLHEXYL PHTHALATE|PHTHALIC ACID, 2-ETHYLHEXYL ESTER|PHTHALIC ACID, MONO(2-ETHYLHEXYL) ESTER|PHTHALIC ACID, MONO-(2-ETHYLHEXYL) ESTER|PHTHALIC ACID, MONO-2-ETHYLHEXYL ESTER	4376-20-9	PHYSICAL DESCRIPTION: Clear colorless to cloudy white viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5249.0	524.0	1789.0	943.0	560.0	1656.0	168.0	569.0	321.0	167.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3644	MONOMETHYL PHOSPHATE	DIHYDROGEN METHYL PHOSPHATE|METHYL ACID PHOSPHATE|METHYL DIHYDROGEN PHOSPHATE|METHYL ORTHOPHOSPHORIC ACID|METHYL PHOSPHATE|METHYL PHOSPHATE ((CH3O)(HO)2PO)|METHYL PHOSPHATE ((MEO)(HO)2PO)|METHYL PHOSPHORIC ACID|MONOMETHYL DIHYDROGEN PHOSPHATE|MONOMETHYL PHOSPHATE|O-METHYL PHOSPHATE|O-METHYLPHOSPHATE|PHOSPHORIC ACID, MONOMETHYL ESTER	812-00-0	PHYSICAL DESCRIPTION: Clear very light amber liquid. (NTP, 1992)	2.5	5.0	2.5	5249.0	524.0	1789.0	943.0	560.0	1656.0	168.0	569.0	321.0	167.0	(BLOB)	Special Hazards of Combustion Products: Unburned vapor is toxic Behavior in Fire: Yields flammable vapors when heated, which will form explosive mixtures with air (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3645	MONURON	CHLORFENIDIM|3-(4-CHLOROPHENYL)-1,1-DIMETHYLUREA|1-(4-CHLOROPHENYL)-3,3-DIMETHYLUREA|CMU|1,1-DIMETHYL-3-(4-CHLOROPHENYL)UREA|1,1-DIMETHYL-3-(P-CHLOROPHENYL)UREA|HERBICIDES, MONURON|KARMEX MONURON HERBICIDE|KARMEX W. MONURON HERBICIDE|LIROBETAREX|MONUREX|MONURON|MONUROX|MONURUON|MONUURON|N'-(4-CHLOROPHENYL)-N,N-DIMETHYLUREA|N,N-DIMETHYL-N'-(4-CHLOROPHENYL)UREA|N-(4-CHLOROPHENYL)-N',N'-DIMETHYLUREA|N-(P-CHLOROPHENYL)-N',N'-DIMETHYLUREA|NCI-C02846|3-(P-CHLOROPHENYL)-1,1-DIMETHYLUREA|1-(P-CHLOROPHENYL)-3,3-	150-68-5	PHYSICAL DESCRIPTION: White crystalline solid or white powder with a slight odor. Melting point 175Â°C. Moderately toxic by ingestion. Used as an herbicide.	1.0	2.5	5.0	5249.0	524.0	1789.0	943.0	560.0	1656.0	168.0	569.0	321.0	167.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3641	MIREX	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	Slowly decomposed by water [Hawley].	DIPHENYLCHLOROARSINE is incompatible with strong oxidizing agents, amines, and alkalis. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: If this material is being used as a weapon, see ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1699 datasheet. Otherwise increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3642	MOLINATE	(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to hydrolysis. Alkaline solutions react more rapidly than acidic solutions. At pH 7 and 176Â°F, has a half life of 74 hours. Insoluble in water.	PHENOBARBITAL is also sensitive to prolonged exposure to light. Incompatible with strong oxidizing agents. Forms a complex of reduced solubility with macrogol 4000. Able to form metal derivatives (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		345															(NTP, 1992)		345 to 352
3643	MONO(2-ETHYLHEXYL)PHTHALATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Phenols do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Phenol may explode in contact with peroxodisulfuric acid (D'Ans, J. Ber., 1910, 43, 1880; Z. Anorg. Chem., 1911, 73, 1911.) or peroxomonosulfuric acid. (Sidgwick, 1950, 939)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	0	2																								
3644	MONOMETHYL PHOSPHATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Fresh air mask for confined areas; rubber gloves; protective clothing; full face shield (USCG, 1999)	Soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	0	2		(NTP, 1992)		175		(NTP, 1992)		1.7		%	(NTP, 1992)		8.6		%	(USCG, 1999)		1319		(NTP, 1992)		109	
3645	MONURON	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TERT-AMYL PEROXY-2-ETHYLHEXANOATExplodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3641	MIREX																											264.59														Poison	C12H10Asl3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3642	MOLINATE																									(NTP, 1992)		232.24						(NTP, 1992)	at 57Â° F		less than 0.1	mg/mL		Poison	C12H12N2O3		3.0	0.0	5.0	1.0	1.0
3643	MONO(2-ETHYLHEXYL)PHTHALATE																													(NIOSH, 2003)	(as phenol)	250	ppm							Poison	C6H5OH (aqueous)		2.0	0.0	2.0	1.0	1.0
3644	MONOMETHYL PHOSPHATE	(NTP, 1992)	; 0.35 mm Hg at 77Â° F	0.2		68		mm Hg	(NTP, 1992)		3.24				(USCG, 1999)		1.04		105.8		(NTP, 1992)		360		760		(NTP, 1992)		94.11		(NIOSH, 2003)	(as phenol)	250	ppm	(NTP, 1992)	at 66Â° F		50 to 100	mg/mL	CBO	Poison	C6H6O		2.0	0.0	2.0	1.0	1.0
3645	MONURON																																								Organic Peroxide	C13H26O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3646	M-TERPHENYL	1,1'-BIPHENYL, 3-PHENYL-|1,3-DIPHENYLBENZENE|G 340|ISODIPHENYLBENZENE| M-DIPHENYLBENZENE|M-TERPHENYL|M-TRIPHENYL|META-TERPHENYL|NSC 6808|3-PHENYL-1,1'-BIPHENYL|3-PHENYLBIPHENYL|SANTOWAX M|1,3-TERPHENYL	92-06-8	Yellow solid. mp: 86-87Â° C, bp: 365Â°C. Density: 1.195 g/cm3. Insoluble in water. Usually shipped as a solid mixture with its isomers o-terphenyl and p-terphenyl that is used as a heat-transfer fluid.	1.0	2.5	5.0	5249.0	524.0	1789.0	943.0	560.0	1656.0	168.0	569.0	321.0	167.0	(BLOB)	Flash point data are not available for this chemical; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled usin a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3647	N-(3-ETHOXYPHENYL)ACETAMIDE	3'-ETHOXYACETANILIDE|3-ETHOXYACETANILIDE|M-ACETOPHENETIDIDE|M-ETHOXYACETANILIDE|N-(3-ETHOXYPHENYL)ACETAMIDE|N-ACETYL-M-PHENETIDINE	591-33-3	PHYSICAL DESCRIPTION: Gray plates (in H2O). (NTP, 1992)	1.0	2.5	5.0	5249.0	524.0	1789.0	943.0	560.0	1656.0	168.0	569.0	321.0	167.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3648	N-(4-FLUORENYL)ACETAMIDE	4-AAF|ACETAMIDE, N-FLUOREN-4-YL-|4-ACETAMIDOFLUORENE|4-ACETYLAMINOFLUORENE|4-FLUORENYLACETAMIDE|N-(4-FLUORENYL)ACETAMIDE|N-4-FLUORENYLACETAMIDE|N-9H-FLUOREN-4-YLACETAMIDE|N-FLUOREN-4-YLACETAMIDE	28322-02-3	PHYSICAL DESCRIPTION: Light beige powder. (NTP, 1992)	1.0	2.5	5.0	5250.0	524.0	1789.0	943.0	560.0	1657.0	168.0	569.0	321.0	167.0	INHALATION: remove to clean air; rinse mouth and gargle with water; if overexposure is serious, get prompt medical attention. EYES: flush eyes and eye-lids thoroughly with large amounts of water; get prompt medical attention. SKIN: flush thoroughly with water; remove contaminated clothing; wash affected area with soap and water; if overexposure is serious, get prompt medical attention. INGESTION: dilute by drinking water; if vomiting occurs, administer more water. If overexposure is serious, get prompt medical attention. (USCG, 1999)	Behavior in Fire: Irritating fumes of hydrogen chloride given off when water or foam is used to extinguish adjacent fire. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3649	N,N,N',N'-TETRAMETHYL-1,3-BUTANEDIAMINE	1,3-BIS(DIMETHYLAMINO)BUTANE|N,N,N',N''-TETRAMETHYLBUTANE-1,3-DIAMINE|N,N,N',N'-TETRAMETHYL-1,3-BUTANEDIAMINE|N,N,N',N'-TETRAMETHYL-1,3-DIAMINOBUTANE|N,N,N1,N1-TETRAMETHYL-1,3-DIAMINOBUTANE|TETRAMETHYL BUTADIAMINE|TETRAMETHYLBUTANE-1,3-DIAMINE	97-84-7	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5251.0	524.0	1789.0	943.0	560.0	1658.0	168.0	569.0	321.0	167.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3650	N,N'-BIS(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE	ANTIOXIDANT 4030|DHPPD|EASTOZONE|EASTOZONE 33|FLEXZONE 4L|N,N'-BIS(1,4-DIMETHYLPENTYL) 1,4-BENZENEDIAMINE|N,N'-BIS(1,4-DIMETHYLPENTYL)-1,4-BENZENEDIAMINE|N,N'-BIS(1,4-DIMETHYLPENTYL)-1,4-PHENYLENEDIAMINE|N,N'-BIS(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE|N,N'-DI(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE|N,N-DI(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE|NAUGALUBE 443|NCI-C56337|P-PHENYLENEDIAMINE, N,N'-BIS(1,4-DIMETHYLPENTYL)-|77PPD|SANTOFLEX 77|TENAMENE|TENAMENE 4|UOP 788|VULKANOX 4030	3081-14-9	PHYSICAL DESCRIPTION: Deep red slightly viscous liquid with an aromatic odor. (NTP, 1992)	2.5	5.0	2.5	5251.0	524.0	1789.0	943.0	560.0	1658.0	168.0	569.0	321.0	167.0	(BLOB)	When heated to decomposition or on contact with acids, it emits toxic fumes of sulfur oxides. May be ignited by heat, sparks or flames. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Unstable, oxidizes in air. Avoid contact with acids. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3646	M-TERPHENYL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from light and moisture, and store it in a refrigerator. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Unstable in air when in alkaline solution. Insoluble in water.	ANTHRALIN reacts as a weak acid. Soluble in aqueous bases. May react with strong oxidizing agents. May be sensitive to light and moisture (NTP, 1992).							0																						(NTP, 1992)		349 to 358
3647	N-(3-ETHOXYPHENYL)ACETAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	1-AMINOPYRENE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.							0																						(NTP, 1992)		243 to 244
3648	N-(4-FLUORENYL)ACETAMIDE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Organic vapor-acid gas type canister mask; rubber, neoprene, vinyl, etc. gloves; chemical safety goggles, plus face shield where appropriate; acid-resistant clothing, plus apron for splash protection; rubber safety shoes or boots; hard hat. (USCG, 1999)	Fumes in air to form hydrochloric acid. Reacts with water to yield heat and antimony pentaoxide (Sb2O5) and hydrochloric acid [Merck 11th ed. 1989].	Acidic salts, such as ANTIMONY PENTACHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																						(USCG, 1999)		37
3649	N,N,N',N'-TETRAMETHYL-1,3 BUTANEDIAMINE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Decomposes in water.	Isocyanates and thioisocyanates, such as PHENYL ISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Polyurethanes are formed by the condensation reaction of diisocyanates with, for example, ethyl glycol. Phenyl isocyanate, cobalt pentamine triazo perchlorate, and nitrosyl perchlorate mixture was stirred for 2-3 minutes. When the stirring was interrupted, the mixture exploded [Chem. Eng. News 46(8):39. 1968].	Highly Flammable	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2487 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																									
3650	N,N'-BIS(1,4-DIMETHYLPENTYL)-P-PHENYLENEDIAMINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Oxidizes upon exposure to air, especially when dissolved in alcoholic ammonia, to form diphenyl disulfide, C6H5SSC6H5 [Merck 11th ed. 1989]. Is supplied under an atmosphere of nitrogen. Insoluble in water.	PHENYL MERCAPTAN reacts with acids to generate toxic fumes of oxides of sulfur. [Lewis, 3rd ed., 1993, p. 1021]. Reacts exothermically with strong oxidizing agents.	Air-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2337 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0	(USCG, 1999)		127																			(EPA, 1998)		5.4	

id	name	vp_source	vp_note	vp_value	vp_range	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	hp_value_tempDegF	hp_range	hp_value	hp_note	hp_source	motwgt_source	motwgt_n	motwgt_value	motwgt_range	motwgt_r	hflb_source	hflb_note	hflb_value	hflb_unit	tdlb_unit	solbity_so urce	solbity_no te	solbity_va lue	solbity_ra nge	solbity_un it	chris_cod es	doc_labels	formulas	#compatible_lab sotbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3646	M-TERPHENYL																		(NTP, 1992)							226.24								(NTP, 1992)	at 68Â° F		mg/mL			C14H10O3	(Cellulose-Based Absorbents)Multi eal-Based & Clay-Based Absorbents)Dirt Earth	2.0	0.0	2.0	0.0	1.0
3647	N-(3-ETHOXYPHENYL)ACETAMIDE																		(NTP, 1992)							217.28														C16H11N		2.0	0.0	2.0	0.0	1.0
3648	N-(4-FLUOROBENZYL)ACETAMIDE																		(USCG, 1999)							299.05								(USCG, 1999)	at 77Â° F	(NIOSH, 2003)																	

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3651	N,N'-DICYCLOHEXYLTHIOUREA	1,3-BIS(CYCLOHEXYL)THIOUREA|DICYCLOHEXYL THIOUREA|1,3-DICYCLOHEXYL-2-THIO-UREA|1,3-DICYCLOHEXYL-2-THIOUREA|DICYCLOHEXYL THIOUREA|1,3-DICYCLOHEXYLTHIOUREA|N,N'-DICYCLOHEXYLTHIOCARBAMIDE|N,N'-DICYCLOHEXYLTHIOUREA|NCI-C04524|SYM-DICYCLOHEXYLTHIOUREA|UREA, 1,3-DICYCLOHEXYL-2-THIO-	1212-29-9	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5252.0	524.0	1790.0	943.0	560.0	1659.0	168.0	570.0	321.0	167.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3652	N,N-DIETHYL-4-NITROBENZENAMINE	ANILINE, N,N-DIETHYL-P-NITRO-|BENZENAMINE, N,N-DIETHYL-4-NITRO-|4-(DIETHYLAMINO)NITROBENZENE|N,N-DIETHYL-4-NITROANILINE|N,N-DIETHYL-4-NITROBENZENAMINE|N,N-DIETHYL-P-NITROANILINE|4-NITRO-N,N-DIETHYLANILINE|P-NITRO-N,N-DIETHYLANILINE	2216-15-1	PHYSICAL DESCRIPTION: Yellow needles (from ligroin) or yellow crystalline mass. (NTP, 1992)	1.0	2.5	5.0	5253.0	524.0	1790.0	943.0	560.0	1660.0	168.0	570.0	321.0	167.0	(BLOB)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-ÃR® or Met-L-XÃ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
3653	N,N-DIMETHYL-O-TOLUIDINE	DIMETHYL-O-TOLUIDINE|2-METHYL-N,N-DIMETHYLANILINE|N,N,2-TRIMETHYLANILINE|N,N-DIMETHYL-2-METHYLANILINE|N,N-DIMETHYL-O-METHYLANILINE|N,N-DIMETHYL-O-TOLUIDINE|2,N,N-TRIMETHYLANILINE|O-METHYL-N,N-DIMETHYLANILINE|O-METHYLDIMETHYLANILINE|O-TOLUIDINE, N,N-DIMETHYL-	609-72-3	A clear colorless liquid with an aromatic odor. Less dense than water and insoluble in water. Hence floats on water. May be toxic by skin absorption and inhalation. May release toxic vapors when burned.	2.5	5.0	2.5	5254.0	524.0	1790.0	943.0	560.0	1661.0	168.0	570.0	321.0	167.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3654	N-CYCLOHEXYL-4-METHYLBENZENESULFONAMIDE	BENZENESULFONAMIDE, N-CYCLOHEXYL-4-METHYL-|KETJENFLEX 1H|N-CYCLOHEXYL-4-METHYLBENZENESULFONAMIDE|N-CYCLOHEXYL-4-METHYLPHENYLSULFONAMIDE|N-CYCLOHEXYL-4-TOLUENESULFONAMIDE|N-CYCLOHEXYL-P-TOLUENESULFONAMIDE|P-TOLUENESULFONAMIDE, N-CYCLOHEXYL-|SANTICIZER 1H|(TOSYLAMINO)CYCLOHEXANE	80-30-8	PHYSICAL DESCRIPTION: Yellowish-brown fused mass or white crystalline solid. Little or no odor. (NTP, 1992)	1.0	2.5	5.0	5254.0	524.0	1790.0	943.0	560.0	1661.0	168.0	570.0	321.0	167.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: Water fog, alcohol foam, carbon dioxide, dry chemical (USCG, 1999)
3655	N-DECYLBENZENE	DECYLBENZENE|N-DECYLBENZENE|1-PHENYLDECANE	104-72-3	White liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5254.0	524.0	1790.0	943.0	560.0	1661.0	168.0	570.0	321.0	167.0	(BLOB)	Reacts violently with water to evolve heat. Flammable poisonous gases may accumulate in tanks and hopper cars. Phosphorus pentoxide reacts violently with the following: ammonia, hydrofluoric acid, oxygen difluoride, potassium, sodium, propargyl alcohol, calcium oxide, sodium hydroxide and chlorine trifluoride. A violent explosion occurs if a solution of perchloric acid in chloroform is poured over phosphorus pentoxide. Avoid formic acid, hydrogen fluoride, inorganic bases, metals, oxidants, water. Readily absorbs moisture from air to form meta-, pryo-, or orthophosphoric acid. (EPA, 1998)	Wear positive pressure breathing apparatus and special protective clothing. Keep combustibles away from spilled material. Does not support combustion. Do not get water inside container. For small fires, use dry chemical or carbon dioxide. For large fires, flood fire area with water from a distance. Do not get solid stream of water on spilled material. Spray cooling water on containers that are exposed to flames until well after fire is out. (EPA, 1998)
3656	N-DOCOSANE	DOCOSANE|N-DOCOSANE	629-97-0	Solid. Insoluble in water. Used in organic synthesis, calibration, and temperature sensing equipment.	1.0	2.5	5.0	5255.0	524.0	1790.0	943.0	560.0	1662.0	168.0	570.0	321.0	167.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Contain highly toxic arsenic trioxide and other forms of arsenic. Arsenic gas, the most dangerous form of arsenic, is produced upon contact with an acid or acid fumes. Behavior in Fire: Burns to produce dense white fumes of highly toxic arsenic trioxide. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3651	N,N'-DICYCLOHEXYLTHIOUREA	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; rubber or plastic-coated gloves; chemical goggles; tightly woven, close fitting clothes; Bu. Mines approved respirator (USCG, 1999)	This chemical effloresces on exposure to air. Water soluble.	ANTIMONY POTASSIUM TARTRATE reacts with tannic acid, alkalis and their carbonates, lead salts, astringent infusions (cinchona, rhubarb, etc.), acacia, antipyrene and mercury bichloride. It also reacts with acids, salts of heavy metals, albumins, soap and tannins. It can react with strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			630 to 635
3652	N,N-DIETHYL-4-NITROBENZENAMINE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	(BLOB)	Strong Reducing Agent	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		1167.3	
3653	N,N-DIMETHYL-O-TOLUIDINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very slightly soluble in water.	Strongly reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Generally highly toxic. Often react on contact with tissues to give toxic products.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			349 to 352
3654	N-CYCLOHEXYL-4-METHYLBENZENESULFONAMIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	Safety glasses with side shields or goggles; shower and eye bath. (USCG, 1999)	This chemical is hygroscopic. Water soluble.	DIPROPYLENE GLYCOL can react vigorously with acids and oxidizing materials. It is incompatible with strong bases. It is incompatible with peroxides. (NTP, 1992)							0		(NTP, 1992)		280		(NTP, 1992)		2.2		%	(NTP, 1992)		12.6		%						(NTP, 1992)		-40	
3655	N-DECYLBENZENE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Readily absorbs moisture from the air forming a syrup of meta-, pyro-, and orthophosphoric acids. Reacts violently with water releasing considerable heat [Oldbury Chemicals, p. 9]. There is a possibility that this very rapid, exothermic reaction would create a toxic acidic mist in a spill of the chemical into water.	PHOSPHORIC ANHYDRIDE reacts violently and exothermically with water. The heat can ignite surrounding or admixed combustible materials. Undergoes hazardous or violent reactions with metal hydroxides and oxides, formic acid, hydrogen fluoride and hydrofluoric acid, iodides, metals (in particular potassium and sodium), oxidizing agents (bromine pentafluoride, chlorine trifluoride, perchloric acid, oxygen difluoride, hydrogen peroxide), ammonia, and propargyl alcohol. [Bretherick, 5th ed., 1995, p. 1781; EPA, 1998]. A violent explosion occurs if a solution of perchloric acid in chloroform is poured over phosphorus pentaoxide [EPA, 1998].	Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	Not Flammable																			(EPA, 1998)		644	
3656	N-DOCOSANE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Turns black on exposure to air. Insoluble in water.	ARSENIC reacts incandescently with bromine trifluoride, even at 10Â°C [Mellor 2:113 1946-47]. Causes bromoazide to explode upon contact. Ignites if ground up together with solid potassium permanganate [Mellor 12:322 1946-47]. Is oxidized by sodium peroxide with incandescence [Mellor 2:490-93 1946-47]. A combination of finely divided arsenic with finely divided bromates (also chlorates and iodates) of barium, calcium, magnesium, potassium, sodium, or zinc can explode by heat, percussion, and friction [Mellor 2:310 1946-47]. Bromine pentafluoride reacts readily in the cold with arsenic. Ignition usually occurs. Reacts vigorously with fluorine at ordinary temperatures [Mellor 9:34 1946-47].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)	(Sublimes)	1135	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3651	N,N'-DICYCLOHEXYLTHIOUREA														(USCG, 1999)		2.6		68										667.9						(NTP, 1992)		at 70Â° F		10 to 50	mg/mL	APT	Poison	K2C8H4O12Sb2.3H2O		4.0	0.0	5.0	1.0	1.0
3652	N,N-DIETHYL-4-NITROBENZENAMINE	(NTP, 1992)		1		1627		mm Hg							(NTP, 1992)		6.684		77		(NTP, 1992)		3182		760		(NTP, 1992)		121.75		(NIOSH, 2003)	(as Sb)	50	mg/m3	(NIOSH, 2003)	Insoluble					Poison	Sb		2.0	0.0	4.0	1.0	1.0
3653	N,N-DIMETHYL-O-TOLUIDINE																										(NTP, 1992)		339.71						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C6H5HgNO3		4.0	0.0	5.0	1.0	1.0
3654	N-CYCLOHEXYL-4-METHYLBENZENESULFONAMIDE	(NTP, 1992)	; 760 mm Hg at 449.2Â° F	1		164.8		mm Hg	(NTP, 1992)		4.63				(USCG, 1999)		1.023		68		(NTP, 1992)			444 to 450	760		(NTP, 1992)		134.18						(NTP, 1992)	at 75Â° F		greater than or equal to 100	mg/mL	DPG		C6H14O3	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3655	N-DECYLBENZENE	(EPA, 1998)		1		723.2		mm Hg							(EPA, 1998)		2.39				(EPA, 1998)	Sublimes at 572Â° F					(EPA, 1998)		141.96											Corrosive	P2O5 or P4O10	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3656	N-DOCOSANE	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		5.727		77		(USCG, 1999)	(sublimes)	1135		760		(USCG, 1999)		74.9216		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3	(NIOSH, 2003)	Insoluble				ARX	Poison	As		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3657	NEOHEXANE	BUTANE, 2,2-DIMETHYL-|2,2-DIMETHYLBUTANE|3,3-DIMETHYLBUTANE|NEOHEXANE	75-83-2	Colorless liquid with an odor of gasoline. Less dense than water and insoluble in water. Hence floats on water. Irritating vapor. Flash point -54Â°F.	2.5	5.0	2.5	5256.0	524.0	1790.0	943.0	560.0	1663.0	168.0	570.0	321.0	167.0	Call a physician. INHALATION: Remove from exposure. EYES: Wash with running water. SKIN: Wash with copious amounts of water. INGESTION: Gastric lavage, induce vomiting, catharsis. Give milk or starch drinks to relieve irritation. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3658	N-ETHYL-4-NITROANILINE	ANILINE, N-ETHYL-P-NITRO-|N-ETHYL-4-NITROANILINE|N-ETHYL-4-NITROBENZENAMINE|N-ETHYL-P-NITROANILINE	3665-80-3	PHYSICAL DESCRIPTION: Yellow crystals with blue-violet luster (from ethanol) or purple-black crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5256.0	524.0	1790.0	943.0	560.0	1663.0	168.0	570.0	321.0	167.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3659	N-ETHYL-P-TOLUIDINE	ETHYL TOLUIDINE|N-ETHYL 4-METHYLANILINE|N-ETHYL-4-METHYLBENZENAMINE|N-ETHYL-4-TOLUIDINE|N-ETHYL-P-METHYLANILINE|N-ETHYL-P-TOLUIDINE|N-ETHYLTOLUIDINE|N-ETHYLTOLUIDINES|P-METHYL-N-ETHYLANILINE|P-TOLUIDINE, N-ETHYL-	622-57-1	A dark colored liquid with an aromatic odor. Insoluble in water and about the same density as water. Toxic by skin absorption and inhalation of vapors. Toxic fumes may evolve during combustion.	2.5	5.0	2.5	5256.0	524.0	1790.0	943.0	560.0	1663.0	168.0	570.0	321.0	167.0	(BLOB)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3660	N-HENEICOSANE	HENEICOSANE|N-HENEICOSANE	629-94-7	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5256.0	524.0	1790.0	943.0	560.0	1663.0	168.0	570.0	321.0	167.0	Get medical attention after all exposures to this compound. Be alert for arsenic poisoning symptoms. SKIN: wash well with soap and water. INGESTION: induce vomiting; drink freely lime water, milk, or raw egg; give a cathartic. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3661	N-HEPTADECANE	N-HEPTADECANE	629-78-7	PHYSICAL DESCRIPTION: Hexagonal leafs. (NTP, 1992)	1.0	2.5	5.0	5257.0	525.0	1790.0	943.0	561.0	1664.0	169.0	570.0	321.0	168.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3662	N-HEPTENE	HEPTENE|1-HEPTENE|HEPTYLENE|N-HEPT-1-ENE|N-HEPTENE|1-N-HEPTENE|2(OR 3)-HEPTENE	25339-56-4	A colorless liquid. Flash point 25Â°F. Insoluble in water and much less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5258.0	525.0	1790.0	943.0	561.0	1665.0	169.0	570.0	321.0	168.0	INHALATION: remove victim to clear air; if necessary, apply artificial respiration and/or administer oxygen. INGESTION: dilute by drinking water, then neutralize with milk of magnesia, egg white, etc.; do not use sodium bicarbonate. EYES: immediately flush with large amounts of water for at least 15 min. SKIN: immediately flush with large amounts of water; remove contaminated clothing. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen bromide and phosphoric acid vapors may form in fire. Behavior in Fire: Acids formed by reaction with water will attack metals and generate flammable hydrogen gas, which may form explosive mixtures in enclosed spaces. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3657	NEOHEXANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Rubber gloves, face shield or goggles, approved dust mask. (USCG, 1999)	Water soluble (hot water).	ZINC BICHROMATE can react with reducing agents to generate heat and products that may be gaseous (causing pressurization of closed containers). The products may themselves be capable of further reactions (such as combustion in the air). Reactions may be rapid but often requires initiation (heat, spark, catalyst, addition of a solvent). Can react violently with active metals, cyanides, esters, and thiocyanates.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																(USCG, 1999)	Not flammable						
3658	N-ETHYL-4-NITROANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Azo dyes can be explosive when suspended in air at specific concentrations.	DIRECT BLACK 114 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																										
3659	N-ETHYL-P-TOLUIDINE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes strongly in air, with traces of moisture forming POF3 and HF (corrosive). Decomposed in water or moist air to form phosphoric acid and hydrofluoric Acid, corrosive [Merck 11th ed. 1989].	PHOSPHORUS PENTAFLUORIDE is a colorless, toxic gas, when exposed to air it strongly fumes. Vigorous reaction with water or steam leads to decomposition (hydrolysis) producing toxic and corrosive fumes. When heated to decomposition it emits toxic fumes of fluoride and oxides of phosphorus [Lewis, 3rd ed., 1993, p. 1034].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2198 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																										
3660	N-HENEICOSANE	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with sodium bicarbonate or lime solution. (USCG, 1999)	Calamine lotion and zinc oxide powder on hands and other skin areas; rubber gloves; U. S. Bureau of Mines approved dust respirator. (USCG, 1999)	Hygroscopic. Water soluble.	ARSENIC ACID may evolve very toxic gaseous arsine (AsH3) from contact with active metals, such as zinc and aluminum [Inorganic Chemicals Handbook, I, p. 175]. When heated to decomposition, it produces toxic fumes of metallic arsenic [Sax, 9th ed., p. 271]. The solution is weakly acidic and a weak oxidizing agent. Reacts with alkalis to generate some heat and precipitate arsenates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
3661	N-HEPTADECANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber, Viton, PVA (NTP, 1992)	Highly flammable. Water soluble.	1-BROMO-2-PROPANOL may be sensitive to prolonged exposure to light. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		130																(NTP, 1992)		-67			
3662	N-HEPTENE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Acid-gas canister-type mask (full face type for emergencies); chemical safety goggles; apron, gloves, clothing, and safety shoes all made from rubber (USCG, 1999)	Fumes in air. Decomposed by water to form phosphorous acid and hydrobromic acid. Reaction with warm water is very rapid and may be violent [Mellor v.8. 1032 1940]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Bromide gas will be created in 11 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	PHOSPHORUS TRIBROMIDE reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive; the reactions may be violent. Forms complexes with potassium or sodium metal that explode when shocked. Dropwise addition to 3-phenylpropanol caused an explosion when stirring of the mixture was discontinued [Chem. Brit., 1974, 10, 101-102].	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1808 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																				(USCG, 1999)		-42.9			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3657	NEOHEXANE																									(USCG, 1999)		335.45													ZBC	Oxidizer	ZnCr2O7 3H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3658	N-ETHYL-4-NITROANILINE														(NTP, 1992)		0.7		68																(NTP, 1992)	at 70.0Â°F	10		mg/mL				Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3659	N-ETHYL-P-TOLUIDINE																																								Poison Gas|Corrosive	F5P	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3660	N-HENEICOSANE														(USCG, 1999)		2.2		68								(USCG, 1999)		229.8		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						ASA	Poison	H3AsO4.1|2H2O		3.0	0.0	3.0	1.0	1.0
3661	N-HEPTADECANE	(NTP, 1992)		16		126		mm Hg							(NTP, 1992)		1.5585		86		(NTP, 1992)			293 to 298	760		(NTP, 1992)		139.01						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C3H7BrO	Cellulose-Based Absorbents	2.0	0.0	4.0	1.0	1.0
3662	N-HEPTENE														(USCG, 1999)		2.862		86		(USCG, 1999)		343		760		(USCG, 1999)		270.73											PBR	Corrosive	PBr3		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3663	N-HEXACOSANE	CERANE|HEXACOXANE|N-HEXACOSANE	630-01-3	Colorless crystals. Occurs in many natural products.	1.0	2.5	5.0	5259.0	525.0	1790.0	943.0	561.0	1666.0	169.0	570.0	321.0	168.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3664	N-HEXYL METHACRYLATE	ENT 25419|HEXYL 2-METHYL 2-PROPENOATE|HEXYL METHACRYLATE|METHACRYLIC ACID, HEXYL ESTER|N-HEXYL 2-METHYL-2-PROPENATE|N-HEXYL METHACRYLATE|SR 211	142-09-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5260.0	526.0	1790.0	943.0	562.0	1667.0	170.0	570.0	321.0	169.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3665	NICKEL CARBONYL	NICKEL CARBONYL|NICKEL CARBONYL (NI(CO)4)|NICKEL CARBONYL|NI(CO)4|,(T-4)-|NICKEL TETRACARBONYL|TETRACARBONYL NICKEL|TETRACARBONYLNICKEL|TETRACARBONYLNICKEL(0)	13463-39-3	A clear colorless to yellow liquid. Boiling point 43Â°C. Flash point below 0Â°F. Very toxic by ingestion and inhalation. Carcinogenic. Denser than water and insoluble in water. Vapors heavier than air. Used to nickel coat steel and other metals and to make very pure nickel.	2.5	5.0	2.5	5260.0	526.0	1790.0	943.0	562.0	1667.0	170.0	570.0	321.0	169.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Fumes from burning phosphorus are highly irritating. Behavior in Fire: Intense white smoke is formed. (USCG, 1999)	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: SMALL FIRE: Water spray, wet sand or wet earth. LARGE FIRE: Water spray or fog. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3666	NICKEL CYANIDE	DICYANONICKEL|NICKEL CATALYST|NICKEL CYANIDE|NICKEL CYANIDE, SOLID|NICKEL CYANIDE, [SOLID]|NICKEL DICYANIDE|NICKEL(II) CYANIDE	557-19-7	Nickel cyanide is an apple-green powder or a green crystalline solid. Insoluble in water. Toxic by inhalation and by ingestion. Carcinogenic. Produces toxic oxides of nitrogen in fires.	1.0	2.5	5.0	5261.0	526.0	1790.0	943.0	562.0	1668.0	170.0	570.0	321.0	169.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Alcohol foam, CO 2 , dry chemical (USCG, 1999)
3667	NICOTINE SALICYLATE	EUDERMOL|1-METHYL-2-(3-PYRIDYL)PYRROLIDINE SALICYLATE|NICOTINE SALICYLATE|NICOTINE, MONOSALICYLATE|PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-, (S)-, MONO(2-HYDROXYBENZOATE)|SALICYLIC ACID, COMPOUND WITH NICOTINE (1:1)	29790-52-1	A white crystalline solid. Combustible. Toxic by inhalation (dust, etc.) and may be toxic by skin absorption. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5261.0	526.0	1790.0	943.0	562.0	1668.0	170.0	570.0	321.0	169.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3663	N-HEXACOSANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Fumes in moist air. Reacts in water to give hydrobromic acid.	Acidic inorganic salts, such as ARSENIC BROMIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3664	N-HEXYL METHACRYLATE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	When exposed to air emits a green light and gives off white fumes. Ignites at 30Â°C in moist air, higher temperatures are required for ignition in dry air [Merck 11th ed. 1989]. The reactivity of phosphorus with oxygen or air depends on the allotrope of Phosphorus involved and the conditions of contact, white (yellow) phosphorus being by far more reactive. White phosphorus readily ignites in air if warmed, finely divided or under conditions where the slow oxidative isotherm cannot be dissipated. Contact with finely divided charcoal or lampblack promotes ignition, probably by the absorbed oxygen. Contact with amalgamated aluminum also promotes ignition [Mellor 1940 and 1971].	Even at 10Â°C, bromine trifluoride reacts with antimony incandescently. Bromine trifluoride reacts similarly with arsenic, boron, bromine, iodine, phosphorus, and sulfur [Mellor 2:113. 1946-47]. Bromoazide explodes on contact with antimony, arsenic, phosphorus, silver foil, or sodium. Red phosphorus reacts in the cold with selenium oxychloride evolving light and heat; white phosphorus reacts explosively [Mellor 10:906. 1946-47]. When thorium is heated with phosphorus, they unite with incandescence [Svenska Akad. 1829. p.1].	Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6																						(NIOSH, 2003)		111	
3665	NICKEL CARBONYL	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL SPILL: Cover with water, sand or earth. Shovel into metal container and keep material under water. LARGE SPILL: Dike for later disposal and cover with wet sand or earth. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Highly flammable. Emits a weak green light and gives off white acidic fumes of phosphorus oxides when exposed to air. Ignites at 30Â°C in moist air, higher temperatures are required for ignition in dry air [Merck 11th ed. 1989]. Readily ignites in air if warmed, finely divided, or if held under conditions in which the heat of reaction can build up. Contact with finely divided charcoal or lampblack promotes ignition, probably by the absorbed oxygen. Contact with amalgamated aluminum also promotes ignition [Mellor 1940 and 1971].	WHITE PHOSPHORUS is reacts readily with most oxidizing agents. Often ignites on contact with air; storage under water prevents this reaction. Submersion in water stops the white phosphorus/air reaction which however usually resumes when the water is removed. Reacts violently with bromine trifluoride, even at 10Â°C [Mellor 2:113. 1946-47]. Reacts explosively on contact with bromoazide. Reacts explosively with selenium oxychloride, evolving light and heat [Mellor 10:906. 1946-47]. Can also serve as an oxidizing agent---reacts incandescently if heated with thorium [Svenska Akad. 1829. p. 1].	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 136 [Substances - Spontaneously Combustible - Toxic and/or Corrosive (Air-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6																						(USCG, 1999)		86		(USCG, 1999)		111.4	
3666	NICKEL CYANIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	TERT-BUTYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound is incompatible with the following: Nitrates; strong oxidizers, alkalis & acids (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		72		(NIOSH, 2003)		1.5		%														
3667	NICOTINE SALICYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	DIRECT RED 2 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic acides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																								(NTP, 1992)	(decomposes)	554	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3663	N-HEXACOSANE																													(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3								Poison	AsBr3		2.0	0.0	2.0	1.0	1.0
3664	N-HEXYL METHACRYLATE	(NIOSH, 2003)		0.03				mm Hg													(NIOSH, 2003)		536		760		(NIOSH, 2003)		124		(NIOSH, 2003)		5	mg/m3	(NIOSH, 2003)		0.0003		%		Flammable Solid	P		2.0	0.0	3.0	1.0	1.0
3665	NICKEL CARBONYL	(NIOSH, 2003)		0.03				mm Hg							(USCG, 1999)		1.82		68		(USCG, 1999)		535.5		760		(USCG, 1999)		123.89		(NIOSH, 2003)		5	mg/m3	(NIOSH, 2003)		0.0003		%	PPW	Spontaneously Combustible|Poison	P4		1.0	0.0	2.0	1.0	1.0
3666	NICKEL CYANIDE														(USCG, 1999)	0.8593 at 25Â°C	0.8665		68		(USCG, 1999)		208		760		(USCG, 1999)		116.16		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	1500	ppm	(NIOSH, 2003)	Insoluble				BYA	Flammable Liquid	C6H12O2		3.0	0.0	4.0	1.0	1.0
3667	NICOTINE SALICYLATE																				(NTP, 1992)		724.74												(NTP, 1992)	at 61Â° F		less than 1	mg/mL			C34H28N6O6S2.2Na		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3668	NICOTINE SULFATE, SOLID	L-1- METHYL-2-(3-PYRIDYL)-PYRROLIDINE SULFATE|L-3-(1-METHYL-2-PYRROLIDYL)PYRIDINE SULFATE|NEUTRAL NICOTINE SULFATE|NICOTINE SULFATE|NICOTINE SULFATE, SOLID|NICOTINE SULFATE, [SOLID]|NICOTINE SULPHATE, SOLID|NICOTINE, SULFATE|NICOTINE, SULFATE (2:1)|NICOTINE, SULFATE(2:1)|PYRIDINE, 3-(1-METHYL-2-PYRROLIDINYL)-, (S)-, SULFATE (2:1)|PYRIDINE, 3-(1-METHYL 2-PYRROLIDINYL)-,(S)-, SULFATE(2:1)|PYRROLIDINE, 1-METHYL-2-(3-PYRIDYL)-, SULFATE|(S)-3-(1-METHYL-2-PYRROLIDINYL)PYRIDINE SULFATE(2:1)	65-30-5	A white solid. The sulfate salt of nicotine, an alkaloid obtained from tobacco. Toxic by ingestion or skin contact.	1.0	2.5	5.0	5262.0	526.0	1791.0	943.0	562.0	1669.0	170.0	571.0	321.0	169.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3669	NICOTINE SULFATE, SOLUTION	NICOTINE SULFATE, SOLUTION|NICOTINE SULFATE, [LIQUID]|NICOTINE SULPHATE, SOLUTION	65-30-5	An clear colorless aqueous solution. Toxic by inhalation and may be toxic by skin absorption. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	5263.0	526.0	1792.0	943.0	562.0	1670.0	170.0	572.0	321.0	169.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3670	NITHIAZIDE	BA 32476|1-ETHYL-3-(5-NITRO-2-THIAZOLYL) UREA|HEPZIDE|HEPZIDE 30|N-ETHYL-N'-(5-NITRO-2-THIAZOLYL)UREA|NCI-C03792|NITHIAZID|NITHIAZIDE|UREA, 1-ETHYL-3-(5-NITRO-2-THIAZOLYL)-|UREA, N-ETHYL-N'-(5-NITRO-2-THIAZOLYL)-	139-94-6	PHYSICAL DESCRIPTION: Crystals or brown powder. (NTP, 1992)	1.0	2.5	5.0	5263.0	526.0	1792.0	943.0	562.0	1670.0	170.0	572.0	321.0	169.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3671	NITRITES, INORGANIC, N.O.S.	NITRITE|NITRITE (NO2-)|NITRITE ANION|NITRITE ION|NITRITE ION (NO2-)|NITRITE ION(1-)|NITRITE(1-)|NITRITES, INORGANIC, N.O.S.|NITROGEN DIOXIDE ION(1-)|NITROGEN DIOXIDE(1-)|NITROGEN PEROXIDE ION(1-)|NITROUS ACID, ION(1-)	14797-65-0	Colorless solutions or crystalline solids. Denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5263.0	526.0	1792.0	943.0	562.0	1670.0	170.0	572.0	321.0	169.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3672	NITROCYCLOHEXANE	CYCLOHEXANE, NITRO-|NITROCYCLOHEXANE	1122-60-7	Colorless liquid. (EPA, 1998)	2.5	5.0	2.5	5263.0	526.0	1792.0	943.0	562.0	1670.0	170.0	572.0	321.0	169.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3668	NICOTINE SULFATE, SOLID	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NIOSH, 2003)	(Decomposes)	1112	
3669	NICOTINE SULFATE, SOLUTION	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water and denser than water.	Halogenated aliphatic compounds, such as 1-BROMO-3-METHYLBUTANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low-molecular-weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Gives toxic fumes of bromine when burned.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																															
3670	NITHIAZIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DISOPHENOL is a halogenated and nitrated phenol. Reacts as a weak acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. May generate heat with bases.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													(NTP, 1992)			306 to 309
3671	NITRITES, INORGANIC, N.O.S.	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																													(NTP, 1992)	(decomposes with color change at approximately 500Â° F)		greater than 572
3672	NITROCYCLOHEXANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Behaves as a weak acid in solution.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													(EPA, 1998)			365 to 369

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3668	NICOTINE SULFATE, SOLID	(NIOSH, 2003)	(approx)	0				mm Hg													(NIOSH, 2003)	Decomposes					(NIOSH, 2003)	Varies			(NIOSH, 2003)	; A potential human carcinogen.			(NIOSH, 2003)	Insoluble					Class 9	Fe5H2Na2O24Si8		4.0	0.0	4.0	1.0	1.0
3669	NICOTINE SULFATE, SOLUTION																																									Flammable Liquid	C5H11Br		4.0	0.0	4.0	1.0	1.0
3670	NITHIAZIDE																										(NTP, 1992)		390.9						(NTP, 1992)	at 61Â° F		less than 1	mg/mL		Poison	C6H3I2NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3671	NITRITES, INORGANIC, N.O.S.																										(NTP, 1992)		331.34						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C20H13NO4	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3672	NITROCYCLOHEXANE																										(EPA, 1998)		413.52												Poison	C15H21N3O2.C7H6O3		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3673	NITROFEN	BENZENE, 2,4-DICHLORO-1-(4-NITROPHENOXY)-|2,4-DICHLORO-1-(4-NITROPHENOXY)BENZENE|2,4-DICHLORO-4'-NITRODIPHENYL ETHER|2',4'-DICHLORO-4-NITROBIPHENYL ETHER|2',4-DICHLORO-4-NITRODIPHENYL ETHER|4-(2,4-DICHLOROPHENOXY)NITROBENZENE|2,4-DICHLOROPHENYL 4-NITROPHENYL ETHER|2,4-DICHLOROPHENYL P-NITROPHENYL ETHER|ETHER, 2,4-DICHLOROPHENYL P-NITROPHENYL|FW 925|MEZOTOX|NCI-C00420|NCLOFEN|NIP|NITOFEN|NITRAFEN|NITRAPHEN|4-NITRO-2',4'-DICHLOROPHENYL ETHER|4'NITRO-2,4-DICHLORODIPHENYL ETHER|NITROCHLOR|NITROFEN|NITROFEN	1836-75-5	PHYSICAL DESCRIPTION: Colorless crystals or black solid. Used as a pre- or post-emergence herbicide.	1.0	2.5	5.0	5264.0	526.0	1793.0	945.0	562.0	1671.0	170.0	573.0	323.0	169.0	Seek medical attention. INHALATION: maintain respiration and administer oxygen. ASPIRATION: enforce bed rest and administer oxygen. INGESTION: do NOT induce vomiting; lavage carefully if appreciable quantity was swallowed; guard against aspiration into lungs. EYES: wash with plenty of water. SKIN: remove by wiping and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Foam, carbon dioxide, dry chemical (USCG, 1999)
3674	NITROGEN MUSTARD HYDROCHLORIDE	(BLOB)	55-86-7	PHYSICAL DESCRIPTION: White to off-white crystals or powder with a fishy odor. Initial pH (2% aqueous solution) 3.0-4.0. (NTP, 1992)	1.0	2.5	5.0	5265.0	526.0	1793.0	945.0	562.0	1672.0	170.0	573.0	323.0	169.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3675	NITROGEN TRIOXIDE	DINITROGEN TRIOXIDE|NITROGEN SESQUIOXIDE|NITROGEN TRIOXIDE|NITROGEN TRIOXIDE (N2O3)|NITROGEN TRIOXIDE (NITROGEN OXIDES)|NITROUS ANHYDRIDE	10544-73-7	A blue liquid with a sharp, unpleasant chemical odor. Density 1.447 g / cm3. Low-boiling (boiling point 3.5Â°C) and held as a liquid by compression. Partially dissociates into NO and NO2. Strong irritant to skin, eyes and mucous membranes. Vapors very toxic by inhalation. Used in special purpose fuels. Under prolonged exposure to intense heat the container may rupture violently and rocket.	2.5	5.0	2.5	5266.0	527.0	1793.0	945.0	563.0	1673.0	171.0	573.0	323.0	170.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3676	NITROPHENOLS	MONONITROPHENOL|NITROPHENOL|NITROPHENOL (MIXED ISOMERS)|NITROPHENOLS	25154-55-6	A yellow crystalline solid consisting of a mixture of chemically similar isomers. Slightly soluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is combustible though it may take some effort to ignite. Burns to give toxic oxides of nitrogen. Used in the manufacture of other chemicals.	1.0	2.5	5.0	5266.0	527.0	1793.0	945.0	563.0	1673.0	171.0	573.0	323.0	170.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of oxides of sulfur and nitrogen. (EPA, 1998)	(Non-Specific -- Dithiocarbamate Pesticide, Solid, n.o.s.) Wear boots, protective gloves, goggles and self-contained breathing apparatus. (Non-Specific -- Dithiocarbamate Pesticide, Solid, n.o.s.) Extinguish fire using agent suitable for type of surrounding fire. (Material itself does not burn or burns with difficulty.) Use water in flooding quantities as fog. Use alcohol foam, carbon dioxide or dry chemical. (EPA, 1998)
3677	NITROPYRENES	1,6-DINITROPYRENE|1,8-DINITROPYRENE|1-NITROPYRENE|3-NITROPYRENE|4-NITROPYRENE|NITROPYRENES|PYRENE, 1,6-DINITRO|PYRENE, 1-NITRO-	5522-43-0	Yellow needles or prisms (from ethanol). (NTP, 1992) Nitropyrenes are dark crystalline compounds generated by combustion of highly aromatic fuels such as diesel fuel. They are thought to be carcinogens. 4-Nitropyrene is used as a research chemical. In the past, it was found in some carbon black samples that were used in photocopy machines. 1,6 and 1,8- Dinitropyrenes has been associated with the combustion of diesel fuel and therefore has been associated with such occupational settings as iver vessel (workplace), ship's engine (source of diesel exhaust); Army driving lessons, armored cars; flower auction, trucks; farming, tractor; gardening, passing traffic; airport platform, platform vehicles; concrete manufacturing, chemical plant, fork lift trucks; aluminum rolling, and galvanizing workshop, fork-lift trucks; grass verge maintenance, lawn mowers; and a river vessel, ships aggregate.	1.0	2.5	5.0	5266.0	527.0	1793.0	945.0	563.0	1673.0	171.0	573.0	323.0	170.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3678	NITROSYL CHLORIDE	CHLORINE NITRIDE OXIDE (CLNO)|NITROGEN OXIDE CHLORIDE (NOCL)|NITROGEN OXYCHLORIDE|NITROGEN OXYCHLORIDE (NOCL)|NITROSOCHLORIDE|NITROSONIUM CHLORIDE|NITROSYL CHLORIDE	2696-92-6	A yellow to yellowish red gas. Liquefies at -5.5Â°C. Very toxic by inhalation. Noncombustible, but accelerates burning of combustible material. Decomposed by water to form corrosive hydrochloric acid. Vapors heavier than air. Prolonged exposure to fire or heat can cause containers to rupture violently and rocket .	5.0	1.0	1.0	5266.0	527.0	1793.0	945.0	564.0	1673.0	171.0	573.0	323.0	171.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorides. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3673	NITROFEN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, which are contained in DISTILLATES, [STRAIGHT RUN], may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water. May be ignited by strong oxidizers.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	(a) <0Â° F (cc); (b) 0Â°-73Â°F (cc); (c) 73Â°-141Â°F (cc)			(USCG, 1999)		1.1		%	(USCG, 1999)		8.7		%								
3674	NITROGEN MUSTARD HYDROCHLORIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as DISULFOTON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3675	NITROGEN TRIOXIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Flammable. Water soluble.	PICRIC ACID, [DRY] undergoes vigorous reactions with both oxidizing or reducing agents. Apt to explode when shocked or exposed to heat. Very unstable. Readily forms salts on contact with many metals (including copper, lead, mercury, zinc, nickel, iron) that are more sensitive explosives than picric acid itself when subjected to heat, friction, or impact. Contact with concrete floors may form the friction-sensitive calcium picrate [Urbanski, 1964, vol. 1, p. 518]. Contact with metallic zinc or lead can cause detonation. Salts with ammonia, amines and complexes with hydrocarbons are less sensitive [Kirk-Othmer, 1965, vol. 8, p. 617]. Sufficiently pure samples of picric acid have the same order of stability as TNT [Chem. Eng. News, 1979, 57(41), p. 51]. Impure samples are less stable. Mixtures with aluminum and water will ignite after a delay period [Hajek, V. et al., Research, 1951, 4, p. 186].	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)		(NFPA, 2010)		3	4	4	8		(NIOSH, 2003)		302												(NIOSH, 2003)		252	
3676	NITROPHENOLS	(Non-Specific -- Dithiocarbamate Pesticide, Solid, n.o.s.) Keep sparks, flames and other sources of ignition away. Keep material out of water sources and sewers. Avoid breathing dusts and fumes from burning material. Keep upwind; avoid bodily contact with the material. Do not handle broken packages without protective equipment. Wash away any material which may have contacted the body with copious amounts of water or soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	pH of the saturated aqueous solution is 5.8.	DITHIOBIURET is a thioamide, which may behave as a weak acid in solution and therefore will react with base foeming salts with production of heat. It may react with acids and reducing agents to form toxic hydrogen sulfide gas. This may be vigorous depending on the nature of the reducing agent. Organic amides/imides react with azo and diazo compounds to generate toxic gases. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)	decomposes	358	
3677	NITROPYRENES	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BACLOFEN is an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		372 to 376	
3678	NITROSYL CHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	TRIMETHYLTIN CHLORIDE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		99	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3673	NITROFEN														(USCG, 1999)		0.731		60.8		(USCG, 1999)			58 to 275	760															DSR	Flammable Liquid			3.0	0.0	5.0	1.0	1.0
3674	NITROGEN MUSTARD HYDROCHLORIDE																																								Poison	C8H19O2PS3		3.0	0.0	3.0	1.0	1.0
3675	NITROGEN TRIOXIDE	(NIOSH, 2003)		1		383		mm Hg							(NIOSH, 2003)		1.76				(NIOSH, 2003)	Explodes above 572Â° F					(NIOSH, 2003)		229.1		(NIOSH, 2003)		75	mg/m3	(NIOSH, 2003)		1		%		Explosive 1.1D	C6H3N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	2.0	1.0	1.0
3676	NITROPHENOLS														(EPA, 1998)		1.522		86								(EPA, 1998)		135.22											Poison	C2H5N3S2		1.0	0.0	1.0	1.0	1.0
3677	NITROPYRENES																										(NTP, 1992)		213.67						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C10H12ClNO2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0
3678	NITROSYL CHLORIDE																										(EPA, 1998)		199.26											Poison	C3H9ClSn		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3679	NITROUREA	N-NITROCARBAMIDE|N-NITROUREA|NITROUREA|1-NITROUREA	556-89-8	A colorless to white crystalline powder solid. Mildly sensitive to heat and shock. An extremely powerful explosive. Decomposes to emit toxic nitrogen oxide fumes. May explode under exposure to intense heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5266.0	527.0	1793.0	945.0	564.0	1673.0	171.0	573.0	323.0	171.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)
3680	N-METHYLBUTYLAMINE	BUTYLAMINE, N-METHYL-|BUTYLMETHYLAMINE|METHYLAMINOBUTANE|METHYLBUTYLAMINE|N-BUTYL-N-METHYLAMINE|N-BUTYLMETHYLAMINE|N-METHYL-N-BUTYLAMINE|N-METHYLBUTANAMINE|N-METHYLBUTYLAMINE	110-68-9	A water-white liquid with an ammonia-like odor. Density 0.736 g / cm3 and flash point 35Â°F (Aldrich). Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5266.0	528.0	1793.0	947.0	564.0	1673.0	172.0	573.0	325.0	171.0	INHALATION: remove victim to fresh air, call a doctor, administer artificial respiration and oxygen if required. INGESTION: Do not induce vomiting. If vomiting occurs spontaneously, keep victim's head below his hips to prevent his breathing vomitus into his lungs; call a doctor. EYES: Flush with water for at least 15 min. SKIN: Wipe off, wash with soap and water. (USCG, 1999)	Behavior in Fire: Forms heavy black smoke and soot. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3681	N-METHYLCARBAMIC ACID, ETHYL ESTER	ETHYL METHYLAMINOFORMATE|ETHYL METHYLCARBAMATE|ETHYL N-METHYLCARBAMATE|ETHYL-N-METHYL CARBAMATE|METHYL URETHANE|METHYLURETHANE|N-METHYL URETHAN|N-METHYLCARBAMIC ACID, ETHYL ESTER|N-METHYLURETHAN|N-METHYLURETHANE	105-40-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5267.0	528.0	1793.0	947.0	564.0	1674.0	172.0	573.0	325.0	171.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3682	N-METHYLTAURINE	B-METHYLAMINOETHANE-A-SULFONIC ACID|BETA-METHYLAMINOETHANE-ALPHA-SULFONIC ACID|2(METHYLAMINO)ETHANESULFONIC ACID|2-(METHYLAMINO)ETHANESULFONIC ACID|2-METHYLAMINOETHANESULFONIC ACID|METHYLTAURINE|MONOMETHYLTAURINE|2-(N-METHYL)ETHANESULFONIC ACID|N-METHYLTAURINE|TAURINE, N-METHYL-	107-68-6	PHYSICAL DESCRIPTION: Yellowish-white powder. (NTP, 1992)	1.0	2.5	5.0	5268.0	528.0	1793.0	947.0	564.0	1675.0	172.0	573.0	325.0	171.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3683	N-NITROSODIAMYLAMINE	DI-N-AMYLNITROSOAMINE|DI-N-PENTYLNITROSAMINE|DIAMYLNITROSAMINE|DIPENTYLAMINE, N-NITROSO-|DIPENTYLNITROSAMINE|DIPENTYLNITROSOAMINE|N,N-DIPENTYLNITROSAMINE|N-NITROSODI-N-AMYLAMINE|N-NITROSODI-N-PENTYLAMINE|N-NITROSODIAMYLAMINE|N-NITROSODIPENTYLAMINE|NCI-C02700	13256-06-9	PHYSICAL DESCRIPTION: Clear light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5269.0	528.0	1793.0	947.0	564.0	1676.0	172.0	573.0	325.0	171.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3679	NITROUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in an explosion-proof refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	(BLOB)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		52		(NTP, 1992)		2.4		%	(NTP, 1992)		8		%	(USCG, 1999)		896		(NTP, 1992)		77.9	
3680	N-METHYLBUTYLAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic canister or air-supplied mask; goggles or face shield; rubber gloves. (USCG, 1999)	Flammable. Insoluble in water.	PINE OIL has a high content of various alcohols. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(USCG, 1999)		less than 50
3681	N-METHYLCARBAMIC ACID, ETHYL ESTER	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Absorbs water and carbon dioxide from air. Soluble in water.	PIPERAZINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Absorbs carbon dioxide from the air, which can cause dry crystals to seem to melt. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. This compound is sensitive to light; it absorbs water and carbon dioxide from air. This compound may be corrosive to aluminum, magnesium and zinc. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		190														(NTP, 1992)		223	
3682	N-METHYLTAURINE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	BARIUM BROMATE is an oxidizing agent. May react violently with combustibles and reducing agents such as textiles, oil, fat, sugar, sawdust, ammonium salts, sulfur, carbon, phosphorus, metal powders and sulfides. A combination of finely divided aluminum with finely divided barium bromate can explode by heat, percussion, or friction [Mellor 2:310 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
3683	N-NITROSODIAMYLAMINE		(BLOB)	No rapid reaction with air No rapid reaction with water Water-soluble	This compound is incompatible with the following: Water, HEAT, flames, oxidizers. It absorbs moisture from air. It may create flammable condition upon contact with HEAT, FLAMES and OXIDIZERS.					0																			(NIOSH, 2003)		635	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3679	NITROUREA	(NTP, 1992)	; 42 mm Hg at 77Â° F; 56 mm Hg at 86Â° F	31		68		mm Hg	(NTP, 1992)		2.55				(USCG, 1999)		0.78		78.8		(NTP, 1992)		180		760		(NTP, 1992)		74.14		(NIOSH, 2003)		1600	ppm	(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	BAT	Flammable Liquid	C4H10O	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3680	N-METHYLBUTYLAMINE								(USCG, 1999)		0.95				(USCG, 1999)						(USCG, 1999)			greater than 400	760		(USCG, 1999)	alpha terpenol primary component	154.25										OPI	Flammable Liquid		Cellulose-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3681	N-METHYLCARBAMIC ACID, ETHYL ESTER								(NTP, 1992)		3				(NTP, 1992)		1.1		68		(NTP, 1992)		295		760		(NTP, 1992)		86.16						(NTP, 1992)	Very soluble				Corrosive	C4H10N2		Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0
3682	N-METHYLTAURINE																																							Oxidizer|Poison	Ba(BrO3)2		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3683	N-NITROSODIAMYLAMINE																											(NIOSH, 2003)		159.1						(NIOSH, 2003)		41		%			C4H10N2 = 2HCl		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3684	N-NITROSODIETHANOLAMINE	BIS(BETA-HYDROXYETHYL)NITROSAMINE|DIETHANOLNITROSAMINE|DIETHANOLNITROSOAMINE|2,2'-DIHYDROXY-N-NITROSODIETHYLAMINE|ETHANOL, 2,2'-NITROSIMINODI|2,2'-IMINODI-N-NITROSOETHANOL|N,N-DIETHANOLNITROSAMINE|N-NITROSOAMINODIETHANOL|N-NITROSOBIS(2-HYDROXYETHYL)AMINE|N-NITROSODIETHANOLAMINE|N-NITROSOIMINODIETHANOL|NCI-C55583|NDELA|NITROSODIETHANOLAMINE|NITROSOIMINO DIETHANOL|2,2'-(NITROSOIMINO)BISETHANOL	1116-54-7	PHYSICAL DESCRIPTION: Yellow to dark brown very viscous liquid with no distinct odor. (NTP, 1992)	2.5	5.0	2.5	5269.0	528.0	1793.0	947.0	564.0	1676.0	172.0	573.0	325.0	171.0	(BLOB)	Piperidine evolves explosive concentrations of vapor at normal room temperatures. When heated to decomposition, it emits highly toxic fumes of nitrogen oxides. Dangerous, when exposed to heat, flame, or oxidizers. Avoid 1-Perchlorylpiperidine and oxidizing materials. Piperidine is a reactive compound and forms complexes with the salts of heavy metals. It evolves explosive concentrations of vapor at normal room temperatures. Keep away from igniting sources and heat. (EPA, 1998)	Keep unnecesary people away; isolate hazard area and deny entry. Stay upwind; keep out of low area. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: dry chemical, carbon dioxide, water spray, or alcohol foam. Large fires: water spray, fog, or alcohol foam. Move container from fire area if you can do it without risk. Do not get water inside container. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
3685	N-NITROSODIETHYLAMINE	DANA|DEN|DEN (MUTAGEN)|DENA|DIETHYLAMINE, N-NITROSO-|DIETHYLNITROSAMIDE|DIETHYLNITROSAMINE|DIETHYLNITROSOAMINE|N,N-DIETHYLNITROSAMINE|N,N-DIETHYLNITROSOAMINE|N-ETHYL-N-NITROSOETHANAMINE|N-NITROSO-N,N-DIETHYLAMINE|N-NITROSODIETHYLAMINE|NDEA|NITROSODIETHYLAMINE|NITROUS DIETHYLAMIDE	55-18-5	Clear slightly yellow liquid. Boiling point 175-177Â°C. Can reasonably be anticipated to be a carcinogen. Used as a gasoline and lubricant additive and as an antioxidant and stabilizer in plastics.	2.5	5.0	2.5	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	Call a physican. INGESTION: Dilute with water or milk and remove by gastric lavage. To relieve irritation administer demulcents. (USCG, 1999)	Behavior in Fire: Could decompose to liberate CO 2 (USCG, 1999)	
3686	N-NITROSODIMETHYLAMINE	DIMETHYL NITROSAMINE|DIMETHYLAMINE, N-NITROSO-|DIMETHYLNITROSAMINE|DIMETHYLNITROSOAMINE|DMN|DMNA|METHANAMINE, N-METHYL-N-NITROSO-|N,N-DIMETHYLNITROSAMINE|N-METHYL-N-NITROSOMETHANAMINE|N-NITROSO-N,N-DIMETHYLAMINE|N-NITROSODIMETHYLAMINE|NITROSODIMETHYLAMINE	62-75-9	Yellow oily liquid with a faint characteristic odor. Boiling point 151-153Â°C. Can reasonably be expected to be a carcinogen. Used as an antioxidant, as an additive for lubricams and as a softener of copolymers. An intermediate in 1,1-dimethylhydrazine production.	2.5	5.0	2.5	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
3687	N-NITROSODI-N-BUTYLAMINE	N-NITROSODI-N-BUTYLAMINE	924-16-3	Pale yellow liquid.	2.5	5.0	2.5	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical,carbon dioxide or Halon extinguisher. (NTP, 1992)
3688	N-NITROSODI-N-PROPYLAMINE	DI-N-PROPYLNITROSAMINE|DIPROPYL NITROSAMINE|DIPROPYLAMINE, N-NITROSO-|DIPROPYLNITROSAMINE|DPN|DPNA|N,N-DIPROPYLNITROSAMINE|N-NITROSO-N-DI-N-PROPYLAMINE|N-NITROSO-N-DIPROPYLAMINE|N-NITROSO-N-PROPYL-1-PROPANAMINE|N-NITROSODI-N-PROPYLAMINE|N-NITROSODIPROPYLAMINE|NDPA|NITROUS DIPROPYLAMIDE	621-64-7	Clear to pale yellow liquid.	2.5	5.0	2.5	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3689	N-NITROSOMORPHOLINE	MORPHOLINE, 4-NITROSO-|MORPHOLINE, N-NITROSO-|N-NITROSOMORPHOLINE|4-NITOSOMORPHOLINE|NITROSOMORPHOLINE|4-NITROSOMORPHOLINE|NMOR	59-89-2	PHYSICAL DESCRIPTION: Yellow crystals. Golden liquid with many crystals at 68Â°F. (NTP, 1992)	1.0	2.5	5.0	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	Special Hazards of Combustion Products: Contain toxic thallium fumes. Behavior in Fire: Decomposes to produce toxic thallium fumes. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3684	N-NITROSODIETHANOLAMINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Miscible in water.	PIPERIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(EPA, 1998)			37.4 to 61													(EPA, 1998)					16 to 19
3685	N-NITROSODIETHYLAMINE			Insoluble in water.	ZINC CARBONATE reacts with acids to generate carbon dioxide and a zinc-containing solution. Dissolves in bases and in solutions of ammonium salts.							0																	(USCG, 1999)	Not flammable			(USCG, 1999)	Loses CO2 at 572Â° F = 300Â° F = 573.2Â° F		
3686	N-NITROSODIMETHYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	PIPERONAL is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation. This compound is sensitive to light. This compound may react with oxidizing materials. (NTP, 1992)							0																			(NTP, 1992)		99	
3687	N-NITROSODI-N-BUTYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PIPERONYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.							0		(NTP, 1992)			greater than 200																
3688	N-NITROSODI-N-PROPYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do no reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PIPERONYL ACETONE is a ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.							0		(NTP, 1992)			greater than 200																
3689	N-NITROSOMORPHOLINE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Water soluble.	THALLIUM NITRATE is an oxidizing agent. May start a fire when in contact with organic materials. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick, 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																			(NTP, 1992)		403	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3684	N-NITROSODIETHANOLAMINE	(EPA, 1998)		40		84.56		mm Hg	(EPA, 1998)		3				(EPA, 1998)		0.8622		68		(EPA, 1998)		223		760		(EPA, 1998)		85.15						(NTP, 1992)	Miscible					Corrosive/Flammable Liquid	C5H11N	Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3685	N-NITROSODIETHYLAMINE														(USCG, 1999)		4.398		68								(USCG, 1999)		125.4												ZCB		ZnCO3		5.0	0.0	5.0	1.0	1.0
3686	N-NITROSODIMETHYLAMINE	(NTP, 1992)		1		189		mm Hg													(NTP, 1992)		505		760		(NTP, 1992)		150.14						(NTP, 1992)	Slightly soluble						C8H6O3	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3687	N-NITROSODI-N-BUTYLAMINE																				(NTP, 1992)		194.19				(NTP, 1992)		194.19						(NTP, 1992)	Insoluble (<1 mg/ml)						C10H10O4		2.0	0.0	2.0	1.0	1.0
3688	N-NITROSODI-N-PROPYLAMINE																				(NTP, 1992)		192.23				(NTP, 1992)		192.23						(NTP, 1992)	Insoluble (<1 mg/ml)						C11H10O3	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3689	N-NITROSOMORPHOLINE														(USCG, 1999)		5.556		69.8		(NTP, 1992)		806		760		(NTP, 1992)		266.38		(NIOSH, 2003)	(as TI)	15	mg/m3						TNI	Poison|Oxidizer	TINO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3690	N-NITROSO-N-ETHYLANILINE	ANILINE, N-ETHYL-N-NITROSO-|N-ETHYL-N-NITROSOANILINE|N-ETHYL-N-PHENYLNITROSAMINE|N-NITROSO-N-ETHYLANILINE|N-NITROSOETHYLPHENYLAMINE|NEA|NITROSOETHYLANILINE	612-64-6	PHYSICAL DESCRIPTION: Clear amber or yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3691	N-NITROSO-N-ETHYLUREA	ENU|1-ETHYL-1-NITROSOUREA|ETHYLNITROSOUREA|N-ETHYL-N-NITROSOCARBAMIDE|N-ETHYL-N-NITROSOUREA|N-ETHYLNITROSOUREA|N-NITROSO-N-ETHYLUREA|NEU|NITROSOETHYLUREA|NSC 45403|UREA, 1-ETHYL-1-NITROSO-	759-73-9	PHYSICAL DESCRIPTION: Yellow-pink crystals or off-white powder. Sensitive to light.	1.0	2.5	5.0	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapor when heated. (USCG, 1999)	Fire Extinguishing Agents: Water spray, alcohol foam, carbon dioxide or dry chemical. (USCG, 1999)
3692	N-NITROSO-N-METHYLURETHANE	N-NITROSO-N-METHYLURETHANE	615-53-2	Solid.	1.0	2.5	5.0	5270.0	528.0	1793.0	947.0	564.0	1677.0	172.0	573.0	325.0	171.0	Rapid oral administration of a soluble sulfate in water, such as magnesium or sodium sulfate (2 oz), alum (4 gm), or very dilute sulfuric acid (30 ml of a 10% solution diluted to 1 qt). These agents precipitate barium as the insoluble sulfate. Gastric lavage or induced emesis. Seek medical attention. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3693	N-NITROSONORNICOTINE	ANTI-N'-NITROSONORNICOTINE|N'-NITROSONORNICOTINE|N-NITROSONORNICOTINE|NICOTINE, 1'-DEMETHYL-1'-NITROSO-|NICOTINE, 1'-NITROSO-1'-DEMETHYL-|'NITROSO-1'-DEMETHYLNICOTINE|1-NITROSO-2-(3-PYRIDYL)PYRROLIDINE|3-(1-NITROSO-2-PYRROLIDINYL)PYRIDINE|NITROSONORNICOTINE|'-NITROSONORNICOTINE|NNN|NORNICOTINE, N-NITROSO-|PYRIDINE, 3-(1-NITROSO-2-PYRROLIDINYL)-, (S)-|SYN-N'-NITROSONORNICOTINE	16543-55-8	PHYSICAL DESCRIPTION: White crystalline flakes or yellow oil that solidifies on standing in the cold. (NTP, 1992)	1.0	2.5	5.0	5271.0	528.0	1793.0	947.0	564.0	1678.0	172.0	573.0	325.0	171.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Highly toxic fumes are imminent Behavior in Fire: Decomposes at 180Â° to 190Â°C (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3694	N-NITROSOPIPERIDINE	N-N-PIP|N-NITROSOPIPERIDINE|NITROSOPIPERIDIN|1-NITROSOPIPERIDINE|NO-PIP|NPIP|PIPERIDINE,1-NITROSO-|PYRIDINE,HEXAHYDRO-N-NITROSO	100-75-4	PHYSICAL DESCRIPTION: Light yellow oil or liquid. May be a carcinogen.	2.5	5.0	2.5	5271.0	528.0	1793.0	947.0	564.0	1678.0	172.0	573.0	325.0	171.0	(BLOB)	As with other organophosphorus pesticides, container may explode in heat of fire. Heat may cause decomposition and evolution of highly toxic fumes of phosphorus oxides, nitrogen oxides and sulfur oxides. Decomposes above 266F. (EPA, 1998)	Use procedures for organophosphorus pesticides. Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire-control water for later disposal; do not scatter the material. Like other organophosphorus pesticides, this material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
3695	N-NITROSOPYRROLIDINE	N-N-PYR|N-NITROSOPYRROLIDINE|1-NITROSOPYRROLIDINE|NO-PYR|NPYR|PYRROLIDINE, 1-NITROSO-	930-55-2	Yellow liquid found in certain food products and tobacco smoke. Probably a carcinogen.	2.5	5.0	2.5	5272.0	528.0	1794.0	947.0	564.0	1679.0	172.0	574.0	325.0	171.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3690	N-NITROSO-N-ETHYLANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PIPERONYL SULFOXIDE reacts violently with perchloric acid. (NTP, 1992). With strong reducing agents it will produce hydrogen sulfide.							0		(NTP, 1992)			greater than 200																	
3691	N-NITROSO-N-ETHYLUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a refrigerator. (NTP, 1992)	Self-contained breathing apparatus and full turn out gear (Fire resistant helmet with full neck and face covers, self-contained breathing apparatus, flame resistant coat and pants, pair of boots). (USCG, 1999)	Insoluble in water.	DITRIDECYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges [Handling Chemicals Safely, 1980. p. 250].			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		460												(USCG, 1999)			less than -34.6
3692	N-NITROSO-N-METHYLURETHANE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator (USCG, 1999)	It is insoluble in water and soluble in most acids, with the exception of sulfuric acid.	Salts, basic, such as BARIUM CARBONATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																(USCG, 1999)	Not flammable					
3693	N-NITROSONORNICOTINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Very slightly soluble in water.	DIURON is incompatible with the following: Strong acids (NIOSH, 1997).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																(USCG, 1999)		318.2	
3694	N-NITROSOPIPERIDINE	As with other organophosphorus pesticides, stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as PIRIMIFOS-ETHYL, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				
3695	N-NITROSOPYRROLIDINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed by strong acid or base.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3690	N-NITROSO-N-ETHYLANILINE														(NTP, 1992)			1.06 to 1.09	77								(NTP, 1992)		324.52						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL			C18H28O3S		4.0	0.0	4.0	1.0	1.0
3691	N-NITROSO-N-ETHYLUREA														(USCG, 1999)		0.951				(NTP, 1992)			greater than 545	5		(NTP, 1992)		530.84											DTP		C34H58O4		4.0	0.0	4.0	1.0	1.0
3692	N-NITROSO-N-METHYLURETHANE														(USCG, 1999)		4.3		68								(USCG, 1999)		197.35											BRC	Poison	BaCO3		3.0	0.0	3.0	1.0	1.0
3693	N-NITROSONORNICOTINE	(NIOSH, 2003)		2.00E-09				mm Hg													(USCG, 1999)			356 to 374	760		(USCG, 1999)		233.1						(NIOSH, 2003)		0.004		%	DIU	Class 9	C9H10Cl2N2O		2.0	0.0	2.0	1.0	1.0
3694	N-NITROSOPIPERIDINE	(EPA, 1998)		0.00029		77		mm Hg							(EPA, 1998)		1.14		68								(EPA, 1998)		333.43												Poison	C13H24N3O3PS	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3695	N-NITROSOPYRROLIDINE																																								Class 9	C11H20N3O3PS	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3696	N-NONADECANE	N-NONADECANE|NONADECANE	629-92-5	PHYSICAL DESCRIPTION: Wax. (NTP, 1992)	1.0	2.5	5.0	5272.0	528.0	1795.0	947.0	564.0	1679.0	172.0	575.0	325.0	171.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3697	N-OCTACOSANE	N-OCTACOSANE|OCTACOSANE	630-02-4	Waxy hydrocarbon, insoluble in water.	1.0	2.5	5.0	5272.0	528.0	1795.0	947.0	564.0	1679.0	172.0	575.0	325.0	171.0	Call a physician. INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. SKIN OR EYES: Remove contaminated clothing and shoes, flush affected area with lukewarm water. DO NOT USE HOT WATER. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3698	NONYLTRICHLOROSILANE	NONYLTRICHLOROSILANE|TRICHLORONONYLSILANE	5283-67-0	Nonyltrichlorosilane is a colorless liquid with a pungent odor. It is decomposed by water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	5273.0	528.0	1795.0	947.0	564.0	1680.0	172.0	575.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3699	NORFLURAZON	4-CHLORO-5-(METHYLAMINO)-2-[3-(TRIFLUOROMETHYL)PHENYL]-3(2H)-PYRIDAZINONE|NORFLURAZON	27314-13-2	Colorless odorless crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	5274.0	528.0	1795.0	947.0	564.0	1681.0	172.0	575.0	325.0	171.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably not flammable. (NTP, 1992)	Fires associated with this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3700	N-PENTACOSANE	N-PENTACOSANE	629-99-2	Constituent of many naturally occurring waxes. A colorless solid at ambient conditions.	1.0	2.5	5.0	5274.0	529.0	1795.0	947.0	564.0	1681.0	173.0	575.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3696	N-NONADECANE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	1-CHLORO-1,1-DIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																								
3697	N-OCTACOSANE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Approved respirator, chemical safety goggles, chemical resistant gloves, other protective clothing (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable			(USCG, 1999)		-179	
3698	NONYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			176 to 180
3699	NORFLURAZON	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Water soluble.	BARIUM CHLORIDE may react violently with BrF3 and 2-Furan percarboxylic acid in its anhydrous form. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	transition to cubic crystals at 1697Â° F		1764 to 1765
3700	N-PENTACOSANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	BARIUM CHLORIDE DIHYDRATE may react violently with BrF3 and 2-furan percarboxylic acid in its anhydrous form. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			1765

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chirls_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3696	N-NONADECANE																																								Flammable Gas	C19H42F2		3.0	0.0	3.0	1.0	1.0
3697	N-OCTACOSANE																				(USCG, 1999)		13.6		760		(USCG, 1999)		136.48											MTE	Non-Flammable Gas	C2HClF4		2.0	0.0	2.0	1.0	1.0
3698	NONYLTRICHLOROSILANE																				(NTP, 1992)		396		760		(NTP, 1992)		165.15												Poison	CBH7NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3699	NORFLURAZON	(NIOSH, 2003)	Low												(NTP, 1992)		3.856				(NTP, 1992)		2840		760		(NTP, 1992)		208.25		(NIOSH, 2003)	(as Ba)	50	mg/m3	(NIOSH, 2003)		38		%		Poison	BaCl2		5.0	0.0	5.0	1.0	1.0
3700	N-PENTACOSANE														(NTP, 1992)		3.097		75		(NTP, 1992)		2840		760		(NTP, 1992)		244.28		(NIOSH, 2003)	(as Ba)	50	mg/m3	(NIOSH, 2003)					greater than or equal to 100	mg/mL	Poison	BaCl2.2H2O		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3701	N-PHENYLHYDROXYLAMINE	BETA-PHENYLHYDROXYLAMINE|HYDROXYLAMINE, N-PHENYL-|HYDROXYLAMINOBENZENE|N-HYDROXYANILINE|N-HYDROXYBENZENAMINE|N-HYDROXYBENZENEAMINE|N-PHENYLHYDROXYLAMINE|NCI-C60099|PHENYLHYDROXYAMINE|PHENYLHYDROXYLAMINE	100-65-2	PHYSICAL DESCRIPTION: Tan to brown crystals. (NTP, 1992)	1.0	2.5	5.0	5275.0	529.0	1795.0	947.0	564.0	1682.0	173.0	575.0	325.0	171.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3702	N-PROPYL METHACRYLATE	METHACRYLIC ACID, PROPYL ESTER|2-METHYLPROPENOIC ACID, PROPYL ESTER|N-PROPYL METHACRYLATE|N-PROPYL-2-METHYL-2-PROPENOATE|PROPYL 2-METHYL-2-PROPENOATE|PROPYL METHACRYLATE	2210-28-8	PHYSICAL DESCRIPTION: Clear pale orange liquid. (NTP, 1992)	2.5	5.0	2.5	5275.0	529.0	1795.0	947.0	564.0	1682.0	173.0	575.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3703	N-TETRACOSANE	N-TETRACOSANE|TETRACOSANE	646-31-1	Crystalline waxy solid. Insoluble in water. Used in organic synthesis.	1.0	2.5	5.0	5276.0	529.0	1796.0	947.0	564.0	1683.0	173.0	576.0	325.0	171.0	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3704	N-TRIACONTANE	N-TRIACONTANE|TRIACONTANE	638-68-6	Aliphatic hydrocarbon waxy solid.	1.0	2.5	5.0	5277.0	530.0	1796.0	947.0	564.0	1684.0	174.0	576.0	325.0	171.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Yields toxic gaseous oxides of nitrogen when involved in fire. Behavior in Fire: Mixtures with combustible materials are readily ignited and may burn fiercely. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3705	N-UNDECYLBENZENE	N-UNDECYLBENZENE|1-PHENYLUNDECANE	6742-54-7	A colorless liquid with a mild odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5277.0	530.0	1796.0	947.0	564.0	1684.0	174.0	576.0	325.0	171.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3701	N-PHENYLHYDROXYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The amount of heat generated by hydrolysis may be large. Slightly soluble in water.	BARIUM HYDROXIDE MONOHYDRATE reacts similarly to sodium hydroxide (NaOH), but is less soluble in water. Neutralizes acids exothermically to form salts plus water. Can react with aluminum and zinc to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. Intimate mixtures with chlorinated rubber have when heated been explosive during the milling process [ABCM Quart. Safety Summ., 1963, 34, 12].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3702	N-PROPYL METHACRYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	POLY(2-HYDROXYPROPYL METHACRYLATE) will react as an ester. The reactivity of the ester group depends a great deal on the degree of polymerization. More highly polymerized material is also more inert to reaction. Read about ester reactive group in program literature.	Polymerizable						0																					(NTP, 1992)		430 to 433
3703	N-TETRACOSANE	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164].	Ethers, such as DIVINYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert. It is miscible with alcohol, acetone, chloroform and ether and must be protected from light [Hawley].	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6	(NFPA, 2010)		less than - 22																			
3704	N-TRIACONTANE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Soluble in water.	Mixtures of metal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures of nitrates with phosphorus, tin(II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)		1098	
3705	N-UNDECYLBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust explosion incidents have been reported. Insoluble in water.	POLYETHYLENE AS is stable to water, nonoxidizing acids and alkalis, alcohols, ethers, ketones and esters at ordinary temperatures. Decomposes under UV light, sunlight and at temperatures of 122Â° F or greater. Is attacked by oxidizing agents such as nitric and perchloric acids, free halogens, benzene, petroleum ether, gasoline and lubricating oils, aromatic and chlorinated hydrocarbons. (NTP, 1992)						0		(NTP, 1992)		430																	(NTP, 1992)		185 to 230

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3701	N-PHENYLHYDROXYLAMINE																																								Poison	Ba(OH)2.H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3702	N-PROPYL METHACRYLATE																																		(NTP, 1992)	at 73Â° F		less than 1	mg/mL			(C7H12O3)x	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3703	N-TETRACOSANE																																								Flammable Liquid	C4H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3704	N-TRIACONTANE	(NIOSH, 2003)	Low												(USCG, 1999)		3.24		73.4		(NIOSH, 2003)	Decomposes					(USCG, 1999)		261.35		(NIOSH, 2003)	(as Ba)	50	mg/m3	(NIOSH, 2003)		9		%	BNT	Oxidizer|Poison	Ba(NO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3705	N-UNDECYLBENZENE														(NTP, 1992)		0.92		68								(NTP, 1992)			100,000 to 500,000											(C2H4)x		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3706	O-CHLOROBENZYLIDENE MALONONITRILE	BETA,BETA-DICYANO-O-CHLOROSTYRENE|2-CHLORO BMN|2-CHLOROBENZALMALONITRILE|2-CHLOROBENZALMALONONITRILE|2-CHLOROBENZYLIDENE MALONONITRILE|2-CHLOROBENZYLIDENEMALONINITRILE|2-CHLOROBENZYLIDENEMALONONITRILE|2-CHLOROBMN|(2-CHLOROPHENYL)METHYLENE)PROPANEDINITRILE|CS|CS (LACRIMATOR)|CS GAS|CS|[LACRIMITOR]|MALONONITRILE, (O-CHLOROBENZYLIDENE)-|NCI-C55118|(O-CHLOROBENZAL)MALONONITRILE|O-CHLOROBENZYLIDENE MALONONITRILE|O-CHLOROBENZYLIDENE)MALONONITRILE|O-CHLOROBENZYLIDENEMALONIC NITRILE|OCBM|USAF	2698-41-1	PHYSICAL DESCRIPTION: White crystalline solid or light beige powder. Odor of pepper. (NTP, 1992)	1.0	2.5	5.0	5277.0	530.0	1796.0	947.0	564.0	1684.0	174.0	576.0	325.0	171.0	(BLOB)	Behavior in Fire: May explode in fire (USCG, 1999)	Fire Extinguishing Agents: Dry chemical, foam or carbon dioxide. (USCG, 1999)
3707	O-CHLOROSTYRENE	1-CHLORO-2-ETHENYLBENZENE|2-CHLOROETHENYLBENZENE|2-CHLOROPHENYLETHYLENE|2-CHLOROSTYRENE|2-CHLOROVINYLBENZENE|O-CHLOROETHENYLBENZENE|O-CHLOROPHENYLETHYLENE|O-CHLOROSTYRENE|O-CHLOROVINYLBENZENE|ORTHO-CHLOROSTYRENE|STYRENE, O-CHLORO-	2039-87-4	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5277.0	530.0	1796.0	947.0	564.0	1684.0	174.0	576.0	325.0	171.0	None required (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
3708	OCHRATOXIN B	ALANINE, N-((8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL)-3-PHENYL-, (-)-|ALANINE, N-[(8-HYDROXY-3-METHYL-1-OXO-7-ISOCHROMANYL)CARBONYL]-3-PHENYL-, L-|L-PHENYLALANINE, N-[(3,4-DIHYDRO-8-HYDROXY-3-METHYL-1-OXO-1H-2-BENZOPYRAN-7-YL)CARBONYL]-, (R)-|OCHRATOXIN B|(R)-N-[(3,4-DIHYDRO-8-HYDROXY-3-METHYL-1-OXO-1H-2-BENZOPYRAN-7-YL)CARBONYL]PHENYLALANINE	4825-86-9	PHYSICAL DESCRIPTION: Crystals that exhibit blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	5278.0	531.0	1796.0	947.0	564.0	1685.0	175.0	576.0	325.0	171.0	Get medical attention. Alert doctor to possibility of barium poisoning, particularly if compound was swallowed. INHALATION: remove to fresh air. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: oral administration of an aqueous 10% solution of magnesium or sodium sulfate; in a severe intoxication, calcium or a magnesium salt may have to be given I.V. with caution; treatment otherwise is supportive and symptomatic. (USCG, 1999)	Behavior in Fire: Can increase intensity of fire. (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3709	O-CRESIDINE	4-AMINO-2-METHOXYTOLUENE|4-AMINO-6-METHOXYTOLUENE|2-METHOXY-4-AMINOTOLUENE|3-METHOXY-4-METHYLANILINE|3-METHOXY-P-TOLUIDINE|4-METHYL-3-METHOXYANILINE|4-METHYL-M-ANISIDINE|O-CRESIDINE	16452-01-0	PHYSICAL DESCRIPTION: Brown chunky solid. (NTP, 1992)	1.0	2.5	5.0	5279.0	531.0	1796.0	947.0	564.0	1686.0	175.0	576.0	325.0	171.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3710	OCTACHLORODIBENZO-P-DIOXIN	DIBENZO-P-DIOXIN, OCTACHLORO-|NCI-C03678|OCDD|OCTACHLORODIBENZO|B,E|\(1,4\)DIOXIN|OCTACHLORODIBENZO-P-DIOXIN|1,2,3,4,6,7,8,9-OCTACHLORODIBENZO-P-DIOXIN|OCTACHLORODIBENZODIOXIN|1,2,3,4,6,7,8,9-OCTACHLORODIBENZODIOXIN|1,2,3,4,6,7,8,9-OCTACHLORODIBENZO[1,4]DIOXIN|OCTACHLORODIBENZO[B,E][1,4]DIOXIN	3268-87-9	PHYSICAL DESCRIPTION: Colorless crystals or white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5279.0	531.0	1796.0	947.0	564.0	1686.0	175.0	576.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3706	O-CHLOROBENZYLIDENE MALONONITRILE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Goggles, well-fitting gloves, barrier creams (USCG, 1999)	Water soluble.	Most alkyl monohydroperoxides, such as TERT-BUTYL HYDROPEROXIDE, are liquid. The explosivity of the lower members (e.g., methyl hydroperoxide or possibly traces of the dialkyl peroxides) decreasing with increasing chain length and branching, [Bretherick 2nd ed. 1979 p. 10]. Though relatively stable explosions have been caused by distillation to dryness [Milas, JACS, 1946 68 205] or attempted distillation at atmospheric pressure (Castrantas 1965 p 15). Very soluble in organic solvents and alkali metal hydroxide solutions. Combustible and a moderate fire risk [Hawley].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	4	8	Oxidizer	(NTP, 1992)		80															(NTP, 1992)		18	
3707	O-CHLOROSTYRENE		Filter respirator (USCG, 1999)	Insoluble in water.	POLYPROPYLENE reacts with chlorine, fuming nitric acid and other strong oxidizing agents.							0																									
3708	OCHRATOXIN B	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	U.S.B.M. -approved toxic dust respirator; liquid-proof PVC gloves; chemical safety goggles; full cover clothing. (USCG, 1999)	Decomposed by water. Insoluble in water.	BARIUM PEROXIDE is a strong oxidizing agent. Contact with water can produce a temperature and oxygen concentration high enough to ignite organic materials [Bretherick's, 5th ed., 1995, p. 94]. Reacts explosively with acetic anhydride due to the formation of acetyl peroxide [Rust, 1948, p. 337]. Ignites when mixed with powdered aluminum, powdered magnesium or calcium-silicon alloys. Wood may ignite with friction from the peroxide. Decomposes when heated to 700ÂºC to produce barium oxide and pure oxygen [Sax, 9th ed., 1996, p. 317]. Forms highly reactive mixtures with fuel-type materials.	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		842	
3709	O-CRESIDINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
3710	OCTACHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: This compound is a Schedule I DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		176 to 185	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3706	O-CHLOROBENZYLIDENE MALONONITRILE								(NTP, 1992)		2.07				(USCG, 1999)		0.88		77		(NTP, 1992)	(decomposes); 104Â° F at 23 mm Hg	192		760		(NTP, 1992)		90.12						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	BHP	Organic Peroxide	C4H10O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3707	O-CHLOROSTYRENE														(USCG, 1999)		0.9		68								(USCG, 1999)	Mixture												PLP		(C3H5)n		3.0	0.0	5.0	1.0	1.0
3708	OCHRATOXIN B														(USCG, 1999)		4.96		68								(USCG, 1999)		169.4											BPO	Oxidizer|Poison	BaO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3709	O-CRESIDINE																																								Poison	BaSeO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0
3710	OCTACHLORODIBENZO-P-DIOXIN																											(NTP, 1992)		323.78											Poison	C20H2SN3O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3711	OCTADECYLTRICHLOROSILANE	N-OCTADECYLTRICHLOROSILANE|OCTADECYLTRICHLOROSILANE|OTS|STEARYLTRICHLOROSILANE|TRICHLOROOCTADECYLSILANE	112-04-9	A colorless liquid with a pungent odor. Decomposed by water to hydrochloric acid with the evolution of heat. Corrosive to metals and tissue. Used to make various silicon containing compounds.	2.5	5.0	2.5	5279.0	531.0	1796.0	947.0	564.0	1686.0	175.0	576.0	325.0	171.0	(BLOB)	Flash point data for this material are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a carbon dioxide, dry chemical or Halon extinguisher. (NTP, 1992)
3712	OCTAFLUOROBUT-2-ENE	2-BUTENE, OCTAFLUORO-|FC 1318|OCTAFLUORO-2-BUTENE|OCTAFLUOROBUT-2-ENE|PERFLUORO-1-METHYLPROPENE|PERFLUORO-2-BUTENE|PERFLUOROBUTENE-2|R 1318MY|REFRIGERANT GAS R-1318	360-89-4	A colorless, nonflammable gas. May asphyxiate by the displacement of air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Used to make other chemicals.	5.0	1.0	1.0	5280.0	531.0	1796.0	947.0	564.0	1687.0	175.0	576.0	325.0	171.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
3713	OCTYL ACID PHOSPHATE	OCTYL ACID PHOSPHATE|OCTYL PHOSPHATE	39407-03-9	A corrosive liquid. About the same density as water and insoluble in water. Noncombustible. May severely irritate skin, eyes, and mucous membranes. Contact should be avoided.	2.5	5.0	2.5	5280.0	531.0	1796.0	947.0	564.0	1687.0	175.0	576.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3714	OCTYL PHENYL ACID PHOSPHATE (CORROSIVE LIQUIDS, N.O.S.)	OCTYL PHENYL ACID PHOSPHATE (CORROSIVE LIQUIDS, N.O.S.)|OCTYL PHENYL ACID PHOSPHATE, CONTAINS (CORROSIVE LIQUIDS, N.O.S.)	115-88-8	Octyl phenyl acid phosphate is a colorless liquid. It is corrosive to the skin, eyes, and mucous membranes.	2.5	5.0	2.5	5281.0	531.0	1796.0	947.0	564.0	1688.0	175.0	576.0	325.0	171.0	EYES: flush with water to remove dust. INGESTION: immediately induce evacuation of intestinal tract by inducing vomiting, giving gastric lavage and saline cathartic; see physician at once; consider possible development of arsenic poisoning. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3715	O-DINITROBENZENE	DINITROBENZENE (ORTHO)|1,2-DINITROBENZENE|1,2-DINITROBENZENE|O-DINITROBENZENE|O-DINITROBENZOL|ORTHO-DINITROBENZENE	528-29-0	Colorless to yellow solid. Sinks and slowly mixes with water. (USCG, 1999)	1.0	2.5	5.0	5281.0	531.0	1797.0	947.0	564.0	1688.0	175.0	577.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3716	OIL, [ROSIN]	CODOIL|OIL, [ROSIN]|OILS, MISCELLANEOUS: ROSIN|RESIN OIL|RETINOL|ROSINOL	8002-16-2	Light amber to red to black liquid with the odor of pine pitch. A mixture mostly of hydrocarbons. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5281.0	531.0	1797.0	947.0	564.0	1688.0	175.0	577.0	325.0	171.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3711	OCTADECYLTRICHLOROSILANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Its rate of decomposition in solution increases with an increase in pH. (NTP, 1992). Insoluble in water.	POLYTHIAZIDE is a sulfonamide derivative. With strong reducing agents will produce hydrogen sulfide gas.				0																						(NTP, 1992)		396.5	
3712	OCTAFLUOROBUT-2-ENE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Fumes in air. May ignite on contact with moist air. May ignite on contact with water.	TRI-N-BUTYLALUMINUM is a strong reducing agent. May react rapidly and dangerously with oxygen and other oxidizing agents, even weak ones. Thus likely to ignite on contact with alcohols. Incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Air-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
3713	OCTYL ACID PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Water soluble.	PONCEAU SX is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive					0																												
3714	OCTYL PHENYL ACID PHOSPHATE (CORROSIVE LIQUIDS, N.O.S.)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; rubber gloves (USCG, 1999)	Soluble in water.	Salts, basic, such as POTASSIUM ARSENATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
3715	O-DINITROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination cartridge (specific for organic vapors, HCl, acid gas and SO2) and a high efficiency particulate filter. (NTP, 1992)	Slightly soluble in water.	A mixture of esters and amines. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																												
3716	OIL, [ROSIN]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. Keep it away from oxidizing materials. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	POTASSIUM BROMIDE is not in generally strongly reactive. A weak reducing agent, incompatible with oxidizing agents. Also incompatible with salts of mercury and silver. Violent reactions occur with bromine trifluoride. May react with nitrous ether spirit, many alkaloidal salts and starch. May also react with acids (NTP, 1992). Reacts with concentrated sulfuric acid to generate fumes of hydrogen bromide.						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3711	OCTADECYLTRICHLOROSILANE																										(NTP, 1992)		439.9						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C11H13ClF3N3O4S3	Mineral-Based & Clay-Based Absorbents	2.0	0.0	5.0	1.0	1.0
3712	OCTAFLUOROBUT-2-ENE																																								Spontaneously Combustible|Dangerous When Wet	C12H27Al		3.0	0.0	4.0	1.0	1.0
3713	OCTYL ACID PHOSPHATE																										(NTP, 1992)		480.42						(NTP, 1992)	Soluble						C18H16N2O7S2.2Na		3.0	0.0	3.0	1.0	1.0
3714	OCTYL PHENYL ACID PHOSPHATE (CORROSIVE LIQUIDS, N.O.S.)														(USCG, 1999)		2.8		68								(USCG, 1999)		180		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						PAS	Poison	AsH3O4.K|AsH3O4.xK	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3715	O-DINITROBENZENE																										(NTP, 1992)		903.61						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL			C19H35NO2.C17H22N2O.C8H11NO3.C4H6O4.2ClH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3716	OIL, [ROSIN]	(NTP, 1992)		1		1463		mm Hg							(NTP, 1992)		2.75		77		(NTP, 1992)		2615		760		(NTP, 1992)		119.01						(NTP, 1992)	at 59Â° F		greater than or equal to 100	mg/mL			BrK		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3717	OILS, MISCELLANEOUS: SPERM	OILS, MISCELLANEOUS: SPERM	8002-24-2	Pale yellow oily liquid. Floats on water. Contains principally glycerides of oleic, palmetic, and palmitoleic acids.	2.5	5.0	2.5	5282.0	531.0	1797.0	947.0	564.0	1689.0	175.0	577.0	325.0	171.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3718	OILS: CLARIFIED	OILS: CLARIFIED	64741-62-4	Oily colorless liquid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5283.0	531.0	1797.0	947.0	564.0	1690.0	175.0	577.0	325.0	171.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3719	OLEIC ACID DIETHANOLAMINE CONDENSATE (1/1)	DIETHANOLAMINE OLEATE|DIETHANOLAMINE OLEATE (SALT)|DIETHANOLAMMONIUM OLEATE|ETHANOL, 2,2'-IMINOBIS-, (9Z)-9-OCTADECENOATE (SALT)|ETHANOL, 2,2'-IMINOBIS-, (Z)-9-OCTADECENOATE (SALT)|ETHANOL, 2,2'-IMINODI-, OLEATE (SALT)(2,2'-IMINOBISETHANOL (Z)-9-OCTADECENOATE (SALT)(2,2'-IMINODIETHANOL OLEATE (SALT)(NCI-C55334)|9-OCTADECENOIC ACID (Z)-, COMPOUND WITH 2,2'-IMINOBIS[ETHANOL] (1:1)|OLEIC ACID DIETHANOLAMINE (1:1)|OLEIC ACID DIETHANOLAMINE CONDENSATE (1/1)|OLEIC ACID DIETHANOLAMINE SALT|OLEIC ACID, 2,2'-IMINODIETHANOL	13961-86-9	PHYSICAL DESCRIPTION: Clear golden-brown viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5284.0	531.0	1797.0	947.0	564.0	1691.0	175.0	577.0	325.0	171.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3720	O-METHYLCYCLOHEXANONE	METHYL CYCLOHEXANONE|METHYL CYCLOHEXAN-1-ONE|METHYLCYCLOHEXANONE|2-METHYLCYCLOHEXANONE|O-METHYLCYCLOHEXANONE	583-60-8	A water-white to pale yellow liquid with an acetone-like odor. Less dense than water. Vapors heavier than air. Flash point near 135Â°F. May be toxic by ingestion. Used as a solvent.	2.5	5.0	2.5	5284.0	531.0	1797.0	947.0	564.0	1691.0	175.0	577.0	325.0	171.0	(Act quickly]) EYES: flush with water for at least 15 min. SKIN: flush with water, then rinse with dilute vinegar (acetic acid). INGESTION: give water and milk. Do NOT induce vomiting. Call physician at once, even when injury seems to be slight. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3721	O-NITROBENZAMIDE	BENZAMIDE, 2-NITRO-|BENZAMIDE, O-NITRO-|2-CARBAMOYLNITROBENZENE|2-NITROBENZAMIDE|O-NITROBENZAMIDE	610-15-1	PHYSICAL DESCRIPTION: Water solubility - <0.1 mg/mL at 64Â°F. (NTP, 1992)	1.0	2.5	5.0	5285.0	532.0	1798.0	947.0	565.0	1692.0	176.0	578.0	325.0	172.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3717	OILS, MISCELLANEOUS: SPERM	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Deliquescent. Water soluble.	POTASSIUM FLUORIDE reacts with acids to evolve corrosive and toxic hydrogen fluoride. Aqueous solutions corrode glass and consequently are prepared and stored in polyethylene containers. The pure solid may be stored in glass containers. Reacts violently with (Pt + BrF3). [NTP 1992].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		1576	
3718	OILS: CLARIFIED	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	POTASSIUM FLUOROSILICATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
3719	OLEIC ACID DIETHANOLAMINE CONDENSATE (1/1)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fused salt is deliquescent, Soluble in water, yielding a corrosive acidic solution.	Acidic salts, such as POTASSIUM HYDROGEN SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																												
3720	O-METHYLCYCLOHEXANONE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wide-brimmed hat and close-fitting safety goggles equipped with rubber side shields; long-sleeved cotton shirt or jacket with buttoned collar and buttoned sleeves; rubber or rubber-coated canvas gloves. (Shirt sleeves should be buttoned over the gloves so that any spilled material will run down the outside.) Rubber safety-toe-shoes or boots and cotton coveralls. (Trouser cuffs should be worn outside of boots.) Rubber apron. (USCG, 1999)	Forms crusts on exposure to air (from absorption of carbon dioxide). Water soluble. Dilution of concentrated solutions generates heat.	POTASSIUM HYDROXIDE, [LIQUID] is a strong base dissolved in water. Reacts exothermically with all acids. Slowly dissolves glass. Attacks aluminum and zinc to generate flammable hydrogen gas. Ignited a polyethylene container liner when mixed with potassium persulfate by release of heat and oxygen [MCA Case History 1155. 1955].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																							(USCG, 1999)	Not flammable						
3721	O-NITROBENZAMIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Nitrile Edmont 37-175 0.64 mm 190 min PVA Edmont 25-545 0.89 mm 480 min PVC Edmont 34-100 0.20 mm 100 min Viton North F-101 0.36 mm 480 min Butyl rubber North B-144 0.43 mm 480 min (NTP, 1992)	Soluble in water.	May be sensitive to prolonged exposure to light. Incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		125		(NTP, 1992)	at 158Â° F	4.1		%	(NTP, 1992)	at 158Â° F	8.5		%								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3717	OILS, MISCELLANEOUS: SPERM														(NTP, 1992)		2.48				(NTP, 1992)		2741		760		(NTP, 1992)		58.1						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Poison	FK	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3718	OILS: CLARIFIED																																							Poison	F6Si.2K	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3719	OLEIC ACID DIETHANOLAMINE CONDENSATE (1/1)																																							Corrosive	KHSO4		2.0	0.0	2.0	1.0	1.0
3720	O-METHYLCYCLOHEXANONE														(USCG, 1999)			1.45 to 1.50	68		(USCG, 1999)		greater than 266	760															CPS	Corrosive	KOH (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3721	O-NITROBENZAMIDE	(NTP, 1992)		4.9		68		mm Hg	(NTP, 1992)		3.3				(NTP, 1992)		1.115		68		(NTP, 1992)		259 to 261	760			(NTP, 1992)		94.54						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison|Flammable Liquid	C3H7ClO	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3722	O-NITROBENZOYL CHLORIDE	BENZOYL CHLORIDE, O-NITRO-|2-NITRO BENZOYL CHLORIDE|2-NITROBENZOIC ACID, CHLORIDE|2-NITROBENZOYL CHLORIDE|O-NITROBENZOYL CHLORIDE|ORTHO-NITROBENZOYL CHLORIDE	610-14-0	PHYSICAL DESCRIPTION: Crystalline solid. It is shock sensitive.	1.0	2.5	5.0	5285.0	532.0	1798.0	947.0	565.0	1692.0	176.0	578.0	325.0	172.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3723	O-NITROBENZYL CHLORIDE	ALPHA-CHLORO-2-NITROTOLUENE|ALPHA-CHLORO-O-NITROTOLUENE|1-(CHLOROMETHYL)-2-NITROBENZENE|2-NITROBENZYL CHLORIDE|O-NITROBENZYL CHLORIDE|TOLUENE, ALPHA-CHLORO-O-NITRO-	612-23-7	PHYSICAL DESCRIPTION: Pale yellow crystals. Insoluble in water. Is thermally unstable.	1.0	2.5	5.0	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3724	O-NITROPHENETHYL ALCOHOL	BETA-HYDROXYETHYL-O-NITROBENZENE|2-NITROBENZENEETHANOL|2-NITROPHENETHYL ALCOHOL|2-(2-NITROPHENYL)ETHANOL|O-NITROPHENETHYL ALCOHOL|2-(O-NITROPHENYL)ETHANOL|2-(O-NITROPHENYL)ETHYL ALCOHOL|PHENETHYL ALCOHOL, O-NITRO-	15121-84-3	PHYSICAL DESCRIPTION: Needles dark brown liquid. (NTP, 1992)	2.5	5.0	2.5	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	Flush all affected areas with water. (USCG, 1999)		
3725	ORPHENADRINE HYDROCHLORIDE	BF 5930|BG 5930|BROCADISIPAL|BROCASIPAL|BS 5930|2-(DIMETHYLAMINO)ETHYL 2-METHYLBENZHYDRYL ETHER HYDROCHLORIDE|DISIPAL| DISIPAL HYDROCHLORIDE|ETHANAMINE, N,N-DIMETHYL-2-((2-METHYLPHENYL)PHENYLMETHOXY)-, HYDROCHLORIDE|ETHYLAMINE, N,N-DIMETHYL-2-((O-METHYL-ALPHA-PHENYLBENZYL)OXY)-, HYDROCHLORIDE|ETHYLAMINE, N,N-DIMETHYL-2-[(O-METHYL-ALPHA-PHENYLBENZYL)OXY]-, HYDROCHLORIDE|MEBEDROL|MEFENAMIN HYDROCHLORIDE|MEPHENAMIN|MEPHENAMIN FORTE|MEPHENAMIN HYDROCHLORIDE|MEPHENAMINE|MEPHENAMINE HYDROCHLORIDE|N,N-DIMETHYL-2-(2-	341-69-5	PHYSICAL DESCRIPTION: Odorless white or almost white crystalline powder. pH (aqueous solution) about 5.5. Bitter numbing taste. (NTP, 1992)	1.0	2.5	5.0	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	SKIN OR EYES: wash exposed areas with water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, carbon dioxide, dry chemical (USCG, 1999)
3726	ORTHOCHLOROPARAXYLENE	2-CHLORO-P-XYLENE|ORTHOCHLOROPARAXYLENE	95-72-7	A colorless liquid. May be irritating and narcotic in high concentrations. Used as a solvent and for making other chemicals and dyes.	2.5	5.0	2.5	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	Get medical attention. INHALATION: Remove to fresh air. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: May produce toxic nitrogen oxides upon decomposition. Behavior in Fire: Strong oxidizer which may react explosively when mixed with reducing agents. Mixture may detonate by heat or shock. Increases the flammability of any combustible material. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3727	O-TERPHENYL	1,1'-BIPHENYL, 2-PHENYL-|1,2-DIPHENYLBENZENE|NSC 6809|O-DIPHENYLBENZENE|O-TERPHENYL|O-TRIPHENYL|ORTHO-TERPHENYL|2-PHENYLBIPHENYL|1,2-TERPHENYL	84-15-1	Colorless or light-yellow solid. mp: 58-59Â° C, bp: 337Â°C. Density: 1.16 g/cm3. Insoluble in water. Usually shipped as a solid mixture with its isomers m-terphenyl and p-terphenyl that is used as a heat-transfer fluid.	1.0	2.5	5.0	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	(BLOB)	Incompatible with sodium hydroxide. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. This material may burn but does not ignite readily. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: Water spray, fog or foam. Move container from fire area if you can do it without risk. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3722	O-NITROBENZOYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	A sugar alcohol. More closely related to carbohydrates than to other polyhydric alcohols [Noller]. Flammable and/or toxic gases are generated by the combination with alkali metals, nitrides, strong reducing agents and strong oxidizing agents.					0		(NTP, 1992)			greater than 300														(NTP, 1992)				331 to 334
3723	O-NITROBENZYL CHLORIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	3,5-DICHLORO-N-(1,1-DIMETHYL-2-PROPYNYL)BENZAMIDE is a chlorinated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																									
3724	O-NITROPHENETHYL ALCOHOL		Goggles or face shield. (USCG, 1999)	Water soluble.	Bromine trifluoride rapidly attacks the following salts: barium chloride, cadmium chloride, calcium chloride, cesium chloride, lithium chloride, silver chloride, rubidium chloride, potassium bromide, potassium chloride, potassium iodide, rhodium tetrabromide, sodium bromide, sodium chloride, and sodium iodide [Mellor 2, Supp. 1:164, 165. 1956].					0																(USCG, 1999)	Not flammable			(USCG, 1999)		1258	
3725	ORPHENADRINE HYDROCHLORIDE		Chemical gloves; chemical goggles (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	DODECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			(NFPA, 2010)		3	1	0	1		(USCG, 1999)		260												(USCG, 1999)		527		(USCG, 1999)		75	
3726	ORTHOCHLOROPARAXYLENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Full cover clothing and chemical goggles. Use approved respirator to protect against dust. (USCG, 1999)	Soluble in water.	POTASSIUM NITRATE mixed with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979. p. 108-109]. Powdered antimony mixed with potassium nitrate explodes when heated [Mellor 9:282 1946-47]. A mixture of antimony trisulfide and potassium nitrate explodes at a red heat [Mellor 9:524. 1946-47]. Arsenic disulfide forms explosive mixtures when mixed with potassium nitrate, [Mellor 9:270.1946-47]. A mixture of sodium acetate and potassium nitrate may cause an explosion [Pieters 1957. p. 30]. A mixture of potassium nitrate and sodium hypophosphite constitutes a powerful explosive [Mellor 8:881. 1946-47]. A mixture of powdered zirconium and potassium nitrate explodes when heated above the melting point [Mellor 7:116. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																									
3727	O-TERPHENYL	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. If water pollution occurs, notify appropriate authorities. Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for alter disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	May react slowly with water. (NTP, 1992)	Incompatible with sodium hydroxide. [EPA, 1998]. A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3722	O-NITROBENZOYL CHLORIDE														(NTP, 1992)		1.489		68		(NTP, 1992)		563		3.5		(NTP, 1992)		182.17						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C6H14O6	Cellulose-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3723	O-NITROBENZYL CHLORIDE																																									Class 9	C12H11Cl2NO		3.0	0.0	4.0	1.0	1.0
3724	O-NITROPHENETHYL ALCOHOL														(USCG, 1999)		3.13		59		(USCG, 1999)	Very high					(USCG, 1999)		166.01											PTI		KI		3.0	0.0	5.0	1.0	1.0
3725	ORPHENADRINE HYDROCHLORIDE														(USCG, 1999)		0.831		75.2		(USCG, 1999)		498		760		(USCG, 1999)		186.33											DDN		C12H26Cl	Cellulose-Based Absorbents	2.0	0.0	3.0	1.0	1.0
3726	ORTHOCHLOROPARAXYLENE														(USCG, 1999)		2.109				(USCG, 1999)	(decomposes)	752		760		(USCG, 1999)		101.11											PNR	Oxidizer	KNO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3727	O-TERPHENYL														(NTP, 1992)		1.5647										(EPA, 1998)		171.59						(NTP, 1992)	Insoluble					Corrosive	C7H6ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3728	O-TOLUIDINE HYDROCHLORIDE	2-AMINO-1-METHYLBENZENE HYDROCHLORIDE|1-AMINO-2-METHYLBENZENE HYDROCHLORIDE|2-AMINOTOLUENE HYDROCHLORIDE|2-METHYL-1-AMINOBENZENE HYDROCHLORIDE|1-METHYL-2-AMINOBENZENE HYDROCHLORIDE|2-METHYLANILINE HYDROCHLORIDE|2-METHYLBENZENAMINE HYDROCHLORIDE|2-METHYLPHENYLAMMONIUM CHLORIDE|NCI-C02335|O-AMINOTOLUENE HYDROCHLORIDE|O-METHYLANILINE HYDROCHLORIDE|O-METHYLBENZENAMINE HYDROCHLORIDE|O-TOLUIDIN HYDROCHLORIDE|O-TOLUIDINE HYDROCHLORIDE|O-TOLUIDINE, HYDROCHLORIDE|O-	636-21-5	PHYSICAL DESCRIPTION: Green crystals or white crystalline solid. Melting point 215-217Â°F. Highly toxic.	1.0	2.5	5.0	5286.0	532.0	1799.0	947.0	565.0	1693.0	176.0	579.0	325.0	172.0	Call a physician. EYES AND SKIN: Flush eyes and skin with plenty of water for at least 30 minutes. Remove contaminated clothing and shoes. INGESTION: Give fluids and induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: May generate fumes of SO 2 or H 2 S in fire Behavior in Fire: Organic portion may burn once water has evaporated. Use water to extinguish. (USCG, 1999)	
3729	OXAMYL	(BLOB)	23135-22-0	White, crystalline solid, with slight sulfurous odor. Used as an insecticide, nematicide and acaricide on many field crops, vegetables, fruits, and ornamentals. (EPA, 1998)	1.0	2.5	5.0	5287.0	532.0	1799.0	947.0	565.0	1694.0	176.0	579.0	325.0	172.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
3730	OXETANE, 3,3-BIS(CHLOROMETHYL)-	3,3-BIS(CHLOROMETHYL)-1-OXACYCLOBUTANE|3,3-BIS(CHLOROMETHYL)OXACYCLOBUTANE|3,3-BIS(CHLOROMETHYL)OXETANE|OXETANE, 3,3-BIS(CHLOROMETHYL)-	78-71-7	The monomer unit of a thermoplastic resin trademarked Penton.	2.5	5.0	2.5	5288.0	532.0	1800.0	947.0	565.0	1695.0	176.0	580.0	325.0	172.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3731	OXYDEMETON METHYL	(BLOB)	301-12-2	PHYSICAL DESCRIPTION: Clear amber liquid. (NTP, 1992)	2.5	5.0	2.5	5289.0	532.0	1800.0	947.0	565.0	1696.0	176.0	580.0	325.0	172.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, alcohol foam, carbon dioxide (USCG, 1999)
3732	P-AMINOCYCLOHEXYLMETHANE	CIS-1-AMINO-4-METHYLCYCLOHEXANE|CIS 4-METHYL-CYCLOHEXANEAMINE|P-AMINOCYCLOHEXYLMETHANE	2523-56-0	A colorless viscous oily liquid with almost no odor. Contact with the skin, eyes and mucous membranes causes severe chemical burns. Toxic by skin absorption. Toxic ammonia and nitrogen oxides may be released upon exposure to fire.	2.5	5.0	2.5	5289.0	532.0	1800.0	947.0	565.0	1696.0	176.0	580.0	325.0	172.0	INGESTION: induce vomiting and follow with thorough gastric lavage, demulcents, glucose I.V., fluid therapy, and antibiotics. Tracheostomy may be lifesaving. (USCG, 1999)	Behavior in Fire: May cause fire on contact with combustibles. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3733	P-ANISIDINE HYDROCHLORIDE	1-AMINO-4-METHOXYBENZENE HYDROCHLORIDE|4-AMINOANISOLE HYDROCHLORIDE|4-ANISIDINE HYDROCHLORIDE|4-METHOXY-1-AMINOBENZENE HYDROCHLORIDE|4-METHOXY-ANILINE HYDROCHLORIDE|4-METHOXYANILINE HYDROCHLORIDE|4-METHOXYBENZENAMINE HYDROCHLORIDE|4-METHOXYBENZENEAMINE HYDROCHLORIDE|NCI-C03758|P-AMINOANISOLE HYDROCHLORIDE|P-ANISIDINE HYDROCHLORIDE|P-ANISIDINE MONOHYDROCHLORIDE|P-ANISIDINE, HYDROCHLORIDE|P-ANISYLAMINE HYDROCHLORIDE|P-METHOXYANILINE	20265-97-8	Grayish-black crystalline solid or brown crystals. (NTP, 1992)	1.0	2.5	5.0	5289.0	532.0	1800.0	947.0	565.0	1696.0	176.0	580.0	325.0	172.0	INGESTION: give large amount of water; consult a doctor if large amount was ingested. EYES: flush with water for at least 15 min.; consult a doctor if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, carbon dioxide, dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3728	O-TOLUIDINE HYDROCHLORIDE	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute sodium bicarbonate or soda ash solution. (USCG, 1999)	Goggles, rubber gloves, approved mist respirator, protective clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	DODECYL DIPHENYL ETHER DISULFONATE SOLUTION is an aqueous solution of a sodium salt of a sulfonate. Reacts as a base to neutralize acids. Usually does not react as either an oxidizing agent or reducing agent.								0																			(USCG, 1999)		32	
3729	OXAMYL	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	DODECYL PHENOL reacts as a weak organic acids. Reacts weakly exothermically with bases. Can react with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides is generate flammable gas (H2); the heat of the reaction may ignite the gas. Incompatible with sulfuric acid. May be nitrated by even dilute nitric acid to give products that can explode when heated or form metal salts that tend toward detonation by rather mild shock. Gives irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide when burned (USCG, 1999).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1		(USCG, 1999)		325																				
3730	OXETANE, 3,3-BIS(CHLOROMETHYL)-	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Vapors may form explosive mixtures with air. Insoluble in water.	1-CHLOROHEPTANE may be incompatible with strong oxidizing and reducing agents. Also may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
3731	OXYDEMETON METHYL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it in a freezer. (NTP, 1992)	Wear full cover clothing, chemical safety glasses, and rubber or plastic gloves. (USCG, 1999)	Water soluble. Gives basic aqueous solution.	Salts, basic, such as OLEIC ACID, [POTASSIUM SALT], are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																					(NTP, 1992)	Starts to decompose at approximately 428Â° F		
3732	P-AMINOCYCLOHEXYLMETHANE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Soluble in water.	POTASSIUM PERMANGANATE is a very powerful oxidizing agent, particularly in acidic surroundings. Reacts with incandescence with aluminum carbide [Mellor 5:872. 1946-47]. Grinding with antimony or arsenic causes ignition of the metals [Mellor 12:322. 1946-47]. Mixtures with acetic acid or acetic anhydride may explode if not kept cold [Von Schwartz 1918. p. 34]. Explosions can occur when acidified solutions come in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or organic matter. Contact with glycerol may produce an explosion [Pieters 1957. p. 30]. Contact with concentrated hydrogen peroxide solution can produce an explosion [Haz. Chem. Data 1973. p. 230]. Contact with solid hydroxylamine produces an immediate white flame [Mellor 8:294. 1946-47]. Transport through a polypropylene tube ignited the tube [MCA Case History 1842. 1972]. Mixing with concentrated sulfuric acid in a vessel containing moisture caused an explosion (due to formation of manganese heptoxide) [Delhez 1967].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(USCG, 1999)	Not flammable			(USCG, 1999)			greater than 464
3733	P-ANISIDINE HYDROCHLORIDE		Rubber gloves; goggles; mask (for liquid form) (USCG, 1999)	It is soluble in water.	Salts, basic, such as DODECYLBENZENESULFONIC ACID, [ISOPROPYLAMINE SALT], are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0		(USCG, 1999)	(liquid)		greater than 300																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3728	O-TOLUIDINE HYDROCHLORIDE														(USCG, 1999)		1.161		77		(USCG, 1999)	(approximate, varies with concentration)	212		760		(USCG, 1999)		712.95											DOS		Na2C36H56O7S2 (aqueous)		2.0	0.0	2.0	1.0	1.0
3729	OXAMYL														(USCG, 1999)		0.94		68		(USCG, 1999)			310 to 335	760		(USCG, 1999)		262.44											DOL	Corrosive	C18H30O		3.0	0.0	4.0	1.0	1.0
3730	OXETANE, 3,3-BIS(CHLOROMETHYL)-																																									Combustible Liquid	C7H15Cl		4.0	0.0	5.0	1.0	1.0
3731	OXYDEMETON METHYL														(USCG, 1999)	(solid or liquid)		greater than 1.1	68								(NTP, 1992)		321.62						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL	OAP|POE		C18H34O2.K	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3732	P-AMINOCYCLOHEXYLMETHANE														(USCG, 1999)		2.7		59								(USCG, 1999)		158.04											PTP	Oxidizer	HMnO4.K	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3733	P-ANISIDINE HYDROCHLORIDE														(USCG, 1999)	1.03 at 25Â°C (liquid)	1.03		68								(USCG, 1999)		385.5											DAI		C18H30O3S.C3H9N		2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3734	PARBENDAZOLE	2-BENZIMIDAZOLECARBAMIC ACID, 5-BUTYL-, METHYL ESTER|(4-BUTYL-1H-BENZIMIDAZOL-2-YL)-CARBAMIC ACID METHYL ESTER|5-BUTYL-2-(CARBOMETHOXYAMINO)BENZIMIDAZOLE|HELATAC|HELMATAC|METHYL (5-BUTYL-1H-BENZIMIDAZOL-2-YL),CARBAMATE|METHYL 5(6)-BUTYL-2-BENZIMIDAZOLECARBAMATE|METHYL 5-BUTYL-2-BENZIMIDAZOLECARBAMATE|METHYL 5-BUTYLBENZIMIDAZOLE-2-CARBAMATE|PARBENDAZOLE|PBDZ|PBZ (FUNGICIDE)|SK&F 29044|SKF 29044|SKF29044|VERMINUM|WORM GUARD	14255-87-9	PHYSICAL DESCRIPTION: Crystals or fine white powder. (NTP, 1992)	1.0	2.5	5.0	5289.0	532.0	1800.0	947.0	565.0	1696.0	176.0	580.0	325.0	172.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Special Hazards of Combustion Products: Irritating gases generated when heated (USCG, 1999)	Fire Extinguishing Agents: Water fog, foam, carbon dioxide, dry chemical (USCG, 1999)
3735	P-AZOXYANISOLE	4,4'-AZOXYANISOLE|AZOXYBENZENE, 4,4'-DIMETHOXY-|AZOXYBENZENE, 4,4'-DIMETHYOXY-|4,4'-AZOXYDIANISOLE|BIS(4-METHOXYPHENYL)-1-OXIDE DIAZENE|DIAZINE, BIS(4-METHOXYPHENYL)-, OXIDE|4,4'-DIMETHOXYAZOXYBENZENE|P,P'-AZOXYANISOL E|P,P'-AZOXYDIANISOLE|P,P'-DIMETHOXYAZOXYBENZENE|P-AZOXYANISOLE|P-AZOXYDIANISOLE|PAA|PAA (LIQUID CRYSTAL)	1562-94-3	PHYSICAL DESCRIPTION: Yellow monoclinic needles (in alcohol) or bright yellow crystals. (NTP, 1992)	1.0	2.5	5.0	5289.0	532.0	1800.0	947.0	565.0	1696.0	176.0	580.0	325.0	172.0	(BLOB)	Special Hazards of Combustion Products: Contain highly toxic NOx fumes. Behavior in Fire: Produces highly toxic fumes. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3736	P-CHLOROBENZOYL PEROXIDE	BIS(4-CHLOROBENZOYL) PEROXIDE|BIS(P-CHLOROBENZOYL) PEROXIDE|BIS-(P-CHLOROBENZOYL) PEROXIDE|CADOX PS|4-CHLOROBENZOYL PEROXIDE|DI-(4-CHLOROBENZOYL) PEROXIDE|DI-(P-CHLOROBENZOYL) PEROXIDE|P,P'-CHLOROBENZOYL PEROXIDE|P,P'-DICHLOROBENZOYL PEROXIDE|P,P'-DICHLORODIBENZOYL PEROXIDE|P-CHLOROBENZOYL PEROXIDE, BIS(P-CHLOROBENZOYL)	94-17-7	Odorless white solid or paste. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5290.0	532.0	1800.0	947.0	565.0	1697.0	176.0	580.0	325.0	172.0	Inhalation and ingestion are routes of entry. Non-Specific -- Pesticide, solid, n.o.s.Move victim to fresh air; call emergency medical care. Remove and isolate contaminated clothing and shoes at the site. In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes. (EPA, 1998)	(Non-Specific -- Pesticide, solid, n.o.s.) Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. Avoid amine salts of hormone herbicides, alkali-unstable fungicides or insecticides. (EPA, 1998)	(Non-Specific -- Pesticide, solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Pesticide, solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
3737	P-CHLOROBENZOYL PEROXIDE, [<= 52% AS A PASTE]	BIS(4-CHLOROBENZOYL) PEROXIDE|BIS(P-CHLOROBENZOYL) PEROXIDE|CADOX PS|4-CHLOROBENZOYL PEROXIDE|P,P'-DICHLOROBENZOYL PEROXIDE|P,P'-DICHLORODIBENZOYL PEROXIDE|P-CHLOROBENZOYL PEROXIDE|P-CHLOROBENZOYL PEROXIDE, [<= 52% AS A PASTE]|PEROXIDE, BIS(P-CHLOROBENZOYL)	94-17-7	Odorless white solid or paste. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5291.0	532.0	1800.0	947.0	565.0	1698.0	176.0	580.0	325.0	172.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
3738	P-CYMEN-8-OL	ALPHA, ALPHA, 4-TRIMETHYLBENZENEMETHANOL|ALPHA, ALPHA, 4-TRIMETHYLBENZYL ALCOHOL|ALPHA-HYDROXY-P-CYMENE|DIMETHYL-P-TOLYL CARBINOL|8-HYDROXY-P-CYMENE|1-METHYL-4-(1-HYDROXY-1-METHYLETHYL)BENZENE|1-METHYL-4-(ALPHA-HYDROXYISOPROPYL)BENZENE|4-METHYLCUMYL ALCOHOL|2-(4-METHYLPHENYL)-2-PROPANOL|P, ALPHA, ALPHA-TRIMETHYL BENZYL ALCOHOL|P,A,A-TRIMETHYL BENZYL ALCOHOL|P-(HYDROXYISOPROPYL)TOLUENE|P-CYMEN-8-OL|8-P-CYMENOL|2-(P-METHYLPHENYL)-2-PROPANOL|2-(P-TOLYL)-2-PROPANOL	1197-01-9	PHYSICAL DESCRIPTION: Clear colorless to pale yellow liquid with an herbaceous celery-like odor. (NTP, 1992)	2.5	5.0	2.5	5292.0	532.0	1800.0	947.0	565.0	1699.0	176.0	580.0	325.0	172.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3739	P-DINITROBENZENE	1,4-DINITROBENZENE|P-DINITROBENZENE|PARA-DINITROBENZENE	100-25-4	Colorless to yellow solid. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	5292.0	532.0	1800.0	947.0	565.0	1699.0	176.0	580.0	325.0	172.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3734	PARBENDAZOLE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	DOWTHERM is incompatible with the following: Strong oxidizers (NIOSH, 1997).								0		(USCG, 1999)		255		(USCG, 1999)	0.5 % At 500Â°F: At 300Â°F: 0.8%-3.3%				(USCG, 1999)	6.2 % At 500Â°F: At 300Â°F: 0.8%-3.3%				(USCG, 1999)		1150		(USCG, 1999)		54	
3735	P-AZOXYANISOLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Darkens on exposure to air and light. Soluble in hot water.	BENZIDINE forms insoluble salts with sulfuric acid. Can be diazotized, acetylated and alkylated. Is hypergolic with red fuming nitric acid (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																						(NTP, 1992)		262	
3736	P-CHLOROBENZOYL PEROXIDE	(Non-Specific -- Pesticide, solid, n.o.s.) Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)- is a halide- and amine substituted aromatic compound. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.							0		(EPA, 1998)	(Non-Specific -- Pesticide, solid, n.o.s.) May burn, but does not ignite readily.		(EPA, 1998)	May burn but does not ignite readily.					(EPA, 1998)	May burn but does not ignite readily.								(EPA, 1998)		415 to 417
3737	P-CHLOROBENZOYL PEROXIDE, [<= 52% AS A PASTE]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZO(E)PYRENE may be sensitive to prolonged exposure to light.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																						(NTP, 1992)		352 to 354
3738	P-CYMEN-8-OL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	Salts, basic, such as POTASSIUM TETRAPYRO PHOSPHATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																											
3739	P-DINITROBENZENE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	BENZO[A]PYRENE undergoes photo-oxidation after irradiation in indoor sunlight or by fluorescent light in organic solvents. Incompatible with strong oxidizing agents including various electrophiles, peroxides, nitrogen oxides and sulfur oxides. Oxidized by ozone, chromic acid and chlorinating agents. Readily undergoes nitration and halogenation. Hydrogenation occurs with platinum oxide (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																						(NTP, 1992)		349.7 to 351.5

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3734	PARBENDAZOLE	(NIOSH, 2003)		0.08		77		mm Hg							(USCG, 1999)		1.06		69.8		(USCG, 1999)		494		760		(USCG, 1999)		166		(NIOSH, 2003)		10	ppm	(NIOSH, 2003)	Insoluble				DTH		C12H10O.C12H10		4.0	0.0	4.0	1.0	1.0
3735	P-AZOXYANISOLE	(NIOSH, 2003)	Low						(NTP, 1992)		6.36				(USCG, 1999)		2.15		68		(NTP, 1992)		752		740		(NTP, 1992)		184.23		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 72Â° F		less than 1	mg/mL	BZI	Poison	C12H12N2		2.0	0.0	2.0	1.0	1.0
3736	P-CHLOROBENZOYL PEROXIDE	(EPA, 1998)		4.00E-05		72.5		mm Hg													(EPA, 1998)								255.03													C8H3Cl2F3N2	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3737	P-CHLOROBENZOYL PEROXIDE, [<= 52% AS A PASTE]																				(NTP, 1992)		918		760		(NTP, 1992)		252.32						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Class 9	C20H12		2.0	0.0	2.0	1.0	1.0
3738	P-CYMEN-8-OL																																									Poison	H4O7P2.4K		2.0	0.0	5.0	1.0	1.0
3739	P-DINITROBENZENE	(NTP, 1992)		5.49E-09		77		mm Hg	(NTP, 1992)		8.7				(NTP, 1992)			greater than 1			(NTP, 1992)		887		760		(NTP, 1992)		252.32						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Class 9	C20H12		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3740	PENICILLIN V	ACIPEN V|ACIPEN-V|APOPEN|BEROMYCIN|CALCIPEN|COMPOCILLIN V|CRYSTAPEN V|DISTAQUAINE V|ESKACILLIAN V|ESKACILLIN V|FENACILIN|FENOSPEN|FENOXYPEN|MEROPENIN|ORACILLIN|ORACILLINE|ORATREN|OROCILLIN|OSPEN|PEN V|PEN-ORAL|PEN-VEE|PEN-VEE-ORAL|PENICILLIN PHENOXYMETHYL|PENICILLIN V|PENICILLIN, PHENOXYMETHYL-|PHENOCILLIN|PHENOPENICILLIN|PHENOSPEN|6-(PHENOXYACETAMIDO)PENICILLANIC ACID|6-PHENOXYACETAMIDOPENICILLANIC ACID|PHENOXYMETHYLENE PENICILLINIC ACID|PHENOXYMETHYLPENICILLIN|PHENOXYMETHYLPENICILLINIC ACID|ROCILIN|STABICILLIN|4-THIA-1-	87-08-1	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5292.0	532.0	1800.0	947.0	565.0	1699.0	176.0	580.0	325.0	172.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3741	PENTABROMOCHLOROCYCLOHEXANE	CHLOROPENTABROMOCYCLOHEXANE|CYCLOHEXANE, 1,2,3,4,5-PENTABROMO-6-CHLORO-|FR 651A|FR 651P|1,2,3,4,5-PENTABROMO-6-CHLOROCYCLOHEXANE|PENTABROMOCHLOROCYCLOHEXANE	87-84-3	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5292.0	532.0	1800.0	947.0	565.0	1699.0	176.0	580.0	325.0	172.0	(BLOB)	Behavior in Fire: Vapor from molten benzoic acid may form explosive mixture with air. Concentrated dust may form explosive mixture. (USCG, 1999)	
3742	PENTABROMODIPHENYL OXIDE	BROMKAL G 1|DE 60FTM|1,1'-OXYBISBENZENE, PENTABROMO DERIVATIVE|PENTABROMO DIPHENYL ETHER|PENTABROMODIPHENYL OXIDE|PLANELON PB 501|SAYTEX 125	32534-81-9	PHYSICAL DESCRIPTION: Amber solid. (NTP, 1992)	1.0	2.5	5.0	5293.0	532.0	1800.0	947.0	565.0	1700.0	176.0	580.0	325.0	172.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3743	PENTABROMOPHENOL	BROMOPHENASIC ACID|FLAMMEX 5BP|PENTABROMOHYDROXYBENZENE|PENTABROMOPHENOL|2,3,4,5,6-PENTABROMOPHENOL	608-71-9	PHYSICAL DESCRIPTION: Light brown powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5294.0	532.0	1800.0	947.0	565.0	1701.0	176.0	580.0	325.0	172.0	(BLOB)	Special Hazards of Combustion Products: Toxic hydrogen cyanide and oxides of nitrogen may form in fire. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3744	PENTABROMOTOLUENE	FLAMMEX 5BT|1,2,3,4,5-PENTABROMO-6-METHYLBENZENE|PENTABROMOMETHYLBENZENE|2,3,4,5,6-PENTABROMOMETHYLBENZENE|PENTABROMOTOLUENE|2,3,4,5,6-PENTABROMOTOLUENE|TOLUENE, 2,3,4,5,6-PENTABROMO-|TOLUENE, PENTABROMO-	87-83-2	PHYSICAL DESCRIPTION: Colorless powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5294.0	532.0	1800.0	947.0	565.0	1701.0	176.0	580.0	325.0	172.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide, water spray. (USCG, 1999)
3745	PENTACHLOROBENZENE	PCB|PENTACHLOROBENZENE|1,2,3,4,5-PENTACHLOROBENZENE|QCB	608-93-5	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5295.0	532.0	1800.0	947.0	565.0	1702.0	176.0	580.0	325.0	172.0	(BLOB)	This material may react violently with water. Fire may produce irritating or poisonous gases. Flammable/poisonous gases may accumulate in tanks and hopper cars. Materials may ignite combustibles (wood, paper, oil, etc.). Produces toxic and corrosive fumes when it reacts with water or steam. Similar to hydrochloric acid; material will react with water or steam to produce toxic and corrosive fumes. Hydrolyzes in presence of water forming benzoic and hydrochloric acids. (EPA, 1998)	Wear self-contained breathing apparatus and full protective clothing. Normal fire fighting procedures may be used. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Cool containers that are exposed to flames with water from the side until well after the fire is out. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3740	PENICILLIN V	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that latex gloves may provide protection from contact with this compound. Latex over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Water soluble. Aqueous solutions are weakly acidic.	D-PHENYLALANINE may be light sensitive. This compound reacts with strong oxidizing agents, acids and bases. (NTP, 1992). Act as weak acids in solution.								0																					(NTP, 1992)	(Decomposes)		541 to 543
3741	PENTABROMOCHLOROCYCLOHEXANE		Bureau of Mines dust respirator; when melted material present, use eye protection and organic respirator for fumes. (USCG, 1999)	Vapor from molten benzoic acid may form explosive mixture with air. The finely powdered dry acid is a significant dust explosion hazard [Bretherick, 5th ed., 1995, p. 884]. In air very rapid combustion occurs [Wilson, L.Y. et al., J. Chem. Ed., 1985, 62(10), p. 902]. Slightly soluble in water.	At high temperature BENZOIC ACID can react with oxidizing reagents.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		250												(USCG, 1999)		1063		(NTP, 1992)		252.3	
3742	PENTABROMODIPHENYL OXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BENZOIN is sensitive to heat and light. This chemical is incompatible with oxidizers. It reduces Fehling's solution. (NTP, 1992)								0																					(NTP, 1992)		279	
3743	PENTABROMOPHENOL	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; splash-proof goggles; rubber boots or rubber overshoes; impervious clothing for splash protection; cartridge-type mask or other protection against vapor must be worn for working in poorly ventilated area or where poisoning by inhalation may be possible. (USCG, 1999)	Slightly soluble in water.	The cyano group can be readily hydrolyzed in the presence of mineral acids to produce stable, moderately toxic benzoic acid . When heated to decomposition, it emits highly toxic fumes of nitrogen oxides and hydrogen cyanide [Sax, 9th ed., 1996, p. 353].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(NTP, 1992)		161		(NTP, 1992)		0.9		%	(NTP, 1992)		11.3		%							(NTP, 1992)		9	
3744	PENTABROMOTOLUENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Dust/mist respirator; goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	Ketones, such as BENZOPHENONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. This compound can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0		(USCG, 1999)		greater than 270																	(NTP, 1992)	alpha-118.6Â° F; beta-79Â° F; gamma-117Â° F.		
3745	PENTACHLOROBENZENE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzes in the presence of moisture. The reaction is rather slow due to low solubility in water.	BENZOTRICHLORIDE hydrolyzes in the presence of moisture. It reacts with water, lime, ammonia, strong alkalis, organic amines, chlorates and acids. (NTP, 1992)		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	1	0	1		(EPA, 1998)		260																	(EPA, 1998)		23	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3740	PENICILLIN V																				(NTP, 1992)	(Sublimes)	563		760		(NTP, 1992)		165.21						(NTP, 1992)								C8H11N2O		5.0	0.0	5.0	1.0	1.0
3741	PENTABROMOCHLOROCYCLOHEXANE	(NTP, 1992)		1		205		mm Hg	(NTP, 1992)		4.21				(USCG, 1999)		1.316		82.4		(NTP, 1992)		480		760		(NTP, 1992)		122.13						(NTP, 1992)		less than 1	mg/mL				C7H6O2		2.0	0.0	2.0	1.0	1.0
3742	PENTABROMODIPHENYL OXIDE														(NTP, 1992)		1.31		68		(NTP, 1992)		651		760		(NTP, 1992)		212.25						(NTP, 1992)		less than 0.1	mg/mL				C14H12O2	Cellulose-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3743	PENTABROMOPHENOL	(NTP, 1992)	; 5 mm Hg at 131.5A° F; 10 mm Hg at 156.6A° F	1		82.8		mm Hg	(NTP, 1992)		3.6				(USCG, 1999)		1.01		77		(NTP, 1992)		375.3		760		(NTP, 1992)		103.12						(NTP, 1992)		1 to 5	mg/mL		BZN	Poison	C7H5N		5.0	0.0	5.0	1.0	1.0
3744	PENTABROMOTOLUENE														(USCG, 1999)		1.085		122		(NTP, 1992)		582.6		760		(NTP, 1992)		182.21						(NTP, 1992)					BZP	Flammable Liquid	C13H10O		5.0	0.0	5.0	1.0	1.0
3745	PENTACHLOROBENZENE	(EPA, 1998)		1 to 10		114.44 to 189.68		mm Hg	(EPA, 1998)		6.77				(EPA, 1998)		1.3756		68		(EPA, 1998)		428.4		760		(EPA, 1998)		195.48						(NTP, 1992)		Decomposes				Corrosive	C7HCl3		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3746	PENTACHLOROETHANE	ETHANE PENTACHLORIDE|ETHANE, PENTACHLORO-|NCI-C53894|PENTACHLOROETHANE|1,1,1,2,2-PENTACHLOROETHANE|PENTALIN	76-01-7	A colorless liquid with a chloroform-like odor. Insoluble in water and denser than water. Toxic by inhalation and ingestion. May irritate skin and eyes. Used as a solvent.	2.5	5.0	2.5	5295.0	532.0	1800.0	947.0	565.0	1702.0	176.0	580.0	325.0	172.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3747	PENTADECANOL	PENTADECANOL|1-PENTADECANOL|PENTADECYL ALCOHOL	629-76-5	Colorless liquid with a faint odor of alcohol. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5295.0	532.0	1800.0	947.0	565.0	1702.0	176.0	580.0	325.0	172.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3748	PENTADECYLAMINE	1-AMINOPENTADECANE|MONOPENTADECYLAMINE|N-PENTADECYLAMINE|1-PENTADECANAMINE|PENTADECYLAMINE|1-PENTADECYLAMINE	2570-26-5	A flake solid. (EPA, 1998)	1.0	2.5	5.0	5296.0	532.0	1801.0	947.0	565.0	1703.0	176.0	581.0	325.0	172.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3749	PERCHLORATE, N.O.S.	PERCHLORATE|PERCHLORATE ION|PERCHLORATE ION ((CLO4(1-))PERCHLORATE ION(1-)|PERCHLORATE(1-)|PERCHLORATE, N.O.S.|PERCHLORIC ACID, ION(1-)	14797-73-0	Crystalline or powdered solids. May explode under exposure to heat or fire. If available, obtain the technical name from the shipping papers and contact CHEMTREC, 800-424-9300 for specific response information.	1.0	2.5	5.0	5297.0	532.0	1802.0	947.0	565.0	1704.0	176.0	582.0	325.0	172.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3750	PERCHLOROMETHYL MERCAPTAN	CLAIRSIT|METHANESULFENIC ACID, TRICHLORO-, CHLORIDE|METHANESULFENYL CHLORIDE, TRICHLORO-|PCM|PERCHLORO-METHYL-MERCAPTAN|PERCHLOROMETHANETHIOL|PERCHLOROMETHYL MERCAPTAN|PERCHLOROMETHYLMERCAPTAN|PMM|THIOCARBONYL TETRACHLORIDE|THRICHLOROMETHANESULPHENYL CHLORIDE|TRICHLORMETHYL SULFUR CHLORIDE|TRICHLOROMETHANE SULFENYL CHLORIDE|TRICHLOROMETHANE SULFONYL CHLORIDE|TRICHLOROMETHANE SULFURYL CHLORIDE|TRICHLOROMETHANESULFENYL CHLORIDE|TRICHLOROMETHANESULPHENYL CHLORIDE|TRICHLOROMETHANETHIOL|TRICHLOROMETHYL	594-42-3	A yellow oily liquid with an offensive odor. Insoluble in water. Density 1.72 g / cm3. Hence sinks in water. Nonflammable but supports combustion. Very toxic by inhalation or skin absorption.	2.5	5.0	2.5	5297.0	532.0	1802.0	947.0	565.0	1704.0	176.0	582.0	325.0	172.0	(BLOB)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Hydrolyzed by alkalis. Stable. No changes observed on storage for 140 hours at122F. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Stay upwind; keep out of low areas. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Carbamates) Extinguish fire using agent suitable for the surrounding fire, as the material itself burns with difficulty. Use water in flooding quantities as a fog. Use alcohol foam, carbon dioxide, or dry chemical. (Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3746	PENTACHLOROETHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Very slightly water soluble (NTP, 1992).	[[Details on specifics of reactivity not yet available.]]							0																			(NTP, 1992)	(DEC)		451 to 455
3747	PENTADECANOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PRIMACLONE is an amide. May react with azo and diazo compounds to generate toxic gases. May react with strong reducing agents to form flammable gases. A very weak base. The Combustion generates toxic mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																			(NTP, 1992)			538 to 540
3748	PENTADECYLAMINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	BENZOTRIFLUORIDE may react with oxidizing materials, strong bases and reducing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NTP, 1992)		54																(NTP, 1992)		-20.4	
3749	PERCHLORATE, N.O.S.	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Most alkyl monohydroperoxides are liquid. The explosivity of the lower members (e.g., methyl hydroperoxide, or possibly traces of the dialkyl peroxides) decreases with increasing chain length and branching [Bretherick 2nd ed. 1979 p 10].	Strong Oxidizing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3750	PERCHLOROMETHYL MERCAPTAN	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard areas and deny entry. Stay upwind and keep out of low areas. Do not touch spilled material or breathe the dusts, vapors, or fumes from burning materials. Use water spray to reduce vapors. Do not handle broken packages without protective equipment. Wash away any material that may have contacted the body with soap and water. Take up small spills with sand or other noncombustible absorbent material and place in containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PROMECARB is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		189 to 190

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3746	PENTACHLOROETHANE																										(NTP, 1992)		358.47						(NTP, 1992)	Very slightly soluble						C21H26O5	Cellulose-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3747	PENTADECANOL																										(NTP, 1992)		218.28						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C12H14N2O2		4.0	0.0	4.0	1.0	1.0
3748	PENTADECYLAMINE	(NTP, 1992)		11		32		mm Hg	(NTP, 1992)		5.04				(NTP, 1992)		1.1812		77		(NTP, 1992)			208 to 210	760		(NTP, 1992)		146.12						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C7H5F3		3.0	0.0	3.0	1.0	1.0
3749	PERCHLORATE, N.O.S.																																									Flammable Liquid|Poison	C13H20O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3750	PERCHLOROMETHYL MERCAPTAN	(EPA, 1998)		3.00E-05		77		mm Hg													(EPA, 1998)			243		0.01	(EPA, 1998)		207.28												Poison	C12H17NO2		3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3751	PERCHLORYL FLUORIDE	CHLORINE FLUORIDE OXIDE|CHLORINE FLUORIDE OXIDE (CLO3F)|CHLORINE OXYFLUORIDE|CHLORINE OXYFLUORIDE (CLO3F)|PERCHLOROYL FLUORIDE|PERCHLORYL FLUORIDE|PERCHLORYL FLUORIDE (CLO3F)|PERCHLORYLFLUORIDE|TRIOXYCHLOROFLUORIDE	7616-94-6	Perchloryl fluoride is a colorless, non corrosive gas with a characteristic sweet odor. Contact with the material may cause irritation to skin, eyes, and mucous membranes. It is very toxic by inhalation and skin absorption. Under prolonged exposure to fire or intense heat the containers may violently rupture and rocket.	5.0	1.0	1.0	5297.0	532.0	1802.0	947.0	565.0	1704.0	176.0	582.0	325.0	172.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3752	PERFLUORO(ETHYLVINYL ETHER)	PENTAFLUOROETHYL TRIFLUOROVINYL ETHER|PERFLUORO(ETHYL VINYL ETHER)|PERFLUOROETHYL VINYL ETHER|PERFLUOROETHYLVINYL ETHER	10493-43-3	A colorless gas. Heavier than air. Easily liquefied. Contact with the unconfined liquid may cause frost bite by evaporative cooling. May asphyxiate by displacing air. A flame may flash back from a point of ignition to source of a leak. Under prolonged exposure to fire or heat containers may rupture violently and rocket.	5.0	1.0	1.0	5298.0	532.0	1802.0	947.0	565.0	1705.0	176.0	582.0	325.0	172.0	Call a physician. INHALATION: Move to fresh air. EYES: Wash with plain water or 2% solution of sodium bicarbonate. SKIN: Wash with soap and water. INGESTION: Dilute chemical and empty stomach with an emetic. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes giving off irritating SO 2 (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3753	PERFLUORODECANOIC ACID	NDFDA|NONADECAFLUORO-N-DECANOIC ACID|NONADECAFLUORODECANOIC ACID|PERFLUORO-N-DECANOIC ACID|PERFLUORODECANOIC ACID|PFDA	335-76-2	PHYSICAL DESCRIPTION: Liquid. (NTP, 1992)	2.5	5.0	2.5	5298.0	532.0	1802.0	947.0	565.0	1705.0	176.0	582.0	325.0	172.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extiguisher. (NTP, 1992)
3754	PHENETHYL ANTHRANILATE	ANTHRANILIC ACID, PHENETHYL ESTER|ANTRANILIC ACID,PHENETHYL ESTER|BENZYLCARBINYL ANTHRANILATE|BENZYLCARBINYL ANTRANILC|BETA-PHENETHYL-ORTHO-AMINOBENZOATE|PHENETHYL ANTHRANILATE|2-PHENETHYL-ORTHO-AMINOBENZOATE|PHENYLETHYL ANTHRANILATE|2-PHENYLETHYL ANTHRANILATE|2-PHENYLETHYL O-AMINOBENZOATE	133-18-6	PHYSICAL DESCRIPTION: Colorless solid with an odor of grape and orange. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5299.0	532.0	1802.0	947.0	565.0	1706.0	176.0	582.0	325.0	172.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3755	PHENOTHRIN	2,2-DIMETHYL-3-(2-METHYL-1-PROPENYL),CYCLOPROPANE CARBOXYLIC ACID (3-PHENOXYPHENYL)METHYL ESTER|PHENOTHRIN	26002-80-2	Pale yellow to yellow-brown liquid. Non corrosive. Used as an insecticide.	2.5	5.0	2.5	5299.0	532.0	1802.0	947.0	565.0	1706.0	176.0	582.0	325.0	172.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3756	PHENOXARSINE, 10,10'-OXYDI-	BIS(10-PHENOXARSINYL) OXIDE|BIS(10-PHENOXARSYL) OXIDE|BIS(PHENOXARSIN-10-YL) ETHER|BIS(PHENOXARSIN-10-YL)ETHER|10,10'-BIS(PHENOXARSINYL) OXIDE|DID 47|DUROTEX|ESTABEX ABF|10H-PHENOXARSINE, 10,10'-OXYBIS|INTERCIDE ABF 1 ESBO|OBPA|10,10'-OXIDIPHENOXARSINE|10,10'-OXYBIS|PHENOXARSINE|PHENOXARSINE, 10,10'-OXYDI-|SA 546|VINADINE|VINYZENE|VINYZENE (PESTICIDE)|VINYZENE BP 5|VINYZENE BP 5-2|VINYZENE BP 505|VINYZENE BS 1|VINYZENE SB 1|VINYZENE SB 1PS	58-36-6	A clear light yellow liquid with a mild odor. Insoluble in water and slightly denser than water. Contact may severely irritate skin, eyes, and mucous membranes.	2.5	5.0	2.5	5300.0	532.0	1802.0	947.0	565.0	1707.0	176.0	582.0	325.0	172.0	Call a physician. INHALATION: Move to fresh air. EYES: Flush with water. SKIN: Wash. (USCG, 1999)	Special Hazards of Combustion Products: Irritating fumes of sulfur oxides are produced. Behavior in Fire: Containers may rupture in fire conditions and may decompose to corrosive SO 2 . (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3757	PHENYL PHOSPHINE	FENYLFOSFIN|MONOPHENYLPHOSPHINE|PF|PHENYL PHOSPHINE|PHENYLPHOSPHINE|PHOSPHANILINE	638-21-1	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5300.0	532.0	1802.0	947.0	565.0	1707.0	176.0	582.0	325.0	172.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3751	PERCHLORYL FLUORIDE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	TRINITROBENZOIC ACID is classified as explosive. Severe explosion hazard when exposed to heat or shocked. TRINITROBENZOIC ACID is a highly dangerous material. When heated to decomposition it emits highly toxic fumes of NOx. It is very incompatible with reducing agents and can explode upon immediate contact with such materials. Organic nitrates may explode when shocked, exposed to heat or flame or by spontaneous chemical reaction. It must be stored in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. Also reacts violently with Al; BP; cyanides; esters; PN2H; P; NaCN; SnCl2; sodium hypophosphite; thiocyanates. Dangerous disaster hazard due to fire and explosion hazard. On decomposition, they emit toxic fumes. They are powerful oxidizing agents which may cause violent reaction with reducing materials. Nitrates should be protected carefully in storage. (SAX and Lewis, 1987) p.664		Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3752	PERFLUORO(ETHYLVINYL ETHER)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask, chemical workers goggles, and rubber gloves. (USCG, 1999)	Water soluble. Mixing with limited quantities of water can cause heating and decomposition with release of irritating gaseous sulfur dioxide. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Sulfur Dioxide gas will be created in 6.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney. Argonne National Laboratory, Argonne, Illinois, June 2009.	A strong reducing agent. Inorganic reducing agents, such as ZINC DITHIONITE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Sulfites and hydrosulfites (dithionites) can react explosively with strong oxidizing agents. Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1931 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3753	PERFLUORODECANOIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Turns blue on prolonged exposure to air and moisture.	PROMETHAZINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable or toxic gases may be generated in combination with strong reducing agents, such as hydrides.						0																						(NTP, 1992)		140	
3754	PHENETHYL ANTHRANILATE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	Look at benzyl chloride, benzyl bromide.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3755	PHENOTHRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	[[Details on specifics of reactivity not yet available.]]						0																						(NTP, 1992)		318 to 322
3756	PHENOXARSINE, 10,10'-OXYDI-	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Rubber gloves and boots, safety goggles or face mask, hooded suit and either a respirator with approved canister or a self-contained breathing apparatus. (USCG, 1999)	Practically insoluble in water (10.5 mg/L). Slowly reacts with water to form sulfur dioxide and alcohols; reaction is more rapid under basic or acidic conditions.	PROPARGITE is a sulfite ester. As an ester, it will hydrolyze to form sulfur dioxide and alcohols; reaction is more rapid under basic conditions. It may react exothermically with acids to generate alcohols. Heat will be generated by interaction with basic or caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		82																						
3757	PHENYL PHOSPHINE			No rapid reaction with air. No rapid reaction with water.	A triazole derivative. [[Details on specifics of reactivity not yet available.]]									0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3751	PERCHLORYL FLUORIDE																																								Flammable Solid	C7H3N3O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3752	PERFLUORO(ETHYLVINYL ETHER)																									(USCG, 1999)		193.45												ZHS	Class 9	O4S22n		2.0	0.0	3.0	1.0	1.0
3753	PERFLUORODECANOIC ACID																				(NTP, 1992)			374 to 379	3		(NTP, 1992)		284.45														C17H20N2S	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3754	PHENETHYL ANTHRANILATE																																								Poison	C7H7I		3.0	0.0	5.0	1.0	1.0
3755	PHENOTHRIN																									(NTP, 1992)		448.42						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C23H30NO3.Br		4.0	0.0	4.0	1.0	1.0
3756	PHENOXARSINE, 10,10'-OXYDI-															(USCG, 1999)		1.085 to 1.115	68		(USCG, 1999)	Decomposes.					(USCG, 1999)		350.472										PRG	Class 9	C19H26O4S	Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3757	PHENYL PHOSPHINE																																									C15H17Cl2N3O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3758	PHENYLCARBYLAMINE CHLORIDE	BENZENAMINE, N-(DICHLOROMETHYLENE)-|CARBONIC DICHLORIDE, (PHENYLIMINO)-|DICHLORO(PHENYLIMINO) METHANE|1,1-DICHLORO-N-PHENYLMETHANIMINE|IMIDOCARBONYL CHLORIDE, PHENYL-|N-(DICHLOROMETHYLENE)ANILINE|N-(PHENYLIMINO)PHOSGENE|N-PHENYLCARBIMIDE DICHLORIDE|N-PHENYLIMIDOPHOSGENE|N-PHENYLIMIDOYL DICHLORIDE|N-PHENYLIMINOCARBONYL DICHLORIDE|PHENYL CARBYLAMINE CHLORIDE|PHENYL ISOCYANIDE, DICHLORIDE|PHENYLCARBONIMIDIC DICHLORIDE|PHENYLCARBYLAMINE CHLORIDE|PHENYLIMIDOCARBONYL CHLORIDE|PHENYLIMINO)C	622-44-6	A pale yellow oily liquid with an odor of onions. Highly toxic by inhalation and skin absorption. Strongly irritates skin and mucous membranes. Density 1.265 g / cm3. Insoluble in water and soluble in alcohol. Noncombustible.	2.5	5.0	2.5	5301.0	532.0	1802.0	947.0	565.0	1708.0	176.0	582.0	325.0	172.0	INHALATION: move victim to fresh air; if breathing has stopped, give artificial respiration. EYES: immediately flush with plenty of water for at least 15 min.; get medical attention. SKIN: immediately flush with plenty of water for at least 15 min. INGESTION: give large amount of water, do NOT induce vomiting. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3759	PHENYLMERCURIC HYDROXIDE	HYDROXYPHENYLMERCURY|MERSOLITE 1|PHENYL HYDROXYMERCURY|PHENYLMERCURIC HYDROXIDE|PHENYLMERCURY HYDROXIDE	100-57-2	A fine white to cream crystalline solid. Toxic by ingestion, inhalation or skin absorption. Denser than water.	1.0	2.5	5.0	5302.0	532.0	1802.0	947.0	565.0	1709.0	176.0	582.0	325.0	172.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3760	PHENYLMERCURIC NITRATE	MERCURY, (NITRATO-O)PHENYL-|MERCURY, NITRATOPHENYL-|MERPHENYL NITRATE|MERSOLITE 7|NITRATOPHENYLMERCURY|NITRIC ACID, PHENYLMERCURY SALT|PHE-MER-NITE|PHENALCO|PHENITOL|PHENMERZYL NITRATE|PHENYLMERCURIC NITRATE|PHENYLMERCURIC NITRATE, BASIC|PHENYLMERCURINITRATE|PHENYLMERCURY (II) NITRATE|PHENYLMERCURY NITRATE|PHERMERNITE	55-68-5	Lustrous scales decomposing at 187-190Â°C. Very slightly soluble in water. Used as an antiseptic, germicide, fungicide.	1.0	2.5	5.0	5302.0	532.0	1802.0	947.0	565.0	1709.0	176.0	582.0	325.0	172.0	CONTACT WITH EYES OR SKIN: splashes in the eye should be removed by thorough flushing with water. Skin areas should be washed with soap and water. Contaminated clothing should be laundered before reuse. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
3761	PHENYLPHOSPHORUS THIODICHLORIDE	DICHLOROPHENYLPHOSPHINE SULFIDE|PHENYL PHOSPHORUS THIODICHLORIDE|PHENYLPHOSPHONOTHIOIC CHLORIDE|PHENYLPHOSPHONOTHIOIC DICHLORIDE|PHENYLPHOSPHONOTHIONODICHLORIDIC ACID|PHENYLPHOSPHONOTHIOYL DICHLORIDE|PHENYLPHOSPHORUS THIODICHLORIDE|PHENYLTHIONOPHOSPHONIC DICHLORIDE|PHENYLTHIOPHOSPHONIC DICHLORIDE|PHENYLTHIOPHOSPHONYL DICHLORIDE	3497-00-5	Colorless liquid with unpleasant acrid pungent odor. Corrodes metals slowly.	2.5	5.0	2.5	5302.0	532.0	1802.0	947.0	565.0	1709.0	176.0	582.0	325.0	172.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides and cyanide. It is a flammable/combustible material and may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Generates cyanide ions. Poisonous on contact with acids. stable, but may become unstable at elevated temperatures and pressures. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Small fires: dry chemical, carbon dioxide, water spray, and foam. Large fires: water spray, fog, or foam. Move containers from fire area if you can do it without risk. Dike fire control water for later disposal; do not scatter the material. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
3762	PHORBOL	1,1A-BETA,1B-ALPHA,4,4A,7A-BETA,7B,8,9,9A-DECAHYDRO-4A-ALPHA,7B-ALPHA,9-BETA,9A-ALPHA-TETRAHYDROXY-3-(HYDROXYMETHYL)-1,1,6,8-ALPHA-TETRAMETHYL-5H-CYCLOPROPA(3,4)BENZ(1,2-E)AZULEN-5-ONE|4-BETA,9-ALPHA,12-BETA,13-ALPHA,20-PENTAHYDROXY-1,6-TIGLIADIEN-3-ONE|4BETA-PHORBOL|5H-CYCLOPROPA(3,4)BENZ[1,2-E]AZULEN-5-ONE, 1,1A,1B,4,4A,7A,7B,8,9,9A-DECAHYDRO-4A,7B,9A-TETRAHYDROXY-3-(HYDROXYMETHYL)-1,1,6,8-TETRAMETHYL-, [1AR-(1AALPHA,1BBETA,4ABETA,7AALPHA,7BALPHA,8ALPHA,9BETA,9A.ALPHA)].-|5H-CYCLOPROPA[3,4]BENZ[1,2-E]AZULEN-5-ONE, 1,1AALPHA,1BBETA,4,4A,7AALPHA,7B,8,9,9A-DECAHYDRO-	17673-25-5	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5303.0	532.0	1802.0	949.0	565.0	1710.0	176.0	582.0	327.0	172.0	INHALATION: move to fresh air; chest x-ray should be taken immediately to detect pneumonitis, if exposure has been severe. INGESTION: induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention. SKIN: flush with water; get medical attention if skin has been broken. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating vapor of unburned material may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3758	PHENYLCARBYLAMINE CHLORIDE	(BLOB)	Organic canister mask; goggles or face shield; rubber gloves (USCG, 1999)	Decomposes exothermically in water to form a corrosive solution of propionic acid [Merck, 11th ed. 1989].	PROPIONIC ANHYDRIDE reacts exothermically with water. The reactions are sometimes slow, but can become violent when local heating accelerates their rate. Acids accelerate the reaction with water. Incompatible with acids, strong oxidizing agents, alcohols, amines, and bases.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(USCG, 1999)		145		(USCG, 1999)		1.48		%	(USCG, 1999)		11.9		%	(USCG, 1999)		545		(USCG, 1999)		-45	
3759	PHENYLMERCURIC HYDROXIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	While a mixture of parathion and endrin was being blended into a petroleum solvent, an exothermic reaction occurred that caused some of the petroleum solvent to vaporize. The solvent-vapor-air mixture exploded. The mechanical agitation possibly initiated the exothermic reaction, Doyle(1973).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3760	PHENYLMERCURIC NITRATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic canister or air-supplied mask, goggles or face shield. (USCG, 1999)	Insoluble in water.	1-DECENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initators, may undergo exothermic addition polymerization reactions. Will attack some forms of plastics (USCG, 1999).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(USCG, 1999)		128							(USCG, 1999)		455		(USCG, 1999)		-87.3	
3761	PHENYLPHOSPHORUS THIODICHLORIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water.	PROPIONITRILE is incompatible with strong acids, strong bases, strong oxidizing agents and strong reducing agents. After refluxing for 24 hours at 221Â°F, a mixture of this compound with N-bromosuccinimide exploded. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(EPA, 1998)		35.6		(EPA, 1998)		3.1		%	(NTP, 1992)		14		%					(EPA, 1998)		-133	
3762	PHORBOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Respiratory protection; gloves; goggles (USCG, 1999)	Water soluble.	BERYLLIUM FLUORIDE is incompatible with the following: Acids, caustics, chlorinated hydrocarbons, oxidizers, magnesium, molten lithium (NIOSH, 1997).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3758	PHENYLCARBYLAMINE CHLORIDE														(USCG, 1999)		1.01		68		(USCG, 1999)		336		760		(USCG, 1999)		130.14											PAH	Corrosive	C6H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3759	PHENYLMERCURIC HYDROXIDE																													(NIOSH, 2003)	; A potential human carcinogen.	50	mg/m3								Poison	C12H8ClHgO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3760	PHENYLMERCURIC NITRATE														(USCG, 1999)		0.741		68		(USCG, 1999)		339.1		760		(USCG, 1999)		140.2											DCE	Flammable Liquid	C10H20	Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3761	PHENYLPHOSPHORUS THIODICHLORIDE	(EPA, 1998)		40		71.6		mm Hg	(EPA, 1998)		1.9				(EPA, 1998)		0.802		32		(EPA, 1998)		207		760		(EPA, 1998)		55.08						(NTP, 1992)	at 73Â° F		50 to 100	mg/mL	PCN	Flammable Liquid|Poison	C3H5N		3.0	0.0	4.0	1.0	1.0
3762	PHORBOL														(USCG, 1999)		1.99		68								(USCG, 1999)		47		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3						BEF	Poison	BeF2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3763	PHORBOL-12,13-DIBUTYRATE	9AH-CYCLOPROPA[3,4]BENZ[1,2-E]AZULENE, BUTANOIC ACID DERIV.)4BETA-PHORBOL 12,13-DIBUTYRATE|12,13-DI-O-BUTYRYLPHORBOL|PDBU|PHORBOL 12,13-DIBUTYRATE|PHORBOL DIBUTYRATE|PHORBOL, 12,13-DI-N-BUTYRIC ACID ESTER|PHORBOL-12,13-BUTYRATE|PHORBOL-12,13-DIBUTYRATE	37558-16-0	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5304.0	532.0	1802.0	949.0	565.0	1711.0	176.0	582.0	327.0	172.0	INHALATION: remove to fresh air; take chest x-ray immediately to check for pneumonitis. INGESTION: induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention. SKIN: cuts or puncture wounds in which beryllium may be embedded under the skin should be thoroughly cleansed immediately by a physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating beryllium oxide and oxides of nitrogen may form in fire. Behavior in Fire: May increase intensity of fire when in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3764	PHORONE	DIISOBUTENYL KETONE|DIISOPROPYLIDENE ACETONE|FORON|PHORONE|SYM-DIISOPROPYLIDENE ACETONE	504-20-1	A yellowish liquid with a solvent-like odor. Combustible but difficult to ignite. Used as a solvent for lacquers and coatings.	2.5	5.0	2.5	5304.0	532.0	1803.0	949.0	565.0	1711.0	176.0	583.0	327.0	172.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3765	PHOSFOLAN	AC 47031|AMERICAN CYANAMID CL-47031|AMERICAN CYANAMIDE 47031|CAYOLAN|CL 47031|CL-47031|CYALANE|CYCLIC ETHYLENE(DIETHOXYPHOSPHINOTHIOYL) DITHIOIMIDOCARBONATE|CYLAN|CYOLAN|CYOLANE|CYOLANE INSECTICIDE|2-(DIETHOXY-PHOSPHINYLIMINO)-1,3-DITHIOLANE|(DIETHOXYPHOSPHINYL)DITHIOIMIDOCARBONIC ACID CYCLIC ETHYLENE ESTER|2-[DIETHOXYPHOSPHINYLIMINO]-1,3-DITHIOLANE|DIETHYL 1,3-DITHIOLAN-2-YLIDENEPHOSPHORAMIDATE|EI 47031|EI 47301|ENT 25,830|1,2-ETHANEDITHIOL, CYCLIC ESTER WITH P,P-DIETHYL PHOSPHONODITHIOIMIDOCARBONATE|1,2-ETHANEDITHIOL, CYCLIC	947-02-4	Colorless to yellow solid. Used as an insecticide. (EPA, 1998)	1.0	2.5	5.0	5304.0	532.0	1803.0	949.0	565.0	1711.0	176.0	583.0	327.0	172.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Special Hazards of Combustion Products: Combustion yields beryllium oxide fume, which is toxic if inhaled. Behavior in Fire: Powder may form explosive mixture with air. (USCG, 1999)	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Do not get water inside containers. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3766	PHOSPHAMIDON	(BLOB)	13171-21-6	Pale yellow oily liquid with a faint odor. Used as an insecticide for citrus, cotton, and deciduous fruit and nuts. and as an acaricide. (EPA, 1998)	2.5	5.0	2.5	5305.0	533.0	1803.0	949.0	566.0	1712.0	177.0	583.0	327.0	173.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3767	PHOSPHORUS PENTABROMIDE	PENTABROMOPHOSPHORANE|PENTABROMOPHOSPHORUS|PHOSPHORIC BROMIDE|PHOSPHORUS BROMIDE|PHOSPHORUS BROMIDE (PBR5)|PHOSPHORUS PENTABROMIDE|PHOSPHORUS PERBROMIDE|PHOSPHORUS(V) BROMIDE	7789-69-7	A yellow crystalline solid that is shipped in sealed containers. Strongly irritating to skin and eyes. Used to make other chemicals.	1.0	2.5	5.0	5305.0	533.0	1803.0	949.0	566.0	1712.0	177.0	583.0	327.0	173.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3763	PHORBOL-12,13-DIBUTYRATE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Respiratory protection; gloves; freshly laundered clothing; chemical safety goggles (USCG, 1999)	Soluble in water.	Mixtures of metal/nonmetal nitrates, such as BERYLLIUM NITRATE, with alkyl esters may explode owing to the formation of alkyl nitrates; mixing a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
3764	PHORONE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Vigorously reacts with water to form propionic acid and hydrochloric acid [Merck 11th ed. 1989]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.09 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Acid halides, such as PROPIONYL CHLORIDE, are water reactive; some are violently reactive. They are incompatible with strong oxidizing agents, alcohols, amines, and alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1815 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(NFPA, 2010)		54																		
3765	PHOSFOLAN	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do it without risk. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Prevent entry into waterways, sewers, basements or confined areas. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Insoluble in water.	Boron trifluoride reacts with incandescence when heated with alkali metals or alkaline earth metals except magnesium [Merck 11th ed. 1989]. Finely divided or amalgamated metal reacts with HCl, dil HNO3, or dil H2SO4; attacked by strong base with evolution of hydrogen gas [Merck 11th ed. 1989]. It has been determined experimentally that a mixture of beryllium powder with carbon tetrachloride or with trichloroethylene will flash or spark on heavy impact [ASESB Pot. Incid. 39 1968]. The reaction between beryllium and the vapors of phosphorus proceeds with incandescence [Mellor 8:842 1946-47].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 134 [Flammable Solids - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																	(NIOSH, 2003)		2349	
3766	PHOSPHAMIDON	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air. No rapid reaction with water.	PROPOXUR is incompatible with the following: Strong oxidizers, alkalis [Note: Emits highly toxic methyl isocyanate fumes when heated to decomposition.] (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		greater than 300														(NIOSH, 2003)		187 to 197	
3767	PHOSPHORUS PENTABROMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. Water soluble.	A halogenated epoxide. Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts. The chlorinated derivative has been shown to be incompatible with aniline, strong oxidizers, sulfuric acid, isopropylamine, zinc, aluminum, iron, etc. see epichlorohydrin.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		40																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3763	PHORBOL-12,13-DIBUTYRATE														(USCG, 1999)		1.56		68										(trihydrate)	187.09		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3						BEN	Oxidizer|Poison	Be(NO3)2.3H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3764	PHORONE																																								Flammable Liquid|Corrosive	C3H5ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3765	PHOSFOLAN	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		1.85		68		(NIOSH, 2003)		4532		760		(USCG, 1999)		9.01		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3	(NIOSH, 2003)	Insoluble				BEM	Poison|Flammable Solid	Be		2.0	0.0	2.0	1.0	1.0
3766	PHOSPHAMIDON	(NIOSH, 2003)		7.00E-06				mm Hg													(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		209.3						(NIOSH, 2003)		0.2		%		Poison	C11H15NO3		3.0	0.0	4.0	1.0	1.0
3767	PHOSPHORUS PENTABROMIDE														(NTP, 1992)		1.09		68		(NTP, 1992)			185 to 187	760		(NTP, 1992)		76.07						(NTP, 1992)	at 61Â° F		greater than or equal to 100	mg/mL		Flammable Liquid|Poison	C3H5FO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3768	PHYSOSTIGMINE, [SALICYLATE (1:1)]	BENZOIC ACID, 2-HYDROXY-, COMPOUND WITH (3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL-5-YL METHYLCARBAMATE (1:1)|BENZOIC ACID, 2-HYDROXY-, COMPOUND WITH(3AS-CIS)-1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-TRIMETHYLPYRROLO[2,3-B]INDOL-5-YL METHYLCARBAMATE(1:1)|ESERINE SALICYLATE|PHYSOSTIGMINE SALICYLATE(-)-PHYSOSTIGMINE SALICYLATE|PHYSOSTIGMINE, MONOSALICYLATE|PHYSOSTIGMINE, SALICYLATE (1:1)|PHYSOSTIGMINE, SALICYLATE(1:1)|PHYSOSTIGMINE, [SALICYLATE (1:1)]|PHYSOSTOL SALICYLATE|PYRROLO[2,3-B]INDOL-5-OL, 1,2,3,3A,8,8A-HEXAHYDRO-1,3A,8-	57-64-7	Crystal form that turns red on exposure to heat or light. (EPA, 1998)	1.0	2.5	5.0	5306.0	533.0	1803.0	949.0	566.0	1713.0	177.0	583.0	327.0	173.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3769	PICRYL CHLORIDE	BENZENE, 2-CHLORO-1,3,5-TRINITRO-|2-CHLORO-1,3,5-TRINITROBENZENE|1-CHLORO-2,4,6-TRINITROBENZENE|PICRYL CHLORIDE|TNCB|2,4,6-TRINITRO-1-CHLOROBENZENE|2,4,6-TRINITROCHLOROBENZENE	88-88-0	PHYSICAL DESCRIPTION: Almost white needles or yellow powder. (NTP, 1992)	1.0	2.5	5.0	5306.0	533.0	1803.0	949.0	566.0	1713.0	177.0	583.0	327.0	173.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical carbon dioxide or Halon extinguisher. (NTP, 1992)
3770	PINANE	BICYCLO(3.1.1)HEPTANE, 2,6,6-TRIMETHYL-|DIHYDROPINENE|PINANE|2,6,6-TRIMETHYLBICYCLO(3,1,1)HEPTANE|2,7,7-TRIMETHYLBICYCLO(3.1.1)HEPTANE	473-55-2	PHYSICAL DESCRIPTION: Clear colorless liquid with lint-like particles. Mild odor. (NTP, 1992)	2.5	5.0	2.5	5306.0	533.0	1803.0	949.0	566.0	1713.0	177.0	583.0	327.0	173.0	Call for medical aid. EYES: Wash with water for 15 min.; call a physician. SKIN: Remove contaminated clothing and wash skin with soap and water. INGESTION: Induce vomiting after drinking two glasses of water. (USCG, 1999)	Special Hazards of Combustion Products: Carbon dioxide and carbon monoxide may form when heated to decomposition. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Water spray, alcohol foam, dry chemical, or carbon dioxide. (USCG, 1999)
3771	PINANE HYDROPEROXIDE	CIS-PINANE HYDROPEROXIDE|PINANE HYDROPEROXIDE|PINANE HYDROPEROXIDE, [TECHNICALLY PURE]|PINANYL HYDROPEROXIDE	28324-52-9	The solid or liquid peroxide is sensitive to heat and contamination.	1.0	2.5	5.0	5306.0	533.0	1803.0	949.0	566.0	1713.0	177.0	583.0	327.0	173.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3772	PINDONE	CHEMRAT|2-(2,2-DIMETHYL-1-OXOPROPYL)-1H-INDENE-1,3(2H)-DIONE|2,2-DIMETHYLPROPOXY-1,3-INDANDIONE|1,3-DIOXO-2-PIVALOY-LINDANE|1,3-INDANDIONE, 2-PIVALOYL-|PINDONE|PIVACIN|PIVAL|2-PIVALOYL-1,3-INDANDIONE|2-PIVALOYLINDANE-1,3-DIONE|PIVALYL|PIVALYL INDANDIONE|PIVALYL VALONE|2-PIVALYL-1,3-INDANDIONE|PIVALYLINDAN-1,3-DIONE|PIVALYLINDANDIONE|PIVALYN|PIVALÄ®|TERT-BUTYL VALONE|TRI-BAN|2-(TRIMETHYLACETYL)-1,3-INDANDIONE|2-TRIMETHYLACETYL-1,3-INDANDIONE	83-26-1	PHYSICAL DESCRIPTION: Yellow solid or powder. (NTP, 1992)	1.0	2.5	5.0	5306.0	533.0	1804.0	949.0	566.0	1713.0	177.0	584.0	327.0	173.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3773	PIPERONYL ACETATE	ACETATE 1,3-BENZODIOXOLE-5-METHANOL|HELIOTROPYL ACETATE|3,4-METHYLENEDIOXY|BENZYL ESTER ACETIC ACID|3,4-METHYLENEDIOXYBENZYL ACETATE|PIPERONYL ACETATE|PIPERONYL ALCOHOL, ACETATE	326-61-4	PHYSICAL DESCRIPTION: Clear pale yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5307.0	533.0	1804.0	949.0	566.0	1714.0	177.0	584.0	327.0	173.0	INHALATION: remove victim to fresh air. INGESTION: do NOT lavage or induce vomiting; give vegetable oil and demulcents; call physician EYES: flush with water for 15 min. SKIN: wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3768	PHYSOSTIGMINE, {SALICYLATE (1:1)}	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Highly flammable. Water soluble	BETA-BUTYROLACTONE is incompatible with strong oxidizers and strong bases. It is hydrolyzed by water and aqueous alkali. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		140														(NTP, 1992)		-46.3	
3769	PICRYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as BETA-CARYOPHYLLENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.						0		(NTP, 1992)		214																						
3770	PINANE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Safety goggles, protective clothing. Use approved respirator when possibility exists of encountering vapor. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	PROPYLENE GLYCOL METHYL ETHER ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Incompatible with oxidizers.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		114		(USCG, 1999)	at 173Â°F	1.3		%	(USCG, 1999)	at 283Â°F	13.1		%	(USCG, 1999)		670						
3771	PINANE HYDROPEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from light and store this it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	THEOBROMINE may be sensitive to prolonged exposure to light. This chemical has weakly acidic properties, combining with bases to forms salts. It also has even weaker basic properties, combining with acids to form salts which are decomposed in aqueous solution. (NTP, 1992).						0																		(NTP, 1992)		675	
3772	PINDONE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	ETHANE, [REFRIGERATED] is relatively inactive chemically except for its flammability.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4																							
3773	PIPERONYL ACETATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	PROPYLENE TETRAMER may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		120														(USCG, 1999)		400				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3768	PHYSOSTIGMINE, [SALICYLATE (1:1)]	(NTP, 1992)	; 5.5 mm Hg at 124Â° F; 18.5 mm Hg at 163Â° F	0.5		108		mm Hg							(NTP, 1992)		1.0555		68		(NTP, 1992)			160 to 163	29		(NTP, 1992)		86.09						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C4H6O2		2.0	0.0	2.0	1.0	1.0
3769	PICRYL CHLORIDE														(NTP, 1992)		0.9075		68		(NTP, 1992)			264 to 266	14		(NTP, 1992)		204.36						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C15H24	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3770	PINANE														(USCG, 1999)		0.969		68		(USCG, 1999)		302		760		(USCG, 1999)		132.16										PGN	Flammable Liquid	C6H12O3		3.0	0.0	3.0	1.0	1.0
3771	PINANE HYDROPEROXIDE																				(NTP, 1992)	Sublimes at 554-563Â° F					(NTP, 1992)		180.17						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C7H8N4O2	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3772	PINDONE																																								Flammable Gas	C2H6		3.0	0.0	4.0	1.0	1.0
3773	PIPERONYL ACETATE														(USCG, 1999)		0.2937		68		(USCG, 1999)			365 to 385	760		(USCG, 1999)		168.31										PTT	Flammable Liquid	C12H24	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3774	PIPERONYL ACETONE	4-(1,3-BENZODIOXYL-5-YL)-3-BUTEN-2-ONE|3-BUTEN-2-ONE, 4-[3,4-(METHYLENEDIOXY)PHENYL]-|HELIOTROPYL ACETONE|3,4-(METHYLENEDIOXY)BENZALACETONE|3,4-METHYLENEDIOXYBENZYLACETONE|4-(3,4-METHYLENEDIOXYPHENYL)-2-BUTANONE|PIPERONALACETONE|PIPERONYL ACETONE|PIPERONYLIDENE ACETONE	3160-37-0	PHYSICAL DESCRIPTION: Clear yellow liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5307.0	533.0	1804.0	949.0	566.0	1714.0	177.0	584.0	327.0	173.0	(BLOB)	Chemical is extremely flammable; vapors are heavier than air. Toxic oxides of nitrogen are produced during combustion. Avoid acids, strong oxidizers. Thermally unstable. Hazardous polymerization may occur. Contact with acid promotes violent polymerization. (EPA, 1998)	If material is on fire, do not extinguish fire unless flow can be stopped. Use water in flooding quantities as a "fog" and use to cool all affected containers. Keep material out of water sources and sewers. Build dikes to contain flow as necessary. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. If material is on fire, use foam, carbon dioxide, or dry chemical. (EPA, 1998)
3775	PIRIMIFOS-ETHYL	2-DIETHYLAMINO-6-METHYLPYRIMIDIN-4-YL DIETHYLPHOSPHOROTHIONATE|ETHYL PIRIMIPHOS|FERNEX|O,O-DIETHYL O-(2-DIETHYLAMINO-6-METHYL-4-PYRIMIDINYL) PHOSPHOROTHIOATE|O-(2-(DIETHYLAMINO)-6-METHYL-4-PYRIMIDINYL) O,O-DIETHYL PHOSPHOROTHIOATE|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-(2-(DIETHYLAMINO)-6-METHYL-4- PYRIMIDINYL) ESTER|PHOSPHOROTHIOIC ACID, O-(2-(DIETHYLAMINO)-6-METHYL-4-PYRIMIDINYL) O,O-DIETHYL ESTER|PIRIMIFOS-ETHYL|PIRIMIFOSETHYL|PIRIMIPHOS A|PIRIMIPHOS ETHYL|PIRIMIPHOS-ETHYL|PP 211|PP211|PRIMICID|PRIMOTEC|PRINICID|R	23505-41-1	Straw colored liquid. Used as a pesticide. (EPA, 1998)	2.5	5.0	2.5	5308.0	534.0	1804.0	949.0	567.0	1715.0	178.0	584.0	327.0	174.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
3776	PIVALOLACTONE	ALPHA, ALPHA-DIMETHYL-BETA-PROPIOLACTONE|ALPHA,ALPHA-DIMETHYL-BETA-PROPIOLACTONE|ALPHA,ALPHA-DIMETHYLPROPIOLACTONE|DIMETHYL PROPIOLACTONE|3,3-DIMETHYL-2-OXETANONE|3,3-DIMETHYL-2-OXETHANONE|3,3-DIMETHYL-BETA-PROPIOLACTONE|HYDRACRYLIC ACID, 2,2-DIMETHYL-, BETA-LACTONE|NCI-C04126|2-OXETANONE, 3,3-DIMETHYL-|PIVALIC ACID LACTONE|PIVALOLACTONE| PROPANOIC ACID, 3-HYDROXY-2,2-DIMETHYL-, BETA-LACTONE	1955-45-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5309.0	535.0	1804.0	949.0	568.0	1716.0	179.0	584.0	327.0	175.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3777	P-MENTHANE	1-ISOPROPYL-4-METHYLCYCLOHEXANE|1-METHYL-4-(1-METHYLETHYL)CYCLOHEXANE|1-METHYL-4-ISOPROPYLCYCLOHEXANE| P-MENTHANE	99-82-1	PHYSICAL DESCRIPTION: Clear liquid. (NTP, 1992)	2.5	5.0	2.5	5309.0	535.0	1804.0	949.0	568.0	1716.0	179.0	584.0	327.0	175.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray can also be used. (NTP, 1992)
3778	P-MENTHANE HYDROPEROXIDE	1-METHYL-1-(4-METHYLCYCLOHEXYL)ETHYL HYDROPEROXIDE|P-MENTH-8-YL HYDROPEROXIDE|P-MENTHANE HYDROPEROXIDE|P-MENTHANE-8-HYDROPEROXIDE|PERMENTHA H	80-47-7	PHYSICAL DESCRIPTION: Clear pale yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5310.0	535.0	1804.0	949.0	568.0	1717.0	179.0	584.0	327.0	175.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3774	PIPERONYL ACETONE	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Soluble in water. Reacts slowly and non hazardously with water to form propanolamine or methylethanolamine.	PROPYLENEIMINE, [INHIBITED] is subject to violent polymerization on contact with an acid. (The inhibitor is intended to prevent polymerization). Incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		25																(EPA, 1998)		-85	
3775	PIRIMIFOS-ETHYL		(BLOB)	No rapid reaction with air No rapid reaction with water	P-TERPHENYL is non-flammable but combustible (flash point: 410Â°C). Extremely stable thermally. Incompatible with strong oxidizing agents but not very reactive at room conditions.								0		(NIOSH, 2003)		405																(NIOSH, 2003)		415	
3776	PIVALOLACTONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	P-TERT-BUTYLTOLUENE may react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		136																(NTP, 1992)		-62	
3777	P-MENTHANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		232																(NTP, 1992)		190 to 205	
3778	P-MENTHANE HYDROPEROXIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3774	PIPERONYL ACETONE	(EPA, 1998)		112		68		mm Hg	(EPA, 1998)		2				(EPA, 1998)			0.8039 to 0.807		77	(EPA, 1998)			151 to 153	760		(EPA, 1998)		57.11		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	PII	Flammable Liquid|Poison	C3H7N	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	3.0	0.0	3.0	1.0	1.0
3775	PIRIMIFOS-ETHYL	(NIOSH, 2003)	Very low												(NIOSH, 2003)		1.23				(NIOSH, 2003)		761		760		(NIOSH, 2003)		230.3		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	Insoluble						C6H5C6H4C6H5		3.0	0.0	4.0	1.0	1.0
3776	PIVALOLACTONE	(NTP, 1992)			less than or equal to 1	68		mm Hg							(NTP, 1992)		0.8612		68		(NTP, 1992)		379		760		(NTP, 1992)		148.27		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Poison	C11H16		1.0	0.0	1.0	1.0	1.0
3777	P-MENTHANE														(NTP, 1992)		0.9624		68		(NTP, 1992)	. 280Â° F at 15 mm Hg, 491-513Â° F	504.5		760		(NTP, 1992)		164.25						(NTP, 1992)	at 79Â° F		less than 1	mg/mL		Corrosive	C11H16O		2.0	0.0	4.0	1.0	1.0
3778	P-MENTHANE HYDROPEROXIDE																																								Corrosive	H3C(C6H4)SO2Cl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3779	P-METHYLSTYRENE	4-ETHENYLMETHYLBENZENE|1-METHYL-4-VINYLBENZENE|(4-METHYLPHENYL)ETHENE|4-METHYLSTYRENE|P-METHYLSTYRENE|1-P-TOLYLETHENE|P-VINYLTOLUENE|PMS|STYRENE, P-METHYL-|4-VINYLTOLUENE	622-97-9	A clear colorless liquid with an aromatic odor. Usually shipped with an inhibitor such as tert-butyl catechol added May polymerize if contaminated or subjected to heat. If polymerization takes place inside a closed container, the container may rupture violently. Vapors irritate the mucous membranes. Less dense than water and insoluble in water. Hence floats on water. Used in making plastics, especially as a monomer for polyesters.	2.5	5.0	2.5	5310.0	535.0	1804.0	949.0	568.0	1717.0	179.0	584.0	327.0	175.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3780	P-NITROSODIETHYLANILINE	ANILINE, N,N-DIETHYL-P-NITROSO-|4-(DIETHYLAMINO)NITROSOBENZENE|N,N-DIETHYL-4-NITROSOANILINE|N,N-DIETHYL-4-NITROSOBENZENAMINE|N,N-DIETHYL-P-NITROSOANILINE|4-(N,N-DIETHYLAMINO)NITROSOBENZENE|4-NITROSO-N,N-DIETHYLAMINOBENZENE|4-NITROSO-N,N-DIETHYLANILINE|P-(DIETHYLAMINO)NITROSOBENZENE|P-NITROSO-N,N-DIETHYLANILINE|P-NITROSODIETHYLANILINE	120-22-9	Green solid. Insoluble in water.	1.0	2.5	5.0	5311.0	535.0	1804.0	949.0	568.0	1718.0	179.0	584.0	327.0	175.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3781	P-NITROSODIMETHYLANILINE	ACCELERENE|ACCELERINE|ANILINE, N,N-DIMETHYL-4-NITRO-|ANILINE, N,N-DIMETHYL-P-NITROSO-|DIMETHYL-P-NITROSOANILINE|1-(DIMETHYLAMINO)-4-NITROSOBENZENE|4-(DIMETHYLAMINO)NITROSOBENZENE|N,N-DIMETHYL-4-NITROSOANILINE|N,N-DIMETHYL-P-NITROSO ANILINE|N,N-DIMETHYL-P-NITROSOANILINE|N,N-DIMETHYL-PARA-NITROSOANILINE|NCI-C01821|NDMA|4-NITROSO-N,N-DIMETHYLAMINOBENZENE|4-NITROSO-N,N-DIMETHYLANILINE|NITROSOANILINE, N,N-DIMETHYL-P-|P-(DIMETHYLAMINO)NITROSOBENZENE|P-(N,N-DIMETHYLAMINO)NITROSO BENZENE|P-NDMA|P-NITROSO-N,N-DIMETHYLANILINE|P-	138-89-6	A dark green crystalline solid. Insoluble in water. Harmful if ingested.	1.0	2.5	5.0	5312.0	535.0	1804.0	949.0	568.0	1719.0	179.0	584.0	327.0	175.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3782	P-NITROSODIPHENYLAMINE	BENZENAMINE,4-NITROSO-N-PHENYL-|DIPHENYLAMINE, 4-NITROSO-|N-PHENYL-4-NITROSOANILINE|N-PHENYL-P-NITROSOANILINE|NAUGARD TKB|NCI-C02244|4-NITROSO-N-PHENYLANILINE|4-NITROSO-N-PHENYLBENZENAMINE|4-NITROSODIPHENYLAMINE|P-NITROSO-N-PHENYLANILINE|P-NITROSODIPHENYLAMINE|P-PHENYLAMINONITROSOBENZENE|PHENYL 4-NITROSOPHENYL AMINE_|TKB	156-10-5	PHYSICAL DESCRIPTION: Green plates with bluish luster or a black powder. (NTP, 1992)	1.0	2.5	5.0	5313.0	535.0	1804.0	949.0	568.0	1720.0	179.0	584.0	327.0	175.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3783	POLYETHYLENE POLYAMINE	POLY(ETHYLENEIMINE)|POLYETHYLENE POLYAMINE|POLYETHYLENE POLYAMINES|POLYETHYLENEIMINE	68131-73-7	Yellow liquid with an amine odor. (USCG, 1999)	2.5	5.0	2.5	5313.0	536.0	1805.0	951.0	569.0	1720.0	180.0	585.0	329.0	176.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3779	P-METHYLSTYRENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Fine dust dispensed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. (NTP, 1992). Insoluble in water.	(BLOB)								0																				(NTP, 1992)		356 to 360
3780	P-NITROSODIETHYLANILINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	BIS (AMINOPROPYL) PIPERAZINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3781	P-NITROSODIMETHYLANILINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ETHANOL, 2,2'-OXYBIS-, DICARBAMATE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3782	P-NITROSODIPHENYLAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water and more dense than water.	BIS (TRICHLOROMETHYL) SULFONE is likely to be incompatible with strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3783	POLYETHYLENE POLYAMINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	P-XYLENE may react with oxidizing materials. (NTP, 1992). Acetic acid forms explosive mixtures with p-xylene and air (Shrarer, B.I. 1970. Khim. Prom. 46(10):747-750.).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		81		(USCG, 1999)		1.1		%	(USCG, 1999)		7		%	(USCG, 1999)		984		(NTP, 1992)		55.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3779	P-METHYLSTYRENE																				(NTP, 1992)			525 to 527	760		(NTP, 1992)		136.15						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C8H8O2		2.0	0.0	4.0	1.0	1.0
3780	P-NITROSODIETHYLANILINE																																								Corrosive	C10H24N4	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3781	P-NITROSODIMETHYLANILINE																																								Poison	C6H12N2O5		5.0	0.0	5.0	1.0	1.0
3782	P-NITROSODIPHENYLAMINE																																								Corrosive	C2Cl6O2S		2.0	0.0	3.0	1.0	1.0
3783	POLYETHYLENE POLYAMINE	(NTP, 1992)		10		81.1		mm Hg	(NTP, 1992)		3.66				(USCG, 1999)		0.861		68		(NTP, 1992)		280.9		760		(NTP, 1992)		106.17		(NIOSH, 2003)		900	ppm	(NTP, 1992)	Insoluble.				XLP	Flammable Liquid	C8H10		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3784	POLYTHIAZIDE	6-CHLORO-3,4-DIHYDRO-2-METHYL-3-[[(2,2,2-TRIFLUOROETHYL)THIO]METHYL]-2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE 1,1-DIOXIDE|6-CHLORO-3,4-DIHYDRO-2-METHYL-7-SULPHAMOYL-3-(2,2,2-TRIFLUOROETHYLTHIOMETHYL)2H-BENZO-1,2,4-THIADIAZINE 1,1-DIOXIDE|6-CHLORO-3,4DIHYDRO-2-METHYL-3-(((2,2,2-TRIFLUOROETHYL)THIO)METHYL)2H-1,2,4-BENZOTHIADIAZINE-7-SULFONAMIDE, 1,1-DIOXIDE|DRENUSIL|2-METHYL-3-(BETA,BETA,BETA-TRIFLUOROETHYLTHIOMETHYL)-6-CHLORO-7-SULFAMYL-3,4-DIHYDRO-1,2,4-BENZOTHIADIAZINE 1,1-DIOXIDE|NEPHRIL|NEPHRIL|P 2525|P2525|POLYTHIAZIDE|(	346-18-9	PHYSICAL DESCRIPTION: Crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	5313.0	536.0	1805.0	951.0	569.0	1720.0	180.0	585.0	329.0	176.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors generated when heated. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3785	POTASSIUM ARSENATE	DIHYDROGEN POTASSIUM ARSENATE|HYDROGEN POTASSIUM ARSENATE (H2KASO4)|MACQUER'S SALT|MONOPOTASSIUM ARSENATE|MONOPOTASSIUM DIHYDROGEN ARSENATE|POTASSIUM ACID ARSENATE|POTASSIUM ARSENATE|POTASSIUM ARSENATE (KH2ASO4)|POTASSIUM ARSENATE, [SOLID]|POTASSIUM DIHYDROGEN ARSENATE|POTASSIUM DIHYDROGEN ARSENATE (KH2ASO4)|POTASSIUM DIHYDROGEN ORTHOARSENATE|POTASSIUM HYDROGEN ARSENATE (KH2ASO4)	7784-41-0	A colorless crystalline solid. Soluble in water and denser than water. Toxic by ingestion and inhalation. An irritant.	1.0	2.5	5.0	5313.0	536.0	1805.0	951.0	569.0	1720.0	180.0	585.0	329.0	176.0	(BLOB)	Shock can shatter the container, releasing the contents. Fire may produce irritating or poisonous gases. Decomposes above 302F. When heated to decomposition it emits highly toxic fumes of oxides of sulfur and phosphorus. Hydrolyzed by acids and alkalies. Slowly oxidized in air. (EPA, 1998)	Move containers from fire area if it can be done without risk. Dike fire control water for later disposal, do not scatter the material. Fight fire from maximum distance. Wear positive pressure breathing apparatus and protective clothing. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
3786	POTASSIUM CUPROCYANIDE	COPPER(I) POTASSIUM CYANIDE|CUPRATE(1-), BIS(CYANO-C)-, POTASSIUM|CUPRATE(1-), DICYANO-, POTASSIUM|CUPROUS POTASSIUM CYANIDE|POTASSIUM COPPER(I) CYANIDE|POTASSIUM CUPROCYANIDE|POTASSIUM CYANOCUPRATE(I) (KCU(CN)2)|POTASSIUM DICYANOCUPRATE(1-)|POTASSIUM DICYANOCUPRATE(I)	13682-73-0	A white crystalline solid. Denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion and inhalation.	1.0	2.5	5.0	5313.0	536.0	1805.0	951.0	569.0	1720.0	180.0	585.0	329.0	176.0	Wash affected parts with water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, carbon dioxide, or alcohol foam. (USCG, 1999)
3787	POTASSIUM DICHLORO-S-TRIAZINETRIONE, DRY	ACL 59|DICHLOR-S-TRIAZIN-2,4,6(1H,3H,5H)TRIONE POTASSIUM|DICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE POTASSIUM|DICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE POTASSIUM DERIVATIVE|DICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, POTASSIUM DERIVATIVE|1,3-DICHLORO-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, POTASSIUM SALT|DICHLOROISOCYANURIC ACID POTASSIUM SALT|3,5-DICHLOROTETRAHYDRO-2,4,6-TRIOXO-S-TRIAZIN-1(2H)YL-POTASSIUM|FLUONON|ISOCYANURIC ACID, DICHLOROPOTASSIUM SALT|LAITONON|NEOCHLOR 59|POTASSIUM DICHLORO-S-TRIAZINETRIONE|POTASSIUM DICHLORO-S-TRIAZINETRIONE, DRY|POTASSIUM DICHLORO-	2244-21-5	White solid with an odor of chlorine. Mixes with water. (USCG, 1999)	1.0	2.5	5.0	5314.0	536.0	1805.0	951.0	569.0	1721.0	180.0	585.0	329.0	176.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
3788	POTASSIUM HYDROSULFIDE (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	POTASSIUM HYDROSULFIDE|POTASSIUM HYDROSULFIDE (CORROSIVE LIQUIDS, TOXIC, N.O.S.)|POTASSIUM HYDROSULPHIDE|POTASSIUM HYDROSULPHIDE (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	1310-61-8	This material contains potassium hydrosulfide in solution. It will have a rotten egg like odor. It has a pH between 8.5-11.5. It is a transparent to dark green liquid. Contact with heat or acidic materials will evolve highly toxic hydrogen sulfide. The liquid is highly corrosive to the skin and eyes. Ingestion causes severe burning and corrosion in all portions of the gastrointestinal tract.	2.5	5.0	2.5	5315.0	536.0	1805.0	952.0	569.0	1722.0	180.0	585.0	330.0	176.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3789	POTASSIUM HYPOCHLORITE SOLUTION	JAVEL WATER|JAVELLE WATER|POTASSIUM CHLORIDE OXIDE (KCLO)|POTASSIUM HYPOCHLORITE|POTASSIUM HYPOCHLORITE (KCLO)|POTASSIUM HYPOCHLORITE SOLUTION	7778-66-7	Colorless aqueous solution with a pungent irritating chlorine odor.	2.5	5.0	2.5	5315.0	536.0	1805.0	952.0	569.0	1722.0	180.0	585.0	330.0	176.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3784	POLYTHIAZIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Water soluble with evolution of heat.	ETHANOLAMINE is a base. Reacts with organic acids (acetic acid, acrylic acid), inorganic acids (hydrochloric acid, hydrofluoric acid, nitric acid, sulfuric acid, chlorosulfonic acid), acetic anhydride, acrolein, acrylonitrile, cellulose, epichlorohydrin, mesityl oxide, beta-propiolactone, vinyl acetate. Emits toxic fumes of nitrogen oxides when heated to decomposition [Sax, 9th ed., 1996, p. 1498].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		200		(NTP, 1992)		5.5		%	(NTP, 1992)		17		%	(NTP, 1992)		770		(NTP, 1992)		50.5	
3785	POTASSIUM ARSENATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as ETHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		349		(EPA, 1998)	Does not ignite easily.				(EPA, 1998)	Does not ignite easily.				(USCG, 1999)	Not flammable			(EPA, 1998)		9 to 10	
3786	POTASSIUM CUPROCYANIDE		Chemical safety goggles and adequate protective clothing. (USCG, 1999)	Water soluble.	ETHOXY TRIGLYCOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		275															(USCG, 1999)		-1.7	
3787	POTASSIUM DICHLORO-S-TRIAZINETRIONE, DRY	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Ketones, such as BIS(PERFLUORISOPROPYL) KETONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3788	POTASSIUM HYDROSULFIDE (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slowly decomposed (hydrolyzed) in water. Insoluble in water.	ZINC OXIDE is insoluble in water. What little solubility it has yields aqueous solutions that are neutral in pH. Intimate mixtures of zinc oxide and chlorinated rubber with or without hydrocarbons or chlorinated solvent react violently, even explosively upon heating [Chem. Trade J., 1962, 151, 672]. Slow addition of zinc oxide to cover the surface of linseed oil varnish caused generation of heat and ignition, [Chem. Trade J., 1933, 92, 278].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		3587	
3789	POTASSIUM HYPOCHLORITE SOLUTION	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water (23 g/100 mL at 20Â°C) Reacts slowly with water (moisture) with release of corrosive gases (ammonia, nitrogen oxides).	1-H-TETRAZOLE is stable at normal temperature and pressure but decomposes rapidly and explosively if heated above its melting point of 155-157Â° C (Chem. Rev 1947, 41, 5). Presents an extreme risk of explosion by shock, friction, fire or other sources of ignition. Reacts violently with strong oxidizers. Reacts with acidic materials (strong acids, acid anhydrides and acid chlorides) to release heat and toxic and corrosive gases. Reacts with some active metals to give new materials that are shock-sensitive explosives. Can react exothermically with reducing agents. Heating or burning releases toxic and corrosive nitrogen oxides, carbon monoxide, carbon dioxide. [MSDS Document number : 4330220A] Soluble in water. Soluble in acetonitrile. Dilute solutions (2-3% by mass) of 1-H-TETRAZOLE in acetonitrile are used in biochemistry for DNA synthesis.	Explosive; Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3784	POLYTHIAZIDE	(NTP, 1992)	; 6 mm Hg at 140Â° F	0.4		68		mm Hg	(NTP, 1992)		2.1				(USCG, 1999)		1.016		68		(NTP, 1992)		338		760		(NTP, 1992)		61.08		(NIOSH, 2003)		30	ppm	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	MEA	Corrosive	C2H7NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3785	POTASSIUM ARSENATE	(EPA, 1998)		1.50E-06		77		mm Hg							(EPA, 1998)			1.215 to 1.23		68	(USCG, 1999)	Decomposes above 302.0Â° F					(EPA, 1998)		384.48						(NIOSH, 2003)		0.0001		%	ETO	Poison	C9H22O4P2S4		1.0	0.0	1.0	1.0	1.0
3786	POTASSIUM CUPROCYANIDE														(USCG, 1999)		1.02		68		(USCG, 1999)		493		760		(USCG, 1999)		178.26										TGE		C8H18O4	Cellulose-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3787	POTASSIUM DICHLORO-S-TRIAZINETRIONE, DRY																																								Poison	C7F14O		2.0	0.0	2.0	1.0	1.0
3788	POTASSIUM HYDROSULFIDE (CORROSIVE LIQUIDS, TOXIC, N.O.S.)	(NIOSH, 2003)	(approx)	0				mm Hg																			(NIOSH, 2003)		81.4		(NIOSH, 2003)		500	mg/m3	(NIOSH, 2003)	at 64Â° F	0.0004		%		Class 9	OZn		2.0	0.0	3.0	1.0	1.0
3789	POTASSIUM HYPOCHLORITE SOLUTION																																								Explosive 1.1D	CH2N4	Mineral-Based & Clay-Based Absorbents	3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3790	POTASSIUM SELENITE	POTASSIUM SELENITE	10431-47-7		1.0	2.5	5.0	5315.0	536.0	1805.0	952.0	569.0	1722.0	180.0	585.0	330.0	176.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3791	POTASSIUM SODIUM ALLOYS	POTASSIUM SODIUM ALLOYS|SODIUM ALLOY, NONBASE, K,NA|SODIUM POTASSIUM ALLOY, [SOLID]|SODIUM POTASSIUM ALLOYS|SODIUM-POTASSIUM ALLOYS	11135-81-2	Mixtures of metallic sodium and potassium. Liquid under normal conditions. Used as a heat exchange fluid and in the manufacture of other chemicals.	2.5	5.0	2.5	5315.0	536.0	1805.0	952.0	569.0	1722.0	180.0	585.0	330.0	176.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3792	PROMETHAZINE	DIMAPP|10-(2-(DIMETHYLAMINO)-2-METHYLETHYL)PHENOTHIAZINE|10-(2-(DIMETHYLAMINO)PROPYL)PHENOTHIAZINE|10-[2-(DIMETHYLAMINO)PROPYL]PHENOTHIAZINE|(2-DIMETHYLAMINO-2-METHYL)ETHYL-N-DIBENZOPARATHIAZINE|DIPHERGAN|FENERGAN|HIBERNA|ISOPROMETHAZINE|LILLY 01516|N-(2'-DIMETHYLAMINO-2-METHYL)ETHYLPHENOTHIAZINE|N-DIMETHYLAMINO-2-METHYLETHYL THIODIPHENYLAMINE|PHENERGAN|PHENOTHIAZINE, 10-[2-(DIMETHYLAMINO)PROPYL]-|PROAZAMINE|PROCIT|PROMETAZIN|PROMETHAZINE|(+-)-PROMETHAZINE|PROMETHIAZINE|PROTAZINE|PROTHAZIN|RP 3277|THIERGAN|VALLERGIN	60-87-7	Crystals. Melting point 60Â°C. Used as an antihistamine.	1.0	2.5	5.0	5315.0	536.0	1805.0	953.0	569.0	1722.0	180.0	585.0	331.0	176.0	(BLOB)	Flash point data for this compound are not available. It is probably nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3793	PROPACHLOR	2-CHLORO-N-(1-METHYLETHYL)-N-PHENYLACETAMIDE|PROPACHLOR	1918-16-7	Light tan solid. Corrosive to iron and steel. Used as an herbicide.	1.0	2.5	5.0	5316.0	536.0	1805.0	953.0	569.0	1723.0	180.0	585.0	331.0	176.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
3794	PROPETAMPHOS	3-((ETHYLAMINO)METHOXYPHOSPHINOTHIOYL)OXY)-2-BUTENOIC ACID, 1-METHYLETHYL ESTER|PROPETAMPHOS	31218-83-4	Yellow oily liquid. Non corrosive. Used as an insecticide.	2.5	5.0	2.5	5317.0	536.0	1806.0	953.0	569.0	1724.0	180.0	586.0	331.0	176.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3790	POTASSIUM SELENITE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979 p.151-154, 164].	1-METHOXY-2-PROPANOL is a methoxy alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		97		(NTP, 1992)		1.6		%	(NTP, 1992)		18.8		%						(NTP, 1992)		-139	
3791	POTASSIUM SODIUM ALLOYS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	PYRILAMINE MALEATE is an acidic salt of an amine. Usually does not react as either oxidizing agents or reducing agents but such behavior is not impossible. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.					0																							(NTP, 1992)		212 to 214
3792	PROMETHAZINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble	[[Details on specifics of reactivity not yet available.]]				0																										
3793	PROPACHLOR		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	Borates, tetra, sodium salts (Pentahydrate) is non-combustible. Dissolves somewhat exothermically in water to give basic solutions. Of generally low chemical reactivity. When heated in a closed tube, starts to melt in its own water of crystallization at 128Â°C and becomes fluid at 140Â°C. When heated in the open, loses water of crystallization and then melts at 742Â°C.					0																							(NIOSH, 2003)		392	
3794	PROPETAMPHOS	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	(BLOB)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3790	POTASSIUM SELENITE	(NTP, 1992)		11.8		77		mm Hg	(NTP, 1992)		3.11				(USCG, 1999)		0.924		68		(NTP, 1992)		248		760		(NTP, 1992)		90.12						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	PME	Flammable Liquid	C4H10O2	Cellulose-Based Absorbents	2.0	0.0	4.0	1.0	1.0
3791	POTASSIUM SODIUM ALLOYS																											(NTP, 1992)		401.51						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C17H23N3O.C4H4O4	Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3792	PROMETHAZINE																											(NTP, 1992)	1415.6; 1425.5							(NTP, 1992)	Soluble						C55H84N17O21S3; C55H84N20O21S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3793	PROPACHLOR	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		1.82										(NIOSH, 2003)		291.4						(NIOSH, 2003)		3		%			Na2B4O7 = 5H2O		3.0	0.0	4.0	1.0	1.0
3794	PROPETAMPHOS																																									Flammable Liquid			1.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3795	PROPHAM	PROPHAM	122-42-9	Colorless crystalline solid.	1.0	2.5	5.0	5317.0	536.0	1806.0	953.0	569.0	1724.0	180.0	586.0	331.0	176.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases are generated in fires. Behavior in Fire: Containers may explode. (USCG, 1999)	(BLOB)
3796	PROPIOPHENONE, 4'-AMINO-	1-(4-AMINOPHENYL)-1-PROPANONE|4'-AMINOPROPIOPHENONE|P-AMINOPROPIOPHENONE|PAPP|PARAMINOPROPIOPHENONE|PROPIOPHENONE, 4'-AMINO|PROPIOPHENONE, 4'-AMINO-|USAF UCTL-1856	70-69-9	Yellow needles. (EPA, 1998)	1.0	2.5	5.0	5317.0	537.0	1806.0	953.0	570.0	1724.0	181.0	586.0	331.0	177.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water spray, dry chemical, foam or carbon dioxide (USCG, 1999)
3797	PROPYLENE GLYCOL DINITRATE	ISOPROPYLENE NITRATE|NSC 62614|PGDN|PROPYLENE DINITRATE|PROPYLENE GLYCOL DINITRATE|1,2-PROPYLENE GLYCOL DINITRATE|PROPYLENE GLYCOL DINITRATE; (OTTO FUEL)|PROPYLENE GLYCOL-1,2-DINITRATE|PROPYLENE NITRATE	6423-43-4	Colorless liquid with a disagreeable odor. Mp: -30Â°C. Density 1.37 g/cm3 at 20Â°C. Slightly soluble in water (7.97 g/L H2O at 24.85Â°C).	2.5	5.0	2.5	5318.0	537.0	1807.0	953.0	570.0	1725.0	181.0	587.0	331.0	177.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3798	PROPYLENE GLYCOL ETHYL ETHER	1-ETHOXY-2-PROPANOL|PROPYLENE GLYCOL ETHYL ETHER	52125-53-8	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5318.0	537.0	1807.0	953.0	570.0	1725.0	181.0	587.0	331.0	177.0	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Call 911 or emergency medical service. Medical problems take priority over radiological concerns. Use first aid treatment according to the nature of the injury. Do not delay care and transport of a seriously injured person. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Injured persons contaminated by contact with released material are not a serious hazard to health care personnel, equipment or facilities. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Substance does not burn. The material may react violently with fuels. Containers in protective overpacks (horizontal cylindrical shape with short legs for tie-downs), are identified with "AF", "B(U)F" or "H(U)" on shipping papers or by markings on the overpacks. They are designed and evaluated to withstand severe conditions including total engulfment in flames at temperatures of 800Â°C (1475Â°F) for a period of 30 minutes. Bare filled cylinders, identified with UN2978 as part or the marking (may also be marked H(U) or H(M)), may rupture in heat of engulfing fire; bare empty (except for residue) cylinders will not rupture in fires. Radioactivity does not change flammability or other properties of materials. (ERG, 2012)	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: DO NOT USE WATER OR FOAM ON MATERIAL ITSELF. Move containers from fire area if you can do it without risk. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Cool containers with flooding quantities of water until well after fire is out. If this is impossible, withdraw from area and let fire burn. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3799	PROPYLENE GLYCOL T-BUTYL ETHER	1-(1,1-DIMETHYLETHOXY)-2-PROPANOL|1-METHYL-2-TERT-BUTOXYETHANOL|2-PROPANOL, 1-(1,1-DIMETHYLETHOXY)-|PROPYLENE GLYCOL T-BUTYL ETHER|PROPYLENE GLYCOL TERT-BUTYL ETHER|1-T-BUTOXY-2-PROPANOL|1-TERT-BUTOXY-2-PROPANOL	57018-52-7	PHYSICAL DESCRIPTION: Clear colorless liquid with an ethereal odor. (NTP, 1992)	2.5	5.0	2.5	5318.0	537.0	1807.0	953.0	570.0	1725.0	181.0	587.0	331.0	177.0	(BLOB)	Flash point data for this compound are not available. It is probably not flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or a Halon extinguisher. (NTP, 1992)
3800	PROPYLTRICHLOROSILANE	N-PROPYLTRICHLOROSILANE|PROPYL TRICHLOROSILANE|PROPYLTRICHLOROSILANE (NORMAL)|PROPYLTRICHLOROSILANE|TRICHLORO-N-PROPYLSILANE|TRICHLOROPROPYLSILANE	141-57-1	A colorless liquid with a pungent odor. Corrosive to metals and tissue.	2.5	5.0	2.5	5318.0	537.0	1808.0	953.0	570.0	1725.0	181.0	588.0	331.0	177.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3795	PROPHAM	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: If chemical is in liquid form, wear appropriate personal protective clothing to prevent skin contact. Eyes: If chemical is in liquid form, wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	ETHYL CHLORIDE is heat sensitive. This compound will hydrolyze in the presence of alkalis and water. It reacts with water or steam to produce toxic and corrosive fumes. It can also react vigorously with oxidizing materials. The vapor forms highly flammable mixtures with air. A mixture of this compound with potassium is shock-sensitive. Contact with chemically active metals such as Na, K, Ca, powdered Al, Zn and Mg may result in violent reactions. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NTP, 1992)		-58		(NTP, 1992)		3.8		%	(NTP, 1992)		15.4		%	(USCG, 1999)		966		(NTP, 1992)		-218	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)																																
3796	PROPIOPHENONE, 4'-AMINO-		Rubber gloves, safety goggles, coveralls, rubber shoes or boots, and hydrocarbon vapor canister mask. (USCG, 1999)	Insoluble in water.	1-METHYLNAPHTHALENE is sensitive to heat. Reacts with strong oxidizing agents. Incompatible with oxygen and peroxides (NTP, 1992).			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		180								(USCG, 1999)		984		(NTP, 1992)		-8	
3797	PROPYLENE GLYCOL DINITRATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A halogenated ester and amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3798	PROPYLENE GLYCOL ETHYL ETHER	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Do not touch damaged packages or spilled material. Without fire or smoke, leak will be evident by visible and irritating vapors and residue forming at the point of release. Use fine water spray to reduce vapors; do not put water directly on point of material release from container. Residue buildup may self-seal small leaks. Dike far ahead of spill to collect runoff water. (ERG, 2012)	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts vigorously with water to form uranyl fluoride (UO2F2) and corrosive hydrogen fluoride (hydrofluoric acid). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 1.2 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	URANIUM HEXAFLUORIDE [FISSILE, CONTAINING MORE THAN 1% U-235] has been enriched in the fissile isotope of uranium. Naturally occurring uranium contains 0.7% U-235 (higher radioactivity) and 99.3% U-238 (lower radioactivity). Emits fumes of highly toxic metallic uranium and uranium fluorides when heated to decomposition [Lewis, 3rd ed., 1993, p. 1301]. Reacts vigorously with aromatic hydrocarbons (benzene, toluene, xylenes), undergoes a violent reaction with water or alcohols (methanol, ethanol) [Bretherick, 5th ed., 1995, p. 1439]. Reacts with most metals.	Water-Reactive; Radioactive Material	Excerpt from GUIDE 166 [Radioactive Materials - Corrosive (Uranium Hexafluoride / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2977 datasheet. FIRE: When a large quantity of this material is involved in a major fire, consider an initial evacuation distance of 300 meters (1000 feet) in all directions. (ERG, 2012)					0																									
3799	PROPYLENE GLYCOL T-BUTYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	Corrosive to steel. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3800	PROPYLTRICHLOROSILANE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TRIFLUOROMETHANE, R-23, is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3795	PROPHAM	(NTP, 1992)	; 457 mm Hg at 32Â° F	1000		68		mm Hg	(NTP, 1992)		2.22				(USCG, 1999)		0.906		53.96		(NTP, 1992)		54.1		760		(NTP, 1992)		64.52		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	3800	ppm	(NTP, 1992)	at 68Â° F	0.574		g/100 mL	ECL	Flammable Gas	C2H5Cl		3.0	0.0	4.0	1.0	1.0
3796	PROPIOPHENONE, 4'-AMINO-								(NTP, 1992)		4.91				(USCG, 1999)		1.0202		68		(NTP, 1992)			464 to 469	760		(NTP, 1992)		142.2						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	MNA		C11H10		5.0	0.0	5.0	1.0	1.0
3797	PROPYLENE GLYCOL DINITRATE																																								Class 9	C19H17CIN2O4	Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3798	PROPYLENE GLYCOL ETHYL ETHER																													352		(NIOSH, 2003)	As U (soluble compounds, as U); A potential human carcinogen.	10	mg/m3							Radioactive|Corrosive	F6U	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	3.0	0.0	4.0	1.0	1.0
3799	PROPYLENE GLYCOL T-BUTYL ETHER														(NTP, 1992)		1.088		77		(NTP, 1992)		165		0.3		(NTP, 1992)		173.66						(NTP, 1992)	Slighty soluble					Poison	C8H12CINO	Dirt/Earth	3.0	0.0	3.0	1.0	1.0
3800	PROPYLTRICHLOROSILANE																																								Non-Flammable Gas	CHF3		2.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3801	P-TERT-PENTYLPHENOL	AMILFENOL|AMILPHENOL|AMYL PHENOL 4T|4-(1,1-DIMETHYLPROPYL)PHENOL|1-HYDROXY-4(2-METHYL-2-BUTYL)BENZENE|P-(1,1-DIMETHYLPROPYL)PHENOL|P-(ALPHA,ALPHA-DIMETHYLPROPYL)PHENOL|P-TERT-AMYLPHENOL|P-TERT-PENTYLPHENOL|PENTAPHEN|PHENOL, P-TERT-PENTYL-|PTAP|4-T-AMYLPHENOL|4-TERT-AMYLPHENOL|4-TERT-PENTYLPHENOL|UCAR AMYL PHENOL 4T	80-46-6	PHYSICAL DESCRIPTION: Colorless needles or beige solid. (NTP, 1992)	1.0	2.5	5.0	5319.0	537.0	1808.0	953.0	570.0	1726.0	181.0	588.0	331.0	177.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
3802	P-TOLUIDINE HYDROCHLORIDE	4-AMINOTOLUENE HYDROCHLORIDE|BENZENAMINE,4-METHYL-,HYDROCHLORIDE|4-METHYLANILINE HYDROCHLORIDE|4-METHYLANILINIUM CHLORIDE|4-METHYLBENZENAMINE HYDROCHLORIDE (9CI)|4-METHYLPHENYLAMMONIUM CHLORIDE|P-AMINOTOLUENE HYDROCHLORIDE|P-METHYLANILINE HYDROCHLORIDE|P-METHYLANILINIUM CHLORIDE|P-TOLUIDINE HYDROCHLORIDE|P-TOLUIDINE, HYDROCHLORIDE|P-TOLUIDINIUM CHLORIDE	540-23-8	PHYSICAL DESCRIPTION: Off-white to grayish-white crystals. (NTP, 1992)	1.0	2.5	5.0	5319.0	537.0	1808.0	953.0	570.0	1726.0	181.0	588.0	331.0	177.0	(BLOB)	When heated to decomposition or upon contact with water or steam, it will produce toxic and corrosive fumes of fluorine containing compounds. Decomposes upon heating or on contact with moist air, forming toxic and corrosive fumes of boric acid and hydrofluoric acid. Reacts with alkalis and fumes in moist air, producing particulates which reduce visibility. Reacts with alkali metals, alkaline earth metals (except magnesium), alkyl nitrates, and calcium oxide. It hydrolyzes in moist air to form boric acid, hydrofluoric acid, and fluoboric acid. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and full protective clothing. Evacuate area endangered by gas. Do not get water inside container. Move container from fire area if you can do it without risk. Stay away from ends of tanks. Cool containers that are exposed to flames with water from the side until well after fire is out. Isolate area until gas has dispersed. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
3803	PYRILAMINE	AFKO-HIST|ANHISTABS|ANHISTOL|ANTALERGAN|ANTALLERGAN|ANTAMINE|ANTHISAN|COPSAMINE|CORADON|2-((2-(DIMETHYLAMINO)ETHYL)(P-METHOXYBENZYL)AMINO)PYRIDINE|2-[(2-DIMETHYLAMINOETHYL)(P-METHOXYBENZYL)AMINO]PYRIDINE|DIPANE|DORANTAMIN|ENRUMAY|HARVAMINE|HISTACAP|HISTALON|HISTAN|HISTAPYRAN|HISTASAN|SAMIN|KRIPTIN|MARANHIST|MEPIRAMINE|MEPYRAMINE|MEPYREN|MINIHIST|N-((4-METHOXYPHENYL)METHYL)-N'N'-DIMETHYL-N-2-PYRIDINYL-1,2-ETHANEDIAMINE|N-((4-METHOXYPHENYL)METHYL)-N-2-PYRIDINYL-N',N'-DIMETHYL-1,2-ETHANEDIAMINE|N-(P-METHOXYBENZYL)-N'N'-DIMETHYL-N-2-	91-84-9	PHYSICAL DESCRIPTION: Viscous brown liquid. (NTP, 1992)	2.5	5.0	2.5	5320.0	538.0	1809.0	953.0	570.0	1727.0	182.0	589.0	331.0	177.0	(BLOB)	Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3804	PYRIMINIL	DLP 787|DLP-87|N-(4-NITROPHENYL)-N'-(3-PYRIDINYLMETHYL)UREA|N-3-PYRIDYLMETHYL-N'-P-NITROPHENYLUREA|PYRIMINIL|PYRIMINYL|PYRINURON|RH 787|RH-787|UREA, 1-NITROPHENYL-3-(3-PYRIDYLMETHYL)-|UREA, N-(4-NITROPHENYL)-N'-(3-PYRIDINYLMETHYL)-|VACOR	53558-25-1	Yellow, resembling corn meal. Used as a single-dose, acute rodenticide. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5321.0	538.0	1809.0	953.0	570.0	1728.0	182.0	589.0	331.0	177.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3805	PYROLIGNEOUS ACID, [FLAMMABLE LIQUID LABEL]	PYROLIGNEOUS ACID, [FLAMMABLE LIQUID LABEL]	8030-97-5	A yellow to red liquid containing methyl alcohol acetic acid, acetone and other materials. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	5321.0	538.0	1809.0	953.0	570.0	1728.0	182.0	589.0	331.0	177.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3801	P-TERT-PENTYLPHENOL		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	BORON OXIDE is non-combustible. Of generally low chemical reactivity. Reacts exothermically but slowly with water to form boric acid, a weak acid. Reacts exothermically with strong bases. May react with strong reducing agents such as metal hydrides, metal alkyls to generate flammable or explosive gases. May react violently on contact with bromine pentafluoride. Corrosive to metals in the presence of air.							0																			(NIOSH, 2003)		842	
3802	P-TOLUIDINE HYDROCHLORIDE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Fumes in air. Soluble in water and slowly hydrolyzed by cold water to give hydrofluoric acid. Reacts more rapidly with hot water.	BORON TRIFLUORIDE is a colorless, strongly irritating, toxic gas. Upon contact with water, steam or when heated to decomposition, it will produce toxic fluoride fumes. Incompatible with alkyl nitrates, calcium oxide. Reaction with alkali metals or alkaline earth metals (except magnesium) will cause incandescence [Bretherick, 5th ed., 1995, p. 65].	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1008 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	0	1	1				(EPA, 1998)	Not Flammable.					(EPA, 1998)	Not Flammable.							(EPA, 1998)		-196.1	
3803	PYRILAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Hygroscopic. Soluble in water.	RESORCINOL is a weak organic acid. Incompatible with acetanilide, albumin, alkalis, antipyrine, camphor, iron salts, menthol, spirit nitrous ether, and urethane. Can react with oxidizing materials (NTP, 1992). Has a potentially explosive reaction with concentrated nitric acid [Lewis]. Turns pink on contact with iron.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		261		(NTP, 1992)	at 738Â°F	1.4		%	(USCG, 1999)	at 200Â°F	1.4		%	(USCG, 1999)		1125		(NTP, 1992)		228 to 232
3804	PYRIMINIL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 1-METHYLPHENANTHRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. This chemical is sensitive to excessive heat and light.							0																			(NTP, 1992)		253	
3805	PYROLIGNEOUS ACID, [FLAMMABLE LIQUID LABEL]	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Upon treatment with CrO3 in acetic acid forms retenequinone (C18H1. (NTP, 1992).							0																			(NTP, 1992)		210	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_temp[beg]	vp_range_temp[beg]	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_temp[beg]	vd_range_temp[beg]	sg_source	sg_note	sg_value	sg_range	sg_value_temp[beg]	sg_range_temp[beg]	bp_source	bp_note	bp_value	bp_range	bp_value_press[kPa]	bp_range_press[kPa]	molwgt_source	molwgt_value	molwgt_range	molwgt_source	hdln_value	hdln_unit	solbly_source	solbly_value	solbly_note	solbly_unit	solbly_range	chrtz_code	dot_labels	formulas	incompatible_sobems	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3801	P-TERT-PENTYL.PHENOL	(NIOSH, 2003)	(approx)	0	mm Hg	(NIOSH, 2003)	2.46	1.6	(NIOSH, 2003)	760	2000	mg/m3	(NTP, 1992)	760	(NIOSH, 2003)	69.6	197.26	(NIOSH, 2003)	760	(NIOSH, 2003)	3380	-148	(NIOSH, 2003)	760	(NIOSH, 2003)	(NTP, 1992)	760	234.32	(NIOSH, 2003)	25	ppm	(NIOSH, 2003)	106	(in cold H2O)	3	%	less than 1	mg/mL	RSC	Poison	BF3	RZ03	3.0	0.0	5.0	1.0	1.0
3802	P-TOLUIDINE HYDROCHLORIDE	(EPA, 1998)	L.liquid	760	-149.26	mm Hg	(EPA, 1998)	2.4	(EPA, 1998)	1.6	(NIOSH, 2003)	-148	(EPA, 1998)	760	(NIOSH, 2003)	67.82	234.32	(NIOSH, 2003)	760	(NTP, 1992)	1380	-148	(NIOSH, 2003)	760	(NTP, 1992)	(NTP, 1992)	760	234.32	(NIOSH, 2003)	25	ppm	(NIOSH, 2003)	106	(in cold H2O)	3	%	less than 1	mg/mL	Poison (Gas/Conv sive	Cellulose-Based Absorbents/Mineral-Based & Clay-Based Absorbents/Dirt Earth	BF3	4.0	0.0	4.0	1.0	1.0
3803	PYRILAMINE	(NTP, 1992)	; 0.0002 mm Hg at 77Â° F	1	227.1	mm Hg	(NTP, 1992)	3.79	(NTP, 1992)	1.2	68	(NTP, 1992)	760	(USCG, 1999)	531 to 536	760	(NTP, 1992)	760	(NTP, 1992)	(NTP, 1992)	760	110.11	(NTP, 1992)	760	(NTP, 1992)	at 65.3Â° F	(NTP, 1992)	at 64Â° F	(NTP, 1992)	760	(NIOSH, 2003)	760	(NIOSH, 2003)	760	(NIOSH, 2003

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3806	QUINACRINE DIHYDROCHLORIDE	ACRICHIN DIHYDROCHLORIDE|ACRICHINE|ACRIDINE, 6-CHLORO-9-[[4-(DIETHYLAMINO)-1-METHYLBUTYL]AMINO]-2-METHOXY-, DIHYDROCHLORIDE|ARICHIN|ATABRINE|ATABRINE DIHYDROCHLORIDE|ATABRINE HYDROCHLORIDE|ATEBEIN|ATEBRIN|ATEBRINE|ATEBRINE HYDROCHLORIDE|CHEMIOCHIN|CHINACRIN|CHINACRIN HYDROCHLORIDE|2-CHLORO-5-(OMEGA-DIETHYLAMINO-ALPHA-METHYLBUTYLAMINO)-7-METHOXYACRIDINE DIHYDROCHLORIDE|3-CHLORO-7-METHOXY-9-(1-METHYL-4-DIETHYLAMINOBUTYLAMINO) ACRIDINE DIHYDROCHLORIDE|6-CHLORO-9-((4-(DIETHYLAMINO)-1-METHYLBUTYL)AMINO)-2-	69-05-6	PHYSICAL DESCRIPTION: Bright yellowish needles or bright yellow powder. Odorless. pH of a 1% aqueous solution is about 4.5.(NTP, 1992). Used as an anti-malarial drug. Moderately toxic.	1.0	2.5	5.0	5321.0	538.0	1809.0	953.0	570.0	1728.0	182.0	589.0	331.0	177.0	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3807	QUINETHAZONE	AQUAMOX[7-CHLORO-2-ETHYL-1,2,3,4-TETRAHYDRO-4-OXO-6-QUINAZOLINESULFONAMIDE[7-CHLORO-2-ETHYL-1,2,3,4-TETRAHYDRO-4-OXO-6-SULFAMOYLQUINAZOLINE|7-CHLORO-2-ETHYL-6-SULFAMOYL-1,2,3,4-TETRAHYDRO-4-QUINAZOLINONE|CL 36010|HYDROMOX|IDROKIN|QUINETHAZON|QUINETHAZONE|QUINETHAZONUM	73-49-4	PHYSICAL DESCRIPTION: Fibrous crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	5322.0	538.0	1809.0	953.0	570.0	1729.0	182.0	589.0	331.0	177.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Vapor is heavier than air and may travel long distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3808	QUINOLINE SULFATE	QUINOLINE BISULFATE|QUINOLINE HYDROGEN SULFATE|QUINOLINE SULFATE	530-66-5	PHYSICAL DESCRIPTION: White to grayish-white or light brown crystalline powder. Sensitive to light.	1.0	2.5	5.0	5323.0	538.0	1810.0	953.0	570.0	1730.0	182.0	590.0	331.0	177.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3809	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	HEXAFLUOROURANIUM|RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE|URANIUM FLUORIDE (238UF6)|URANIUM FLUORIDE (U2F12)|URANIUM FLUORIDE (UF6)|URANIUM HEXAFLUORIDE|URANIUM HEXAFLUORIDE, FISSILE CONTAINING MORE THAN 1% URANIUM-235|URANIUM HEXAFLUORIDE, [FISSILE, CONTAINING MORE THAN 1% U-235]|URANIUM HEXAFLUORIDE-238U|URANIUM(VI) FLUORIDE|URANIUM-238 HEXAFLUORIDE	7783-81-5	A colorless volatile white crystalline solid. Highly toxic and corrosive. Radioactive. Emits high energy rays which may be harmful and are detectable only by special instruments. Chemically irritates skin, eyes and mucous membranes. Used to make fuel for nuclear power plants.	1.0	2.5	5.0	5324.0	538.0	1810.0	953.0	570.0	1731.0	182.0	590.0	331.0	177.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3810	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, NON-FISSILE OR FISSILE EXCEPTED	HEXAFLUOROURANIUM|RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, NON-FISSILE OR FISSILE EXCEPTED|URANIUM FLUORIDE (238UF6)|URANIUM FLUORIDE (U2F12)|URANIUM FLUORIDE (UF6)|URANIUM HEXAFLUORIDE|URANIUM HEXAFLUORIDE, FISSILE EXCEPTED|URANIUM HEXAFLUORIDE, LOW SPECIFIC ACTIVITY|URANIUM HEXAFLUORIDE, NON-FISSILE|URANIUM HEXAFLUORIDE, [LOW SPECIFIC ACTIVITY]|URANIUM HEXAFLUORIDE-238U|URANIUM(VI) FLUORIDE|URANIUM-238 HEXAFLUORIDE	7783-81-5	A colorless volatile radioactive crystalline solid. Highly toxic and corrosive. Radioactive. Emits high energy rays which may be harmful and are detectable only by special instruments. Chemically irritates skin, eyes and mucous membranes. Used to make fuel for nuclear power plants.	1.0	2.5	5.0	5325.0	538.0	1811.0	953.0	570.0	1732.0	182.0	591.0	331.0	177.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3806	QUINACRINE DIHYDROCHLORIDE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water [Hawley]. Reacts with water or steam to produce hydrochloric acid.	BROMINE CHLORIDE is a strong oxidizing agent. May react vigorously with combustible materials and generate enough heat to start and support combustion. Decomposes above 50Â° F to produce highly toxic chlorine gas.	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2901 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3807	QUINETHAZONE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water. Slowly decomposed by water to formic acid, a corrosive material and ethyl alcohol, another flammable liquid.	ETHYL FORMATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound is incompatible with the following: Nitrates; strong oxidizers, alkalis & acids [Note: Decomposes slowly in water to form ethyl alcohol and formic acid.] (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)		-4		(USCG, 1999)		2.8		%	(USCG, 1999)		16		%	(USCG, 1999)		851		(USCG, 1999)		-110	
3808	QUINOLINE SULFATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		less than 70																		
3809	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water. It may react with water to produce a corrosive liquid and carbon dioxide gas.	When heated to decomposition ETHYL ISOCYANATE emits toxic fumes of nitrogen oxides [Sax, 9th ed., 1996, p. 1572].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2481 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3810	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, NON-FISSILE OR FISSILE EXCEPTED	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	ETHYL ISOVALERATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3806	QUINACRINE DIHYDROCHLORIDE																																								Poison Gas|Corrosive|Oxidizer	BrCl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3807	QUINETHAZONE	(NIOSH, 2003)		200				mm Hg							(USCG, 1999)		0.922		68		(USCG, 1999)		129.6		760		(USCG, 1999)		74.1		(NIOSH, 2003)		1500	ppm	(NIOSH, 2003)	at 64Â° F	9		%	EFM	Flammable Liquid	C3H6O2		1.0	0.0	1.0	1.0	1.0
3808	QUINOLINE SULFATE																																							Flammable Liquid	C6H12O2		1.0	0.0	1.0	1.0	1.0
3809	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, FISSILE																																							Poison Inhalation Hazard|Flammable Liquid	C3H5NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	4.0	1.0	1.0
3810	RADIOACTIVE MATERIAL, URANIUM HEXAFLUORIDE, NON-FISSILE OR FISSILE EXCEPTED																																							Flammable Liquid	C7H14O2		4.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3811	RANDOX	ACETAMIDE, 2-CHLORO-N,N-DI-2-PROPENYL-(9CI)|ACETAMIDE, N,N-DIALLYL-2-CHLORO-|ACETAMIDE, N,N-DIALLYL-2-CHLORO-(8CI)|ALIDOCHLOR|ALIDOCHLORE|ALLIDOCHLOR|ALPHA-CHLORO-N,N-DIALLYLACETAMIDE|CDAA|CDAAT|2-CHLORO-N,N-DI-2-PROPENYLACETAMIDE|2-CHLORO-N,N-DIALLYLACETAMIDE|CP 6,343|DIALLYLCHLOROACETAMIDE-CHLOTOACETAMIDE|N,N-DIALLYL-2-CHLOREACETAMIDE|N,N-DIALLYL-2-CHLOROACETAMIDE|N,N-DIALLYL-ALPHA-CHLOROACETAMIDE|N,N-DIALLYLCHLOROACETAMIDE|NCI-C04035|RADOX|RANDOX|RANTOX T	93-71-0	PHYSICAL DESCRIPTION: Amber liquid. (NTP, 1992)	2.5	5.0	2.5	5325.0	538.0	1811.0	953.0	570.0	1732.0	182.0	591.0	331.0	177.0	(BLOB)		
3812	RETENE	7-ISOPROPYL-1-METHYLPHENANTHRENE|1-METHYL-7-(1-METHYLETHYL)PHENANTHRENE|1-METHYL-7-ISOPROPYLPHENANTHRENE|PHENANTHRENE, 7-ISOPROPYL-1-METHYL-|RETENE	483-65-8	PHYSICAL DESCRIPTION: Plates or scales (from ethanol) or pearly-beige small flakes. (NTP, 1992)	1.0	2.5	5.0	5325.0	538.0	1811.0	953.0	570.0	1732.0	182.0	591.0	331.0	177.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3813	RICINOLEIC ACID, SODIUM SALT	CASTOR OIL, SODIUM SALT|9-OCTADECENOIC ACID, 12-HYDROXY-, MONOSODIUM SALT, [R-(Z)]-|RICINOLEIC ACID SODIUM SALT|RICINOLEIC ACID, MONOSODIUM SALT, (+)-|RICINOLEIC ACID, SODIUM SALT|SODIUM 12-HYDROXY-(CIS)-9-OCTADECENOATE|SODIUM RICINATE|SODIUM RICINOLATE|SODIUM RICINOLEATE	5323-95-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5326.0	538.0	1811.0	953.0	570.0	1733.0	182.0	591.0	331.0	177.0	INHALATION: Remove from exposure; support respiration, call physician. SKIN: Wash with large amounts of water; treat burns as required. INGESTION: Do NOT induce vomiting; give large amounts of water, call a physician. (USCG, 1999)	Special Hazards of Combustion Products: Heat of fire can cause decomposition, with evolution of highly toxic and irritating hydrogen bromide and bromophosgene vapors. Behavior in Fire: Highly irritating (tear gas) vapors released when heated. Hydrogen bromide gas is released if in contact with water. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3814	ROSIN OIL	ESSENTIAL OILS, ROSIN|OILS, ESSENTIAL, ROSIN|OILS, ROSIN|ROSIN OIL	8002-16-2	A water-white to brown-colored viscous, odorless liquid. Insoluble in water. Vapors are heavier than air. Used as a lubricant and solvent.	2.5	5.0	2.5	5327.0	539.0	1811.0	953.0	571.0	1734.0	183.0	591.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3815	ROTENONE	1,2,12,12A-TETRAHYDRO-2-ALPHA-ISOPROPENYL-8,9-DIMETHOXY(1)BENZOPYRANO-(3,4-B)FURO(2,3-H)(1)BENZOPYRAN-6(6AH)-ONE|BARBASCO(1)BENZOPYRANO(3,4-B)FURO(2,3-H)(1)BENZOPYRAN-6(6AH)-ONE, 1,2,12,12A-TETRA-|[1]BENZOPYRANO[3,4-B]FURO[2,3-H][1]BENZOPYRAN-6(6AALPHAH)-ONE, 1,2,12,12A-TETRAHYDRO-2ALPHA-ISOPROPENYL-8,9-DIMETHOXY-|[1]BENZOPYRANO[3,4-B]FURO[2,3-H][1]BENZOPYRAN-6(6AH)-ONE, 1,2,12,12A-TETRAHYDRO-8,9-DIMETHOXY-2-(1-METHYLETHENYL)-, [2R-(2ALPHA,6AALPHA,12A.ALPHA.)]-|5'BETA-ROTENONE|CENOL GARDEN DUST|CHEM FISH|CHEM-MITE(+)-CIS-	83-79-4	PHYSICAL DESCRIPTION: Colorless to brownish crystals or a white to brownish-white crystalline powder. Has neither odor nor taste. (NTP, 1992)	1.0	2.5	5.0	5328.0	539.0	1812.0	953.0	571.0	1735.0	183.0	592.0	331.0	178.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3811	RANDOX	SMALL SPILLS AND LEAKAGE: Dampen spilled material with water to avoid dust, then transfer material to a suitable container. Use absorbent paper dampened with water to pick up remaining material. Wash surfaces well with soap and water. Seal all wastes in vapor tight plastic bags for eventual disposal. STORAGE PRECAUTIONS: Store in a refrigerator or in a cool, dry place. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An alcohol substituted, unsaturated aliphatic basic organic salt. Aqueous solutions are alkaline. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.							0																								
3812	RETENE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 1-NITRO-2-METHYLNAPHTHALENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Stable under normal conditions. Protect from bases. (NTP, 1992)							0																						(NTP, 1992)			174 to 180
3813	RICINOLEIC ACID, SODIUM SALT	(BLOB)	Acid-type canister mask; self-contained breathing apparatus (full face); rubber gloves and full protective clothing. (USCG, 1999)	Fumes in air. Reacts violently with water to form hydrobromic acid (HBr) (USCG 1991).	BROMOACETYL BROMIDE is incompatible with water, with bases (including amines), with strong oxidizing agents, with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291]. Decomposes when heated with evolution of highly toxic and irritating hydrogen bromide and bromophosgene vapors.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
3814	ROSIN OIL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	RONNEL is non-flammable and non-combustible. Decomposes with heating to evolve toxic and corrosive vapors (hydrogen chloride, phosphorus oxides, sulfur oxides). Incompatible with strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						(NIOSH, 2003)		106	
3815	ROTENONE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Organonitrates, such as ETHYL NITRATE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	4	7		(NFPA, 2010)		50															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3811	RANDOX																									(NTP, 1992)		320.5						(NTP, 1992)	Soluble						C18H34O3.Na	Cellulose-Based Absorbents|Dirt/ Earth	2.0	0.0	2.0	1.0	1.0
3812	RETENE																			(NTP, 1992)		370		20		(NTP, 1992)		187.2						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C11H9N O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3813	RICINOLEIC ACID, SODIUM SALT														(USCG, 1999)		2.317		68		(USCG, 1999)		298		760		(USCG, 1999)		201.85										BAB	Corrosive	C2H2Br2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	4.0	0.0	4.0	1.0	1.0
3814	ROSIN OIL	(NIOSH, 2003)		0.0008		77		mm Hg							(NIOSH, 2003)		1.49		77		(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		321.6		(NIOSH, 2003)		300	mg/m3	(NIOSH, 2003)	at 77Â° F	0.004		%		Poison	(CH3O)2P(S)OC6H2Cl3		2.0	0.0	2.0	1.0	1.0
3815	ROTENONE																																								Flammable Liquid	C2H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3816	RUBIDIUM HYDROXIDE	RUBIDIUM HYDROXIDE|RUBIDIUM HYDROXIDE, SOLID|RUBIDIUM HYDROXIDE, [SOLID]	1310-82-3	A grayish-white solid. It is very irritating to skin and eyes. Denser than water. It is used in electric storage batteries.	1.0	2.5	5.0	5328.0	539.0	1812.0	953.0	571.0	1735.0	183.0	592.0	331.0	178.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen bromide and other gases may be produced in fire. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3817	RUBIDIUM HYDROXIDE, SOLUTION	RUBIDIUM HYDROXIDE|RUBIDIUM HYDROXIDE SOLUTION|RUBIDIUM HYDROXIDE, SOLUTION	1310-82-3	A clear aqueous solution. Very caustic. Very irritating to skin and eyes. Used in electric storage batteries.	2.5	5.0	2.5	5329.0	539.0	1812.0	953.0	571.0	1736.0	183.0	592.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3818	S-(N-PROPYL)CHLOROTHIOFORMIC ACID	FORMIC ACID, CHLOROTHIO, S-PROPYL ESTER|N-PROPYL CHLOROTHIOFORMATE|PROPYL CHLOROTHIOFORMATE|S-(N-PROPYL)CHLOROTHIOFORMIC ACID|S-PROPYL CHLOROTHIOFORMATE|S-PROPYL THIOCHLOROFORMATE	13889-92-4	PHYSICAL DESCRIPTION: Blackish-brown liquid. (NTP, 1992)	2.5	5.0	2.5	5330.0	539.0	1813.0	953.0	571.0	1737.0	183.0	593.0	331.0	178.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3819	S,S,S-TRIBUTYLTRITHIOPHOSPHATE	DEF|S,S,S-TRIBUTYL PHOSPHOROTRITHIOATE|S,S,S-TRIBUTYLTRITHIOPHOSPHATE	78-48-8	Colorless to pale yellow liquid with mercaptan-like odor. Insoluble in water. Used as a growth regulator.	2.5	5.0	2.5	5331.0	539.0	1813.0	953.0	571.0	1738.0	183.0	593.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3820	SALCOMINE	BIS(SALICYLALDEHYDE)ETHYLENEDIIMINE COBALT(II)|BIS(SALICYLIDENE)ETHYLENEDIAMINATOCOBALT(II)|[BIS(SALICYLIDENE)ETHYLENEDIAMINE]COBALT|COBALT BIS(SALICYLIDENE)ETHYLENEDIAMINE|COBALT, N,N'-ETHYLENEBIS(SALICYLIDENEIMINATO)-|COBALT, [[2,2'-[1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE)]BIS[PHENOLATO]](2-)-N,N',O,O']-, (SP-4-2)-|COBALT, [[ALPHA,ALPHA'-(ETHYLENEDINITRILO)DI-O-CRESOLATO](2-)]-|COBALT,((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(PHENOLATO))(2-)-N,N',O,O')-|COBALT,((ALPHA,ALPHA'-(ETHYLENEDINITRILO) DI-O-CRESOLATO)(2-))-|COSALEN|N,N'-BIS(SALICYLIDENE)ETHYLENEDIAMINATO|COBALT|N,N'-	14167-18-1	A solid complex between the cobalt(II) ion and the condensation product of salicylaldehyde and ethylenediamine. Such condensation products are called "Schiff's bases." Complexation with cobalt nullifies their basic properties. Used as a catalyst for various oxidation reactions in which it behaves as an oxygen carrier.	1.0	2.5	5.0	5331.0	539.0	1813.0	953.0	571.0	1738.0	183.0	593.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3816	RUBIDIUM HYDROXIDE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves and apron. (USCG, 1999)	Flammable. Insoluble in water.	BROMOBENZENE may be sensitive to light. May react with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		123.8												(USCG, 1999)		1049		(NTP, 1992)		-24	
3817	RUBIDIUM HYDROXIDE, SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Insoluble in water.	Nitroalkanes, such as 1-NITROHEXANE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water. Flammable/combustible material. May be ignited by heat, sparks or flames.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3818	S-(N-PROPYL)CHLOROTHIOFORMIC ACID	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ROSIN OIL is subject to spontaneous heating [Hawley]. May be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1		(NFPA, 2010)		266																			
3819	S,S,S-TRIBUTYLTRITHIOPHOSPHATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	This chemical decomposes upon exposure to light or air. Insoluble in water.	ROTENONE is readily oxidized in the presence of alkalis. It is incompatible with oxidizers. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3820	SALCOMINE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3816	RUBIDIUM HYDROXIDE	(NTP, 1992)	; 10 mm Hg at 104Â° F; 20 mm Hg at 128.8Â° F	5		82		mm Hg	(NTP, 1992)		5.41				(USCG, 1999)		1.49		77		(NTP, 1992)		313		760		(NTP, 1992)		157.02						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL	BBZ	Flammable Liquid	C6H5Br		2.0	0.0	5.0	1.0	1.0
3817	RUBIDIUM HYDROXIDE, SOLUTION														(NTP, 1992)		0.939				(NTP, 1992)			356 to 358	760		(NTP, 1992)		131.18						(NTP, 1992)	Insoluble					Poison	C6H13NO2	Cellulose-Based Absorbents;Expanded Polymeric Absorbents	2.0	0.0	5.0	1.0	1.0
3818	S-(N-PROPYL)CHLOROTHIOFORMIC ACID																																								Flammable Liquid			2.0	0.0	2.0	1.0	1.0
3819	S,S,S-TRIBUTYLTRITHIOPHOSPHATE	(NTP, 1992)			less than 0.0075	68		mm Hg							(NTP, 1992)		1.27		68		(NTP, 1992)			410 to 428	0.5		(NTP, 1992)		394.42		(NIOSH, 2003)		2500	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C23H22O6	Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3820	SALCOMINE																											(NTP, 1992)		157.41												C2H2BrClO	Cellulose-Based Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3821	SEC-AMYL ACETATE	BANANA OIL|1-METHYLBUTYL ACETATE|PEAR OIL|2-PENTANOL ACETATE|2-PENTYL ESTER OF ACETIC ACID|2-PENTYLACETATE|SEC-AMYL ACETATE	626-38-0	Colorless to yellow watery liquid with a weak odor of bananas. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5331.0	539.0	1813.0	953.0	571.0	1738.0	183.0	593.0	331.0	178.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3822	SEC-AMYL ALCOHOL	DIETHYL CARBINOL|DL-2-PENTANOL|1-ETHYL-1-PROPANOL|2-HYDROXYPENTANE|1-METHYL-1-BUTANOL|1-METHYLBUTANOL|METHYL PROPYLCARBINOL|(+-)-2-PENTANOL|2-PENTYL ALCOHOL|3-PENTYL ALCOHOL|SEC-AMYL ALCOHOL|SEC-PENTANOL|SEC-PENTYL ALCOHOL	584-02-1	A clear colorless liquid with a strong odor. Moderately toxic by ingestion and vapors may irritate skin and eyes. Vapors are heavier than air.	2.5	5.0	2.5	5332.0	539.0	1813.0	953.0	571.0	1739.0	183.0	593.0	331.0	178.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3823	SELENIUM HEXAFLUORIDE	SELENIUM FLUORIDE|SELENIUM FLUORIDE (SEF6)|SELENIUM HEXAFLUORIDE	7783-79-1	Selenium hexafluoride is a colorless gas used as a electrical insulator. It is highly toxic by inhalation. When heated to high temperatures it may decompose to emit toxic fluoride and selenium fumes. Prolonged exposure of the container to fire or intense heat may cause it to violently rupture or rocket.	5.0	1.0	1.0	5332.0	539.0	1813.0	953.0	571.0	1739.0	183.0	593.0	331.0	178.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3824	SELENIUM OXYCHLORIDE	DICHLOROOXOSELENIUM|SELENINYL CHLORIDE|SELENINYL DICHLORIDE|SELENIUM CHLORIDE OXIDE|SELENIUM CHLORIDE OXIDE (SECL2O)|SELENIUM DICHLORIDE OXIDE|SELENIUM OXYCHLORIDE|SELENIUM OXYCHLORIDE (SEOCL2)|SELENIUM OXYDICHLORIDE|SELENYL DICHLORIDE (SEOCL2)	7791-23-3	A colorless to light-colored liquid. Insoluble in water and denser than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5332.0	539.0	1813.0	953.0	571.0	1739.0	183.0	593.0	331.0	178.0	Call a doctor. INHALATION: Remove from exposure. Treat respiratory depression with artificial respiration and oxygen. EYES: Irrigate with water for at least 15 minutes. SKIN: Wash with soap and water. Remove contaminated clothing. INGESTION: Induce vomiting with ipecac. Delay absorption by giving activated charcoal. Use saline cathartic. in mild poisoning with adequate urine output and no vomiting, give milk and fruit juice every hour. Treat acidosis with sodium bicarbonate (7.5% solution). (USCG, 1999)	Combustible. Can react with oxidizing materials. (USCG, 1999)	Extinguish with water fog, alcohol foam, CO2 or dry chemical. (USCG, 1999)
3825	SELENIUM SULFIDE	NCI-C50033|SELENIUM MONOSULFIDE|SELENIUM SULFIDE|SELENIUM SULPHIDE|SELSUN SULFIDE|SULFUR SELENIDE|SULFUR SELENIDE (SSE)	7446-34-6	PHYSICAL DESCRIPTION: Orange-yellow tablets or powder. Has a faint odor. (NTP, 1992)	1.0	2.5	5.0	5332.0	539.0	1814.0	953.0	571.0	1739.0	183.0	594.0	331.0	178.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3821	SEC-AMYL ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Sensitive to moisture (NTP, 1992). Slowly hydrolyzed. Insoluble in water.	S-(N-PROPYL)CHLOROTHIOFORMIC ACID reacts exothermically with acids. May generate hydrogen sulfide with acids. Strong oxidizing agents may cause vigorous reactions that are sufficiently exothermic to ignite the reaction products. Reacts exothermically with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		144																			
3822	SEC-AMYL ALCOHOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Hydrolyzed slowly by alkaline conditions.	An organophosphate derivative. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3823	SELENIUM HEXAFLUORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Aromatic nitro compounds, such as TRINITROPHENETOLE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																							
3824	SELENIUM OXYCHLORIDE	Avoid contact with liquid or vapor. Keep people away. Wear goggles and self-contained breathing apparatus. Stop discharge if possible. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	Wear goggles and self-contained breathing apparatus. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	SALICYLALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.			(NFPA, 2010)		0	2	0	2		(USCG, 1999)		172													(USCG, 1999)		19.4	
3825	SELENIUM SULFIDE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Slightly soluble in water.	BROMOTRIFLUOROMETHANE may react with aluminum to produce substantial heat. Other halogenated hydrocarbons, such as fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane produce sufficient heat in this way to melt aluminum pieces. The vigor of the reaction appears to depend on the degree of fluorination and the vapor pressure [Chem. Eng. News 39(27):44 1961].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3821	SEC-AMYL ACETATE	(NTP, 1992)		178.8		100		mm Hg							(NTP, 1992)		1.053		66								(NTP, 1992)		138.62						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive|Flammable Liquid	H7C3-S-C(O)Cl	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3822	SEC-AMYL ALCOHOL																																							Poison	C12H27O4P		3.0	0.0	5.0	1.0	1.0
3823	SELENIUM HEXAFLUORIDE																																							Explosive 1.1D	C8H10N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3824	SELENIUM OXYCHLORIDE	(USCG, 1999)		1.09		90		mm Hg	(USCG, 1999)		4.2				(USCG, 1999)		1.1674		68		(USCG, 1999)		386		760		(USCG, 1999)		122.12											SAL		C7H6O2	Cellulose-Based Absorbents	2.0	0.0	4.0	1.0	1.0
3825	SELENIUM SULFIDE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-72		760		(NIOSH, 2003)		148.9		(NIOSH, 2003)		40000	ppm	(NIOSH, 2003)		0.03		%		Non-Flammable Gas	CBrF3		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3826	SILVER OXIDE	ARGENTOUS OXIDE|SILVER OXIDE	20667-12-3	Odorless brown-black solid. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5332.0	539.0	1815.0	953.0	571.0	1739.0	183.0	595.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Combustible. Extinguish with dry chemical, CO2, or alcohol foam. Use water spray to "knock down" vapors and cool exposed containers. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3827	SILVER PICRATE, WETTED WITH NOT LESS THAN 30% WATER	PICRAGOL|PICRIC ACID, SILVER(1+) SALT|PICROTOL|SILVER MONOPICRATE|SILVER PICRATE|SILVER PICRATE, WETTED WITH NOT LESS THAN 30% WATER|SILVER PICRATE, [WET WITH >= 30% WATER]|SILVER(I) PICRATE|SILVER, (PICRYLOXY)-	146-84-9	A white to light colored solid paste. Contains about 35% water, which reduces its tendency toward rapid decomposition or explosion. Considered safe for storage, handling and shipping, but should be treated as an explosive. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5333.0	539.0	1815.0	953.0	571.0	1740.0	183.0	595.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Irritating sulfur dioxide may form. Behavior in Fire: Vapors are heavier than air and may travel long distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3828	SODIUM 2-DIAZO-1-NAPHTHOL-4-SULFONATE	SODIUM 2-DIAZO-1-NAPHTHOL-4-SULFONATE|SODIUM 2-DIAZO-1-NAPHTHOL-4-SULPHONATE	64173-96-2	A white to light colored solid substance. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May ignite and burn with an intense flame if exposed to high temperatures or flame.	1.0	2.5	5.0	5333.0	539.0	1815.0	953.0	571.0	1740.0	183.0	595.0	331.0	178.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Water stream as far as possible; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3829	SODIUM 2-DIAZO-1-NAPHTHOL-5-SULFONATE	NA 125|SODIUM 1,2-NAPHTHOQUINONE DIAZIDE 5-SULFONATE|SODIUM 1,2-NAPHTHOQUINONE-2-DIAZIDE-5-SULFONATE|SODIUM 2,1-DIAZONAPHTHOL-5-SULFONATE|SODIUM 2-DIAZO-1-NAPHTHOL-5-SULFONATE|SODIUM 2-DIAZO-1-NAPHTHOL-5-SULPHONATE|SODIUM 2-DIAZO-1-OXO-1,2-DIHYDRONAPHTHALENE-5-SULFONATE	2657-00-3	A white to light colored solid substance. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May ignite and burn with an intense flame if exposed to high temperatures or flame.	1.0	2.5	5.0	5334.0	539.0	1816.0	953.0	571.0	1741.0	183.0	596.0	331.0	178.0	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3830	SODIUM ALKYLBENZENESULFONATES	ALKYLBENZENESULFONIC ACID, SODIUM SALT|SODIUM ALKYLBENZENESULFONATES|SULFONATED ALKYLBENZENE, SODIUM SALT	68081-81-2	Pale yellow thick liquid or solid with a faint detergent odor. Mixes with water. Soap bubbles may be produced. (USCG, 1999)	1.0	2.5	5.0	5335.0	539.0	1817.0	953.0	571.0	1742.0	183.0	597.0	331.0	178.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3826	SILVER OXIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Insoluble in water.	BUTYL LACTATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Avoid contact with strong oxidizing agents and strong bases. Will not polymerize (USCG, 1999).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		160		(NIOSH, 2003)		1.15		%						(NIOSH, 2003)		-45	
3827	SILVER PICRATE, WETTED WITH NOT LESS THAN 30% WATER	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	BUTYL MERCAPTAN is incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. May liberate hydrogen sulfide upon decomposition or reaction with an acid. Incompatible with strong oxidizing agents (USCG, 1999).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		55												(USCG, 1999)		-176.2	
3828	SODIUM 2-DIAZO-1-NAPHTHOL-4-SULFONATE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BUTYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition. Several recorded explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156]. Danger of explosion when dry.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2	3	1	4																								
3829	SODIUM 2-DIAZO-1-NAPHTHOL-5-SULFONATE	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water. Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid.	Ethers, such as BUTYL VINYL ETHER can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 127P [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NFPA, 2010)		15																		
3830	SODIUM ALKYLBENZENESULFONATES	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Water soluble.	THIOACETIC ACID is a thio organic acid. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1	1	0	1																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3826	SILVER OXIDE	(NIOSH, 2003)		0.4				mm Hg	(USCG, 1999)		5.04				(USCG, 1999)		0.98				(USCG, 1999)		370		760		(USCG, 1999)		146.19						(NIOSH, 2003)	Slight				BLE	Combustible Liquid	C7H14O3	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3827	SILVER PICRATE, WETTED WITH NOT LESS THAN 30% WATER	(NIOSH, 2003)		35				mm Hg							(USCG, 1999)		0.841		68		(USCG, 1999)		229.3		760		(USCG, 1999)		90.2		(NIOSH, 2003)		500	ppm	(NIOSH, 2003)		0.06		%	BTM	Flammable Liquid	C4H10S		1.0	0.0	1.0	1.0	1.0
3828	SODIUM 2-DIAZO-1-NAPHTHOL-4-SULFONATE																																							Organic Peroxide	C10H18O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3829	SODIUM 2-DIAZO-1-NAPHTHOL-5-SULFONATE																																							Flammable Liquid	C6H12O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3830	SODIUM ALKYLBENZENESULFONATES																																							Flammable Liquid	C2H4OS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3831	SODIUM ALUMINUM HYDRIDE	ALUMINATE(1-), TETRAHYDRO-, SODIUM|ALUMINUM SODIUM HYDRIDE|ALUMINUM SODIUM HYDRIDE (ALNAH4)|SODIUM ALUMINUM HYDRIDE|SODIUM ALUMINUM HYDRIDE (NAALH4)|SODIUM ALUMINUM TETRAHYDRIDE|SODIUM TETRAHYDRIDOALUMINATE(1-)|SODIUM TETRAHYDROALUMINATE|SODIUM TETRAHYDROALUMINATE (NAALH4)|SODIUM TETRAHYDROALUMINATE(1-)	13770-96-2	A white crystalline solid. Density 1.24 g / cm3. If spread over a large flat combustible area, friction can ignite the material. Soluble in tetrahydrofuran.	1.0	2.5	5.0	5335.0	539.0	1817.0	953.0	571.0	1742.0	183.0	597.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3832	SODIUM ARSANILATE	(4-AMINOPHENYL)ARSONIC ACID SODIUM SALT|(4-AMINOPHENYL)ARSONIC ACID, MONOSODIUM SALT (9CI)|ANHYDROUS SODIUM ARSANILATE|ARSAMIN|ARSANILIC ACID, MONOSODIUM SALT|ARSINOSOLVIN|ATOXYL|ATOXYL (PHARMACEUTICAL)|NCI-C61176|NUARSOL|NUARSONAL|PIGLET PRO-GEN V|PRO-GEN SODIUM|PROTOXYL|SOAMIN|SODIUM AMINARSONATE|SODIUM AMINOPHENOL ARSONATE|SODIUM ANILARSONATE|SODIUM ANILINE ARSONATE|SODIUM ARSANILATE|SODIUM P-AMINOBENZENEARSONATE|SODIUM P-AMINOPHENYLARSONATE|SODIUM P-ARSANILATE|SONATE|TRYPOXYL	127-85-5	A white crystalline, odorless powder. Slightly denser than water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5335.0	539.0	1817.0	953.0	571.0	1742.0	183.0	597.0	331.0	178.0	(BLOB)	Combustible (NTP, 1992)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3833	SODIUM CHROMATE TETRAHYDRATE	CHROMATE OF SODA TETRAHYDRATE|CHROMIC ACID, DISODIUM SALT, TETRAHYDRATE|CHROMIUM DISODIUM OXIDE TETRAHYDRATE|CHROMIUM SODIUM OXIDE TETRAHYDRATE|DISODIUM CHROMATE TETRAHYDRATE|SODIUM CHROMATE (VI) TETRAHYDRATE|SODIUM CHROMATE TETRAHYDRATE	10034-82-9	PHYSICAL DESCRIPTION: Odorless bright yellow deliquescent crystals. Aqueous solutions are alkaline. (NTP, 1992)	1.0	2.5	5.0	5336.0	539.0	1817.0	953.0	571.0	1743.0	183.0	597.0	331.0	178.0	INHALATION: Call for medical aid. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do not induce vomiting. EYES: Flush with copious amounts of water for at least 15 minutes. SKIN: Wash with soap and copious amounts of water. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3834	SODIUM DEHYDROACETATE	3-ACETYL-6-METHYL-2H-PYRAN-2,4(3H)-DIONE SODIUM SALT|DEHYDROACETIC ACID SODIUM SALT|DEHYDROACETIC ACID, SODIUM DERIV.|DEHYDROACETIC ACID, SODIUM SALT|DHA-SIDHA-SODIUM|DHN|2H-PYRAN-2,4(3H)-DIONE, 3-ACETYL-6-METHYL-, ION(1-) SODIUM|2H-PYRAN-2,4(3H)-DIONE, 3-ACETYL-6-METHYL-, SODIUM SALT|HARVEN|4-HEXENOIC ACID, 2-ACETYL-5-HYDROXY-3-OXO, DELTA-LACTONE, SODIUM DERIVATIVE|4-HEXENOIC ACID, 2-ACETYL-5-HYDROXY-3-OXO-, DELTA-LACTONE, SODIUM DERIV.|3-(1-HYDROXYETHYLIDENE)-6-METHYL-2H-PYRAN-2,4(3H)-DIONE SODIUM SALT|NEW SIDE S 01|PREVAN|SODIUM DEHYDROACETATE|SODIU	4418-26-2	PHYSICAL DESCRIPTION: White powder. Used as a fungicide, plasticizer, toothpaste, preservative in food.	1.0	2.5	5.0	5337.0	539.0	1818.0	953.0	571.0	1744.0	183.0	598.0	331.0	178.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3835	SODIUM FLUOROACETATE	1080|ACETIC ACID, FLUORO-, SODIUM SALT|COMPD 1080|COMPOUND 1080|COMPOUND NO. 1080|FLUOROACETIC ACID SODIUM SALT|FLUOROACETIC ACID, SODIUM SALT|FRATOL|FURATOL|RATBANE 1080|SFA|SMFA|SODIUM FLUOACETATE|SODIUM FLUOACETATE ACID|SODIUM FLUOACETIC ACID|SODIUM FLUORACETATE|SODIUM FLUOROACETATE|SODIUM MONOFLUOROACETATE|TEN-EIGHTY|TENATE|TL 869|YASOKNOCK	62-74-8	A fine, white, odorless, powdered solid. Toxic by ingestion, inhalation and skin absorption. Used as a rodenticide.	1.0	2.5	5.0	5338.0	539.0	1818.0	953.0	571.0	1745.0	183.0	598.0	331.0	178.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases (hydrogen chloride, phosgene) are generated. Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3831	SODIUM ALUMINUM HYDRIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ETHYL TELLURAC is sensitive to prolonged exposure to light. (NTP, 1992)					2	1	3	4																				(NTP, 1992)			226 to 244
3832	SODIUM ARSANILATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: When working with this chemical, you should wear impervious coveralls, shoe covers and gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble (NTP, 1992).	Protect from light. (NTP, 1992) Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.					3	0	0	0																							(NTP, 1992)			171 to 172
3833	SODIUM CHROMATE TETRAHYDRATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Chemical safety goggles, compatible chemical resistant gloves, approved respirator. (USCG, 1999)	Flammable. Insoluble in water.	Reacts with sulfuric acid liberating heat. [Handling Chemcials Safely 1980. p. 906].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2	0	0	0		(USCG, 1999)		130														(USCG, 1999)		-79.6	
3834	SODIUM DEHYDROACETATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	BUTYRALDOXIME is highly explosive during vacuum distillation. This chemical is incompatible with oxidizing materials. It is also incompatible with metallic impurities. It may react with strong acids. (NTP, 1992)	Explosive	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		136														(NTP, 1992)		-21.1	
3835	SODIUM FLUOROACETATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly water soluble.	Liquid ammonia and ETHYLENE DICHLORIDE can cause an explosion when mixed, NFPA 491M, 1991. A tank of dimethyl amino propyl amine exploded violently when it reacted with wet ethylene dichloride which had been the tank's previous contents [Doyle 1973]. Halogenated aliphatic compounds, such as ethylene dichloride, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, epoxides, aluminum	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		56	(NTP, 1992)		6.2		%	(NTP, 1992)		15.9		%	(USCG, 1999)		775		(NTP, 1992)		-31.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3831	SODIUM ALUMINUM HYDRIDE														(NTP, 1992)		1.44										(NTP, 1992)		720.72						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL			C20H40N4Sn8Te	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3832	SODIUM ARSANILATE																									(NTP, 1992)		166.18						(NTP, 1992)	Slightly soluble						C9H10O3	Cellulose-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3833	SODIUM CHROMATE TETRAHYDRATE														(USCG, 1999)		0.853				(USCG, 1999)		372.2 to 377.6	760		(USCG, 1999)		148.25		(NIOSH, 2003)		100	ppm						BUE	Poison	C11H16		10.0	1.0	0.0	0.0	1.0
3834	SODIUM DEHYDROACETATE								(NTP, 1992)		3.01				(NTP, 1992)		0.923				(NTP, 1992)		306	760		(NTP, 1992)		87.14						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid	C4H9NO		1.0	0.0	1.0	1.0	1.0
3835	SODIUM FLUOROACETATE	(NTP, 1992)	; 100 mm Hg at 84.9Â° F	60		68		mm Hg	(NTP, 1992)		3.4				(USCG, 1999)		1.253		68		(NTP, 1992)		182.3	760		(NTP, 1992)		98.96		(NIOSH, 2003)	; Not applicable for Ethylene dichloride, a potential human carcinogen.	50	ppm	(NTP, 1992)	at 66Â° F		5 to 10	mg/mL	EDC	Flammable Liquid|Poison	C2H4Cl2		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3836	SODIUM NAPHTHENATE	NAPHTHENIC ACID, SODIUM SALT|NAPHTHENIC ACIDS, SODIUM SALTS|NK 270|SODIUM NAPHTHENATE	61790-13-4	White paste to clear, dark brown liquid (NTP, 1999). The sodium salts of any one or of a mixture of a group of saturated fatty acids derived from petroleum.	2.5	5.0	2.5	5339.0	539.0	1818.0	953.0	571.0	1746.0	183.0	598.0	331.0	178.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3837	SODIUM PENTACHLOROPHENATE	DOWICIDE G|GR 48-11PS|GR 48-32S|MYSTOX D|NAPCP|PCP SODIUM SALT|PCP-SODIUM|PENTACHLOROPHENATE SODIUM|PENTACHLOROPHENOL SODIUM SALT|PENTACHLOROPHENOXY SODIUM|PENTANOT 25|PHENOL, PENTACHLORO-, SODIUM DERIV.|PHENOL, PENTACHLORO-, SODIUM SALT|PKHFN|PREVENTOL PN|SANTOBRITE|SAPCO 25|SODIUM PCP|SODIUM PENTACHLOROPHENATE|SODIUM PENTACHLOROPHENOLATE|SODIUM PENTACHLOROPHENOXIDE|WITOPHEN N	131-52-2	Sodium pentachlorophenate is a white or tan, powdered solid. It is soluble in water and may burn, but it is not easily ignited. It may be toxic by ingestion, inhalation and skin absorption. It is used as a fungicide, herbicide and as a disinfectant.	1.0	2.5	5.0	5340.0	539.0	1819.0	953.0	571.0	1747.0	183.0	599.0	331.0	178.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3838	SODIUM RESINATE	DRESINATE X|PINE CRYSTAL KM 1300|POZZOLITH 122HE|RESIN ACIDS, SODIUM SALTS|S 30|S 30 (ROSIN ACID)|SODIUM RESINATE|VINSOL|VINSOL NVX|WINSOL	61790-51-0	Sodium resinate is a white amorphous powder. It may spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite nearby combustible material. It is soluble in water.	1.0	2.5	5.0	5340.0	539.0	1819.0	953.0	571.0	1747.0	183.0	599.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3839	STEARYL ACID PHOSPHATE	DIHYDROGEN MONOOCTADECYL PHOSPHATE|DIHYDROGEN STEARYLPHOSPHATE|ISOOCTADECYL DIHYDROGEN PHOSPHATE|MONO-N-OCTADECYL PHOSPHATE|MONOOCTADECYL ORTHOPHOSPHATE|MONOOCTADECYL PHOSPHATE|MONOSTEARYL ACID PHOSPHATE|MONOSTEARYL DIHYDROGEN PHOSPHATE|MONOSTEARYL PHOSPHATE|OCTADECYL DIHYDROGEN PHOSPHATE|OCTADECYL PHOSPHATE ((C18H37O)(OH)2PO)|STEARYL ACID PHOSPHATE|STEARYL DIHYDROGEN PHOSPHATE	2958-09-0	A white waxy solid. Insoluble in water. Vapor or liquid may irritate of severely burn skin or eyes. Inhalation may irritate and seriously burn respiratory tract. Ingestion may irritate and burn mucous membranes of the gastrointestinal tract.	1.0	2.5	5.0	5341.0	539.0	1819.0	953.0	571.0	1748.0	183.0	599.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
3840	STEARYL PALMITATE	HEXADECANOIC ACID, OCTADECYL ESTER|OCTADECYL HEXADECANOATE|OCTADECYL PALMITATE|PALMITIC ACID, OCTADECYL ESTER|STEARYL PALMITATE	2598-99-4	PHYSICAL DESCRIPTION: White crystals or flakes. (NTP, 1992)	1.0	2.5	5.0	5341.0	539.0	1819.0	953.0	571.0	1748.0	183.0	599.0	331.0	178.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3836	SODIUM NAPHTHENATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Generally soluble in water.	Salts of selenic acid, H2SeO4.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3837	SODIUM PENTACHLOROPHENATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	Esters, such as ETHYLENE GLYCOL DIPROPIONATE, react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3838	SODIUM RESINATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																									
3839	STEARYL ACID PHOSPHATE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	Flammable and explosive as dust or powder and in the form of borings or shavings, but not in bulk form. May ignite on contact with air or moist air. Insoluble in water.	(BLOB)		Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		3375	
3840	STEARYL PALMITATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								(NTP, 1992)		630	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	mldh_source	mldh_note	mldh_value	mldh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chirls_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3836	SODIUM NAPHTHENATE																																							Poison	O4Se		1.0	0.0	1.0	1.0	1.0
3837	SODIUM PENTACHLOROPHENATE																																							Flammable Liquid	C6H14O4		3.0	0.0	5.0	1.0	1.0
3838	SODIUM RESINATE	(NTP, 1992)									479.03																																C28H31NO3.Cl		5.0	0.0	5.0	1.0	1.0
3839	STEARYL ACID PHOSPHATE	(NIOSH, 2003)	(approx)	0				mm Hg			91.2				(NIOSH, 2003)	(Meal)	6.51				(NIOSH, 2003)		6471		760												(NIOSH, 2003)	(as Zr)	50	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	Zr		2.0	0.0	2.0	1.0	1.0
3840	STEARYL PALMITATE										268.3				(NTP, 1992)																								(NTP, 1992)	at 64Å° F	less than 0.1	mg/mL				C14H12N4O2		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3841	STRONTIUM PERCHLORATE	STRONTIUM DIPERCHLORATE|STRONTIUM PERCHLORATE|STRONTIUM PERCHLORATE (SR(CLO4)2)	13450-97-0	A colorless crystalline powder. Dangerous fire risk when in contact with organic materials. Used to make other chemicals.	1.0	2.5	5.0	5342.0	539.0	1820.0	953.0	571.0	1749.0	183.0	600.0	331.0	178.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3842	STRONTIUM SULFIDE	C.I. 77847|C.I. PIGMENT WHITE 8|PIGMENT WHITE 8|STRONTIUM MONOSULFIDE|STRONTIUM SULFIDE|STRONTIUM SULPHIDE	1314-96-1	PHYSICAL DESCRIPTION: Gray powder with an odor of H2S in moist air. (NTP, 1992)	1.0	2.5	5.0	5343.0	539.0	1820.0	953.0	571.0	1750.0	183.0	600.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available, but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray can also be used on this chemical. (NTP, 1992)
3843	STRYCHNINE	CERTOX|DOLCO MOUSE CEREAL|KWIK-KIL|4,6-METHANO-6H,14H-INDOLO[3,2,1-IJ]OXEPINO[2,3,4-DE]PYRROLO[2,3-H]QUINOLINE, STRYCHNIDIN-10-ONE DERIV.|MOLE DEATH|MOUSE-NOTS|MOUSE-RID|MOUSE-TOX|NUX VOMICA|NUX-VOMICA|PIED PIPER MOUSE SEED|RO-DEX|SANASEED|STRYCHNIDIN-10-ONE|STRYCHNIN|STRYCHNINE|-)-STRYCHNINE|STRYCHNINE, AND SALTS|STRYCHNINE, [SOLID]|STRYCHNOS|STRYNCHNOS	57-24-9	Colorless, transparent crystals or white crystalline powder. Has no odor. Used for destroying rodents and predatory animals and for trapping fur-bearing animals. (EPA, 1998)	1.0	2.5	5.0	5344.0	539.0	1820.0	953.0	571.0	1751.0	183.0	600.0	331.0	178.0	(BLOB)	Burning rate: 2.2 mm/minute. When exposed to heat or flame, the material has a moderate fire potential. The material can react readily with oxidizing materials. Containers may explode in heat of fire. Material emits nitrogen oxides when burned. Avoid carbon disulfide, silver perchlorate, imines, oxidizing materials. Stable. Hazardous polymerization may not occur. (EPA, 1998)	Wear full protective clothing including gloves and boots. If necessary to enter closed area, wear full-faced gas masks with self-contained breathing apparatus. Use water spray, dry chemical, alcohol foam, or carbon dioxide. Do not use water in case of drum or tank fires. If a leak or spill has not ignited, use water spray to reduce the vapors and dilute spills to nonflammable mixtures. Use water to keep fire-exposed containers cool. (EPA, 1998)
3844	STRYCHNINE AND SALTS	STRYCHNINE AND SALTS|STRYCHNINE SALT, [SOLID]|STRYCHNINE SALTS	57-24-9	Colorless to white crystals. Used as a rodenticide. Burns, though difficult to ignite. Toxic by ingestion. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5344.0	539.0	1820.0	953.0	571.0	1751.0	183.0	600.0	331.0	178.0	(BLOB)	Flash point data for this compound are not available; it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3845	STRYCHNINE, [SULFATE]	ANTIVAMPIRE|4,6-METHANO-6H,14H-INDOLO[3,2,1-IJ]OXEPINO[2,3,4-DE]PYRROLO[2,3-H]QUINOLINE, STRYCHNIDIN-10-ONE DERIV.|STRYCHNIDIN-10-ONE, SULFATE(2:1)|STRYCHNINE SULFATE|STRYCHNINE, SULFATE|STRYCHNINE, SULFATE (2:1)|STRYCHNINE, SULFATE(2:1)|STRYCHNINE, [SULFATE]|STRYCHNINIUM SULFATE|VAMPIROL	60-41-3	Colorless, odorless, very bitter crystals or white crystalline powder. Has been used as a tonic and stimulant in veterinary medicine. Registered as a rodenticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5345.0	539.0	1820.0	953.0	571.0	1752.0	183.0	600.0	331.0	178.0	(BLOB)	Literature sources indicate that this compound is noncombustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3846	SUCCINIC ACID PEROXIDE	ALFOZONO|ALPHOZONE|DISUCCINIC ACID PEROXIDE|DISUCCINOYL PEROXIDE|PEROXIDE, BIS(3-CARBOXYPROPIONYL)|PER OXYDISUCCINIC ACID|PEROYL SA|SUCCINIC ACID PEROXIDE|SUCCINIC MONOPEROXYANHYDRIDE|SUCCINOYL PEROXIDE|SUCCINYL PEROXIDE	123-23-9	Fine white odorless powder. Used as a polymerization catalyst.	1.0	2.5	5.0	5345.0	539.0	1820.0	953.0	571.0	1752.0	183.0	600.0	331.0	178.0	EYES: Check for contact lenses and remove them at once if present. You should then immediately flush eyes with water for 15 minutes. Do not use oil or ointment in eyes. Arrange immediate transportation to a medical facility. SKIN: You should remove all contaminated clothing and flood skin with water. Wash all affected skin areas thoroughly with soap and water. If symptoms persist or develop, seek medical attention. INHALATION: If any of your personnel should inhale this substance you should remove them immediately to open air. If symptoms develop, seek medical attention. INGESTION: If the exposed person is convulsing or unconscious, you should not attempt first aid. Transport immediately to a hospital emergency room or poison control	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3841	STRONTIUM PERCHLORATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS are dithiocarbamic acid derivatives. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3842	STRONTIUM SULFIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. This chemical should be protected from freezing. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	C.I. PIGMENT GREEN 36 is incompatible with oxidizing and reducing agents. (NTP, 1992). Likely to react as a weak base in aqueous solution. [[Details on specifics of reactivity not yet available.]]						0																									
3843	STRYCHNINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Hygroscopic. Fumes in the air. Water soluble. Biodegrades readily.	A base. Highly reactive with many compounds. Can react violently with acetic acid, acetic anhydride, acrolein, acrylic acid, acrylonitrile, allyl chloride, carbon disulfide, chlorosulfonic acid, epichlorohydrin, ethylene chlorohydrin, hydrogen chloride, mesityl oxide, nitric acid, oleum, AgClO4, sulfuric acid, beta-propiolactone and vinyl acetate. Incompatible with strong acids, strong oxidizers (perchlorate salts), and chlorinated organic compounds. It is also incompatible with halogenated organic compounds and metal halides. May react with nitromethane and diisopropyl peroxydicarbonate. May ignite on contact with cellulose nitrate. Readily absorbs carbon dioxide from the air to give crusty solid deposits. (NTP, 1992). Ethylenediamine reacts violently with ethylene chlorohydrin. (Lewis, R.J., Sr. 1992. Sax's Dangerous Properties of Industrial Materials, 8th Edition. New York: Van Nostrand Reinhold. pp. 1554.).	Highly Flammable; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(EPA, 1998)		93		(EPA, 1998)		4.2		%	(EPA, 1998)		14.4		%	(USCG, 1999)		715		(EPA, 1998)		46	
3844	STRYCHNINE AND SALTS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Likely to behave as a weak base in aqueous solution. [[Details on specifics of reactivity not yet available.]]						0																									
3845	STRYCHNINE, [SULFATE]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from all oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	Aqueous solutions of ETHYLENEDIAMINE TETRAACETIC ACID, TRISODIUM SALT react with aluminum to produce hydrogen. Oxidizers should be avoided. (NTP, 1992)						0																					(NTP, 1992)		greater than 572	
3846	SUCCINIC ACID PEROXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)		Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3841	STRONTIUM PERCHLORATE																																									Class 9	C4H8N2S4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	3.0	0.0	5.0	1.0	1.0
3842	STRONTIUM SULFIDE																										(NTP, 1992)		1393.9						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C32Br6Cl10CuN8	Mineral-Based & Clay-Based Absorbents	2.0	0.0	5.0	1.0	1.0
3843	STRYCHNINE	(EPA, 1998)		10.7		68		mm Hg	(EPA, 1998)		2.07				(EPA, 1998)		0.898		77		(EPA, 1998)		241		760		(EPA, 1998)		60.12		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	at 63Â° F		greater than or equal to 100	mg/mL	EMX	Corrosive|Flammable Liquid	C2H8N2	Mineral-Based & Clay-Based Absorbents	1.0	0.0	3.0	1.0	1.0
3844	STRYCHNINE AND SALTS																																			(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C32Cl16CuN8	Mineral-Based & Clay-Based Absorbents	1.0	0.0	3.0	1.0	1.0
3845	STRYCHNINE, [SULFATE]														(NTP, 1992)		0.7215										(NTP, 1992)		358.22						(NTP, 1992)	at 70.7Â° F		5 to 10	mg/mL			C10H16N2O8.3Na	Mineral-Based & Clay-Based Absorbents	1.0	0.0	3.0	1.0	1.0
3846	SUCCINIC ACID PEROXIDE																										(NTP, 1992)		412.42						(NTP, 1992)	at 63Â° F		less than 0.1	mg/mL			C2H12N4O2	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3847	SULFALLATE	CARBAMIC ACID, DIETHYLDITHIO-, 2-CHLOROALLYL ESTER|CARBAMODITHIOIC ACID, DIETHYL-, 2-CHLORO-2-PROPENYL ESTER|CDEC|CHLORALLYL DIETHYLDITHIOCARBAMATE|2-CHLORALLYL DIETHYLDITHIOCARBAMATE|2-CHLORO-2-PROPENE-1-THIOL DIETHYLDITHIOCARBAMATE|2-CHLORO-2-PROPENYL DIETHYLCARBAMODITHIOATE|2-CHLOROALLYL DIETHYLDITHIOCARBAMATE|2-CHLOROALLYL N,N-DIETHYLDITHIOCARBAMATE|CP 4,742|CP 4572|DIETHYLCARBAMODITHIOIC ACID 2-CHLORO-2-PROPENYL ESTER|DIETHYLDITHIOCARBAMIC ACID 2-CHLOROALLYL ESTER|NCI-C00453|2-PROPENE-1-THIOL, 2-CHLORO-, DIETHYLDITHIOCARBAMAT	95-06-7	PHYSICAL DESCRIPTION: Amber to dark amber liquid. (NTP, 1992)	2.5	5.0	2.5	5346.0	539.0	1820.0	953.0	571.0	1753.0	183.0	600.0	331.0	178.0	INHALATION: remove victim to fresh air; give oxygen if necessary. INGESTION: induce vomiting; follow with gastric lavage and saline cathartics. EYES: flush immediately and thoroughly with water. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3848	SULFISOXAZOLE	(BLOB)	127-69-5	PHYSICAL DESCRIPTION: Odorless white to yellowish crystalline powder. Slightly bitter taste. Acid to litmus. (NTP, 1992)	1.0	2.5	5.0	5347.0	539.0	1820.0	953.0	571.0	1754.0	183.0	600.0	331.0	178.0	INHALATION: remove victim to fresh air; give artificial respiration if needed; call physician. EYES: flush with water for 15 min.; obtain medical attention immediately. SKIN: flush with water; obtain medical attention if burning has occurred. INGESTION: if victim is conscious, give large amounts of water, then induce vomiting; get medical attention. (USCG, 1999)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene fumes may be formed. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires will generate irritating hydrogen chloride gas. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3849	SULFURIZED ISOBUTYLENE (COMBUSTIBLE LIQUID, N.O.S.)	SULFURIZED ISOBUTYLENE (COMBUSTIBLE LIQUID, N.O.S.)	68511-50-2	An amber-colored liquid with a mild odor. Insoluble in water and denser than water. Contact may irritate skin, eyes, and mucous membranes. Used to make other chemicals.	2.5	5.0	2.5	5347.0	539.0	1820.0	953.0	571.0	1754.0	183.0	600.0	331.0	178.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3850	SULFURYL FLUORIDE	SULFONYL DIFLUORIDE|SULFONYL FLUORIDE|SULFUR DIFLUORIDE DIOXIDE|SULFUR DIOXIDE DIFLUORIDE|SULFUR FLUORIDE OXIDE (SF2O2)|SULFUR FLUORIDE OXIDE (SO2F2)|SULFUR OXIDE FLUORIDE (SF2O2)|SULFUR OXYFLUORIDE (SO2F2)|SULFURIC OXYFLUORIDE|SULFURYL FLUORIDE|SULPHURYL FLUORIDE|VIKANE|VIKANE GAS FUMIGANT|VIKANEÂ®	2699-79-8	A colorless odorless gas. Shipped as a liquefied gas under its own vapor pressure. Noncombustible. Heavier than air. Very toxic by inhalation. Contact with the unconfined liquid can cause frostbite. Prolonged exposure to heat can cause containers to rupture violently and rocket.	5.0	1.0	1.0	5348.0	539.0	1820.0	953.0	571.0	1755.0	183.0	600.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
3851	T-BUTYL GLYCIDYL ETHER	((1,1-DIMETHYLETHOXY)METHYL)OXIRANE|1,1-DIMETHYLETHYL GLYCIDYL ETHER|2,3-EPOXYPROPYL-TERT-BUTYL ETHER|PROPANE, 1-TERT-BUTOXY-2,3-EPOXY-|T-BGE|T-BUTYL GLYCIDYL ETHER|1-TERT-BUTOXY-2,3-EPOXYPROPANE|TERT-BUTOXYMETHYL)OXIRANE|TERT-BUTYL 2,3-EPOXYPROPYL ETHER|TERT-BUTYL GLYCIDYL ETHER|(.+-)-TERT-BUTYLGLYCIDYL ETHER	7665-72-7	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5349.0	539.0	1820.0	953.0	571.0	1756.0	183.0	600.0	331.0	178.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3847	SULFALLATE	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute solution of sodium bicarbonate or soda ash. (USCG, 1999)	This compound is highly toxic if ingested or inhaled. Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Reacts vigorously with water to form selenic acid solution.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(USCG, 1999)		244	
3848	SULFISOXAZOLE	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves; chemical worker's goggles; other equipment as necessary to protect skin and eyes. (USCG, 1999)	Reacts vigorously with water to form hydrogen chloride(hydrochloric acid). Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 33 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 86 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as ETHYLPHENYLDICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases. Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene fumes may be formed.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2435 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)			greater than 150																				
3849	SULFURIZED ISOBUTYLENE (COMBUSTIBLE LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures and protect it from light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	SENNA (POWDERED) is incompatible with mineral acids, carbonates, infusion cinchona, lime water, salts of heavy metals and tartar emetic (NTP, 1992).						0																			(NTP, 1992)	approximately (decomposes)	392	
3850	SULFURYL FLUORIDE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	ZINC STEARATE is non-flammable but combustible. Incompatible with oxidizing agents, dilute acids. Emits acrid smoke and fumes of ZnO when heated to decomposition (Hazardous Chemicals Desk Reference, p. 865 (1987)).			(NFPA, 2010)		1	2	0	2		(NIOSH, 2003)		530															(NIOSH, 2003)		266	
3851	T-BUTYL GLYCIDYL ETHER		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Slightly soluble in water.	SILVER ACETATE is freely soluble in dilute nitric acid [Merck]. Can serve as an oxidizing agent.								0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3847	SULFALLATE														(USCG, 1999)		3.6		68								(USCG, 1999)		126.9												STO	Poison	O3Se	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	1.0	1.0	1.0
3848	SULFISOXAZOLE														(USCG, 1999)		1.159		59		(USCG, 1999)			greater than 300	760		(USCG, 1999)		205.1											EPS	Corrosive	C8H10Cl2Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	5.0	0.0	5.0	1.0	1.0
3849	SULFURIZED ISOBUTYLENE (COMBUSTIBLE LIQUID, N.O.S.)																																		(NTP, 1992)	at 66Â° F		less than 1	mg/mL				Cellulose-Based Absorbents	1.0	0.0	3.0	1.0	1.0
3850	SULFURYL FLUORIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		1.1										(NIOSH, 2003)		632.4						(NIOSH, 2003)	Insoluble						Zn(C18H35O2)2		4.0	0.0	5.0	1.0	1.0
3851	T-BUTYL GLYCIDYL ETHER														(USCG, 1999)		3.26		68								(USCG, 1999)		166.9		(NIOSH, 2003)	(as Ag)	10	mg/m3						SVA		AgC2H3O2		5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3852	TELLURIUM HEXAFLUORIDE	HEXAFLUOROTELLURIUM|TELLURIUM FLUORIDE|TELLURIUM FLUORIDE (TEF6)|TELLURIUM FLUORIDE(TEF6)|TELLURIUM FLUORIDE(TEF6),(OC-6-11)-|TELLURIUM HEXAFLUORIDE	7783-80-4	Tellurium hexafluoride is a colorless gas with a repulsive odor. It is very toxic by inhalation and skin absorption. When heated to high temperatures, it may emit toxic fluoride and tellurium fumes. It is heavier than air. Under prolonged exposure to fire or intense heat the containers may violently rupture and rocket. It reacts with water to yield toxic vapors.	5.0	1.0	1.0	5349.0	539.0	1820.0	953.0	571.0	1756.0	183.0	600.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3853	TERBACIL	5-CHLORO-3-(1,1-DIMETHYLETHYL)-6-METHYL-2,4(1H,3H)-PYRIMIDINEDIONE|TERBACIL	5902-51-2	Colorless crystals. Non corrosive. Used as an herbicide.	1.0	2.5	5.0	5350.0	539.0	1821.0	953.0	571.0	1757.0	183.0	601.0	331.0	178.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3854	TERPENE HYDROCARBONS, N.O.S.	SKDN|TERPENE HYDROCARBONS|TERPENE HYDROCARBONS, N.O.S.|WHITE SPIRIT (LOW (15-20%) AROMATIC)	63394-00-3	Colorless to yellowish liquids. Generally not soluble in water. Generally less dense than water. Flash point 100-200Â°F. Vapors generally heavier than air. Contact may irritate the skin, eyes and mucous membranes.	2.5	5.0	2.5	5351.0	539.0	1821.0	953.0	571.0	1758.0	183.0	601.0	331.0	178.0	INHALATION: move to fresh air. INGESTION: give large amount of water; induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Behavior in Fire: Decomposes to silver oxide, silver, and carbon dioxide; the reaction is not hazardous. (USCG, 1999)	
3855	TERT-BUTYL HYPOCHLORITE	1,1-DIMETHYLETHYL HYPOCHLORITE|HYPOCHLOROUS ACID, TERT-BUTYL ESTER|TERT-BUTYL HYPOCHLORITE	507-40-4	A slightly yellowish liquid with a pungent odor. Water insoluble. Corrosive to the skin, eyes, and mucous membranes.	2.5	5.0	2.5	5352.0	539.0	1821.0	953.0	571.0	1759.0	183.0	601.0	331.0	178.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3856	TERT-BUTYL PEROXYCROTONATE	ESPEROX 13|PEROXYCROTONIC ACID, TERT-BUTYL ESTER|TERT-BUTYL PERCROTONATE|TERT-BUTYL PEROXYCROTONATE|TERT-BUTYL PEROXYCROTONATE, [<= 76% IN SOLUTION]	23474-91-1		1.0	2.5	5.0	5352.0	539.0	1821.0	953.0	571.0	1759.0	183.0	601.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3857	TERT-OCTYL MERCAPTAN	T-OCTYL MERCAPTAN|TERT-OCTYL MERCAPTAN	141-59-3		2.5	5.0	2.5	5352.0	539.0	1821.0	953.0	571.0	1759.0	183.0	601.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3858	TETRACHLOROPHTHALIC ACID	PHTHALIC ACID, TETRACHLORO-|TETRACHLORO-1,2-BENZENEDICARBOXYLIC ACID|TETRACHLOROPHTHALIC ACID	632-58-6	PHYSICAL DESCRIPTION: Colorless plates. (NTP, 1992)	1.0	2.5	5.0	5352.0	539.0	1821.0	953.0	571.0	1759.0	183.0	601.0	331.0	178.0	EYES: flush with water for 15 min. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3852	TELLURIUM HEXAFLUORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	TRIPELENAMINE HYDROCHLORIDE behaves as a weak organic acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.					0																						(NTP, 1992)			378.5 to 380.3
3853	TERBACIL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	C.I. SOLVENT YELLOW 34 neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													
3854	TERPENE HYDROCARBONS, N.O.S.		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	SILVER CARBONATE is a carbonates salt. It is decomposed by acids with the evolution of carbon dioxide.								0																									
3855	TERT-BUTYL HYPOCHLORITE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. SODIUM 2-DIAZO-1-NAPHTHOL-4-SULFONATE is a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													
3856	TERT-BUTYL PEROXYCROTONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																												(NTP, 1992)			261 to 266
3857	TERT-OCTYL MERCAPTAN	(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly soluble in water.	1-TRANS-DELTA-9-TETRAHYDROCANNABINOLis very unstable to light and high temperatures. It should be protected from air during all handling due to its extreme instability. (NTP, 1992). Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.					0																													
3858	TETRACHLOROPHTHALIC ACID		Goggles or face shield. (USCG, 1999)	Insoluble in water.	1-TRIDECENE may react vigorously with strong oxidizers. May react exothermically with reducing agents to release gaseous hydrogen.								0		(USCG, 1999)	(approx.)	175																	(USCG, 1999)		-11	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3852	TELLURIUM HEXAFLUORIDE																										(NTP, 1992)		291.86						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C16H21N3.ClH	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3853	TERBACIL																																								Class 9	C17H21N3	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3854	TERPENE HYDROCARBONS, N.O.S.														(USCG, 1999)		6.1		68								(USCG, 1999)		275.75		(NIOSH, 2003)	(as Ag)	10	mg/m3						SVC		Ag2CO3		3.0	0.0	4.0	1.0	1.0
3855	TERT-BUTYL HYPOCHLORITE																																								Flammable Solid	C10H7N2O4S	Cellulose-Based Absorbents	4.0	0.0	5.0	1.0	1.0
3856	TERT-BUTYL PEROXYCROTONATE	(NTP, 1992)			less than 0.01	68		mm Hg													(NTP, 1992)		549		105		(NTP, 1992)		174.2						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C10H10N2O		2.0	0.0	2.0	1.0	1.0
3857	TERT-OCTYL MERCAPTAN																				(NTP, 1992)		392		0.02		(NTP, 1992)		314.5						(NTP, 1992)	at 73Â° F	2.8		mg/mL			C21H30O2	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3858	TETRACHLOROPHTHALIC ACID														(USCG, 1999)		0.765		68		(USCG, 1999)		451		760		(USCG, 1999)		182.35										TDC		C13H26	Dirt/Earth	4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3859	TETRACHLORVINPHOS	BENZYL ALCOHOL, 2,4,5-TRICHLORO-ALPHA-(CHLOROMETHYLENE)-, DIMETHYL PHOSPHATE|2-CHLORO-1-(2,4,5-TRICHLOROPHENYL)VINYL DIMETHYL PHOSPHATE|2-CHLORO-1-(2,4,5-TRICHLOROPHENYL)VINYL PHOSPHORIC ACID DIMETHYL ESTER|DIMETHYL 2,4,5-TRICHLORO-ALPHA-(CHLOROMETHYLENE)BENZYL PHOSPHATE|GARDONA|PO 8|NCI C00168|PHOSPHORIC ACID, 2-CHLORO-1-(2,3,5-TRICHLOROPHENYL) ETHENYL DIMETHYL ESTER|PHOSPHORIC ACID, 2-CHLORO-1-(2,4,5-TRICHLOROPHENYL)VINYL DIMETHYL ESTER|RABON|RABOND|TETRACHLORVINPHOS|2,4,5-TRICHLORO-ALPHA-(CHLOROMETHYLENE)BENZYL ALCOHOL DIMETHYL	961-11-5	PHYSICAL DESCRIPTION: Colorless crystals or white powder. Somewhat corrosive. (NTP, 1992)	1.0	2.5	5.0	5352.0	539.0	1821.0	953.0	571.0	1759.0	183.0	601.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3860	TETRADECYLBENZENE	1-PHENYLTETRADECANE|TETRADECYLBENZENE	1459-10-5	Colorless liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5353.0	539.0	1821.0	953.0	571.0	1760.0	183.0	601.0	331.0	178.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3861	TETRAETHYL DITHIOPYROPHOSPHATE	(BLOB)	3689-24-5	Colorless to pale yellow mobile oil with odor of garlic. Used as an insecticide, acaricide and mitocide. (EPA, 1998)	2.5	5.0	2.5	5354.0	539.0	1822.0	953.0	571.0	1761.0	183.0	602.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3862	TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, MIXTURES, OR IN SOLUTION (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)	ASP 47|DITHIOFOS|DITHIONE|DITHIOPHOS|DITHIOTEP|E 393|ETHYL THIOPYROPHOSPHATE (((ETO)2PS]2O)FULEX|O,O,O,O-TETRAETHYL DITHIOPYROPHOSPHATE|PLANTFUME 103|SULFOTEP|SULFOTEPP|TEDP|TEDTP|TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, IN SOLUTION|TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, MIXTURES|TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, MIXTURES, OR IN SOLUTION (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)|TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, MIXTURES, OR IN SOLUTION (LC50 NOT MORE THAN 200 PPM)|TETRAETHYL DITHIOPYROPHOSPHATE-	3689-24-5	Tetraethyl dithiopyrophosphate and compressed gas mixture is a liquid charged with a gas. Tetraethyl dithiopyrophosphate is a yellow liquid. Its vapor is heavier than air. It is lethal by skin absorption and inhalation. Prolonged exposure of the containers to fire or heat may result in their violent rupturing and rocketing.	5.0	1.0	1.0	5355.0	539.0	1822.0	953.0	571.0	1762.0	183.0	602.0	331.0	178.0	INHALATION: move to fresh air. INGESTION: induce vomiting, followed by prompt and complete gastric lavage, cathartics, and demulcents. EYES or SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3863	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [DRY]	ASP 47|DITHIOFOS|DITHIONE|DITHIOPHOS|DITHIOTEP|E 393|ETHYL THIOPYROPHOSPHATE (((ETO)2PS]2O)FULEX|O,O,O,O-TETRAETHYL DITHIOPYROPHOSPHATE|PLANTFUME 103|SULFOTEP|SULFOTEPP|TEDP|TEDTP|TETRAETHYL DITHIONOPYROPHOSPHATE|TETRAETHYL DITHIOPYROPHOSPHATE|TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [DRY]|TETRAETHYLDITHIOPYROPHOSPHATE|THIOPYROPHOSPHORIC ACID ((HO)2PS]2O), TETRAETHYL ESTER	3689-24-5	Liquid absorbed on a dry carrier. Combustible, but may be difficult to ignite. Corrosive to metals in the presence of moisture. Toxic by inhalation, ingestion and by skin absorption.	2.5	5.0	2.5	5355.0	539.0	1822.0	953.0	571.0	1762.0	183.0	602.0	331.0	178.0	(BLOB)	When heated to decomposition, it emits toxic fumes of arsenic. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. If water pollution occurs, notify appropriate authorities. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog or foam. Move container from fire area if you can do it without risk. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3859	TETRACHLORVINPHOS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Soluble in water.	FD & C YELLOW NO. 6 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							(NTP, 1992)	Decomposes without melting at 734Â° F		
3860	TETRADECYLBENZENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
3861	TETRAETHYL DITHIOPYROPHOSPHATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1-UNDECANETHIOL is incompatible with oxidizing agents, strong acids and strong bases, alkali metals, and nitric acid. Can react with water, steam or acids to produce toxic and flammable vapors. Reacts violently with powerful oxidizing agents such as calcium hypochlorite(Ca(OCl)2) to generate SOx. Reacts with hydrides to form flammable H2 gas; reacts with halogenated hydrocarbons to yield HX. Reacts exothermically with aldehydes. Emits toxic compounds of sulfur when when heated to decomposition.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		27	
3862	TETRAETHYL DITHIOPYROPHOSPHATE AND GASES, MIXTURES, OR IN SOLUTION (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Water soluble. Efflorescent in air. Aqueous solutions are acidic.	Acidic salts, such as ZINC SULFATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)		212	
3863	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [DRY]	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Soluble in water forming weakly acidic solutions.	Acidic salts, such as SODIUM ARSENATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		187	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	sdfn_source	sdfn_note	sdfn_value	sdfn_unit	solbly_source	solbly_note	solbly_value	solbly_unit	solbly_range	chris_codes	doe_labels	formulas	incompatible_jobs	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3859	TETRACHLORVINPHOS																						(NTP, 1992)				452.37								50 to 100	mg/mL			C16H12N2O7S2.2Na		3.0	0.0	3.0	1.0	1.0
3862	TETRAETHYL DITHIOPYROPHOSPHATE IN SOLUTION (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)								(USCG, 1999)						(USCG, 1999)			1.96		68							(USCG, 1999)																2.0	0.0	2.0	1.0	1.0
3863	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE. [DRY]														(USCG, 1999)			1.87		68			(NTP, 1992)	(decompo ses)	356		302.88		(NIOSH, 2003)	for Arsenic (inorganic compound s, as As): A potential human carcinoge n.	5	mg/m3	(NTP, 1992)	Soluble					SDA	Poison	A5H3O4, xNa	Cellulose-Based Absorbents[Exp anded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3860	TETRADECYLBENZENE																						(NTP, 1992)				239.05								less than 1	mg/mL		Poison	C6H8A5N O3.Na		3.0	0.0	4.0	1.0	1.0
3861	TETRAETHYL DITHIOPYROPHOSPHATE														(NIOSH, 2003)			0.84				495		(NIOSH, 2003)		188.4		(NIOSH, 2003)	760						Insoluble			Flammable Liquid[Poison	CH3(CH2)10SH		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3864	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [LIQUID]	SULFOTEP|TEDP|TETRAETHYL DITHIONOPYROPHOSPHATE|TETRAETHYL DITHIOPYROPHOSPHATE|TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [LIQUID]|TETRAETHYLDITHIOPYROPHOSPHATE	3689-24-5	Pale-yellow liquid with a garlic-like odor. May be absorbed on a solid carrier or mixed in a more flammable liquid. Used as a pesticide. (NIOSH, 1997)	2.5	5.0	2.5	5355.0	539.0	1822.0	953.0	571.0	1762.0	183.0	602.0	331.0	178.0			
3865	TETRAETHYL DITHIOPYROPHOSPHATE, MIXTURE, DRY OR LIQUID	SULFOTEPP|TETRAETHYL DITHIOPYROPHOSPHATE, MIXTURE, DRY OR LIQUID	3689-24-5	A solid material on which the liquid phosphate is absorbed. The phosphate is combustible though may be difficult to ignite. Corrosive to metals in the presence of moisture. Toxic by inhalation, ingestion and by skin absorption.	1.0	2.5	5.0	5355.0	539.0	1822.0	953.0	571.0	1762.0	183.0	602.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3866	TETRAETHYL LEAD, LIQUID	LEAD TETRAETHYL|LEAD, TETRAETHYL-|MOTOR FUEL ANTIKNOCK COMPOUNDS (CONTAIN LEAD) {TETRAETHYL LEAD}|NCI-C54988|PLUMBANE, TETRAETHYL|PLUMBANE, TETRAETHYL-|TEL|TETRAETHYL LEAD|TETRAETHYL LEAD, LIQUID|TETRAETHYL LEAD, [LIQUID]|TETRAETHYL PLUMBANE|TETRAETHYLLEAD|TETRAETHYLPLUMBANE	78-00-2	A colorless liquid with a characteristic odor. Flash point 163Â° F. Density 14 lb / gal. Insoluble in water. Toxic by inhalation and by skin absorption.	2.5	5.0	2.5	5355.0	539.0	1822.0	953.0	571.0	1762.0	183.0	602.0	331.0	178.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3867	TETRAFLUOROETHYLENE, INHIBITED	ETHENE, TETRAFLUORO-|ETHYLENE TETRAFLUORIDE|ETHYLENE, TETRAFLUORO-|FLUOROPLAST 4|PERFLUOROETHENE|PERFLUOROETHYLENE|R 1114|TEFLON MONOMER|TETRAFLUOROETHYLENE|TETRAFLUOROETHYLENE|TETRAFLUOROETHYLENE MONOMER|TETRAFLUOROETHYLENE, INHIBITED|TETRAFLUOROETHYLENE, [INHIBITED]|1,1,2,2-TETRAFLUOROETHYLENE|TFE	116-14-3	PHYSICAL DESCRIPTION: A colorless odorless gas. Easily ignited. Vapors are heavier than air. May asphyxiate by the displacement of air. May violently polymerize under prolonged exposure to fire or heat, violently rupturing the container. Under prolonged exposure to fire or heat the containers may rupture violently and rocket. Water insoluble.	5.0	1.0	1.0	5356.0	539.0	1822.0	953.0	571.0	1763.0	183.0	602.0	331.0	178.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3868	TETRAHYDROTHIOPHENE	TETRAHYDROTHIOPHEN|TETRAHYDROTHIOPHENE|TETRAMETHYLENE SULFIDE|THIACYCLOPENTANE|THILANE|THIOLANE|THIOPHANE	110-01-0	A water-white liquid. About the same density as water and insoluble in water. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	5356.0	539.0	1822.0	953.0	571.0	1763.0	183.0	602.0	331.0	178.0	Get medical attention. SKIN: wash with plenty of water. EYES: flush with plenty of water for at least 15 minutes. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes with heat or oxidizing agents, releasing sulfur dioxide gas. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3869	TETRAISOBUTYL TITANATE	ISOBUTYL ALCOHOL, TITANIUM(4+) SALT|ISOBUTYL TITANATE|ISOBUTYL TITANATE ((C4H9O)4Ti)|ISOBUTYL TITANATE(IV)|TETRAISOBUTYL TITANATE|TETRAKIS(ISOBUTOXY)TITANIUM|TITANIC ACID ISOBUTYL ESTER|TITANIUM ISOBUTOXIDE|TITANIUM TETRAISOBUTOXIDE|TITANIUM TETRAISOBUTYLATE	7425-80-1	A dark yellow oily liquid with an alcohol-like odor. Insoluble in water and about the same density as water. May irritate or burn on contact.	2.5	5.0	2.5	5356.0	539.0	1822.0	953.0	571.0	1763.0	183.0	602.0	331.0	178.0	INGESTION: do NOT induce vomiting; give dilute vinegar, lemon juice, milk, or olive oil; call a doctor. SKIN AND EYES: flood with large amount of water. (USCG, 1999)	Behavior in Fire: Decomposes and produces highly flammable hydrogen gas. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÂ® powder; in addition, for Lithium you may use Lith-XÂ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3864	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [LIQUID]			Hydrolyzed by alkaline media.	THIOPHANATE ETHYL is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates. This substance is incompatible with copper containing compounds.							0																							
3865	TETRAETHYL DITHIOPYROPHOSPHATE, MIXTURE, DRY OR LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and keep away from alkaline materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	THIOPHANATE-METHYL is incompatible with strong acids and bases, and with strong reducing agents such as hydrides. Produces flammable gaseous hydrogen with active metals or nitrides. Incompatible with strong oxidizing acids, peroxides. Incompatible with alkaline material. Forms complexes with copper salts (NTP, 1992).				0																				(NTP, 1992)	(Decomposes)	342	
3866	TETRAETHYL LEAD, LIQUID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials and acids. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Effloresces in warm air. Water soluble.	SODIUM ARSENATE HEPTAHYDRATE is incompatible with strong oxidizing agents and strong acids. Also incompatible with iron, aluminum and zinc in the presence of water. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NTP, 1992)		135	
3867	TETRAFLUOROETHYLENE, INHIBITED	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	Organophosphates, such as TRIPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		428																(NTP, 1992)			122 to 124
3868	TETRAHYDROTHIOPHENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear chemical splash goggles or face shield and chemical protective gloves. (USCG, 1999)	Soluble in water.	SODIUM BISULFITE on contact with mineral acids the solution emits highly toxic fumes of sulfur dioxide gas [Sax, 9th ed., 1996, p. 2949].	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(USCG, 1999)			less than 32
3869	TETRAISOBUTYL TITANATE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Goggles, rubber gloves, and protective clothing. (USCG, 1999)	Hydrolysis generates enough heat to ignite adjacent combustible material [Haz. Chem. Data 1966]. Dissolves in water with liberation of heat, may steam and spatter. Solution is basic (alkaline). Reaction of water with the borohydride liberates flammable hydrogen gas. Sodium borohydride burns in air [Lab. Gov. Chemist 1965].	SODIUM BOROHYDRIDE is a powerful reducing agent. A chemical base. Absorbs moisture readily forming caustic solution. which attacks aluminum and zinc. A violent polymerization of acetaldehyde results from the reactions of acetaldehyde with alkaline materials such as sodium hydroxide. Calcium oxide or sodium hydroxide react with phosphorus pentaoxide extremely violently when initiated by local heating [Mellor 8 Supp.3:406 (1971)]. Using potassium hydroxide to dry impure tetrahydrofuran, which contains peroxides, may be hazardous. Explosions have occurred in the past. Sodium hydroxide behaves in a similar way as potassium hydroxide [NSC Newsletter, Chem. Soc. 1967]. Ignition occurs if a mixture of the hydride and sulfuric acid is not cooled. Contact of glycerol and sodium borohydride leads to ignition, other glycols and methanol are exothermic but do not ignite.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3864	TETRAETHYL DITHIOPYROPHOSPHATE MIXTURE, [LIQUID]																																									C14H18N4O4S2		2.0	0.0	2.0	1.0	1.0
3865	TETRAETHYL DITHIOPYROPHOSPHATE, MIXTURE, DRY OR LIQUID	(NTP, 1992)			less than 0.0000001	68		mm Hg																		(NTP, 1992)		342.42						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H14N4O4S2		2.0	0.0	2.0	1.0	1.0
3866	TETRAETHYL LEAD, LIQUID														(NTP, 1992)		1.88				(NTP, 1992)	(decomposes)	356		760	(NTP, 1992)		312.02		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3	(NTP, 1992)	at 77Â° F		greater than or equal to 100	mg/mL		Poison	Na2(AsHO4).7H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	2.0	1.0	1.0
3867	TETRAFLUOROETHYLENE, INHIBITED	(NTP, 1992)		1		380.3		mm Hg							(NTP, 1992)		1.2055				(NTP, 1992)		473		11	(NTP, 1992)		326.3		(NIOSH, 2003)		1000	mg/m3	(NTP, 1992)	Insoluble						C18H15O4P		5.0	0.0	5.0	1.0	1.0
3868	TETRAHYDROTHIOPHENE														(USCG, 1999)		1.36		77		(USCG, 1999)		greater than 212	760		(USCG, 1999)		104.06											SHX	Corrosive	NaHSO3 (aqueous)		3.0	0.0	5.0	1.0	1.0
3869	TETRAISOBUTYL TITANATE														(USCG, 1999)		1.074		68							(USCG, 1999)		37.83											SBH	Dangerous When Wet	BH4.Na		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3870	TETRAMETHYLLEAD	LEAD TETRAMETHYL|LEAD, TETRAMETHYL|LEAD, TETRAMETHYL-|METHYLPLUMBANE|MOTOR FUEL ANTIKNOCK COMPOUNDS (CONTAIN LEAD) (TETRA-METHYL LEAD)|PLUMBANE, TETRAMETHYL-|TETRAMETHYL LEAD|TETRAMETHYL LEAD, TOLUENE BLEND NO.2|TETRAMETHYL PLUMBANE|TETRAMETHYL LEAD|TETRAMETHYLPLUMBANE|TML	75-74-1	Colorless liquid, dyed red, orange or blue. Has a slight musty odor. Used as an antiknock additive for gasolines; component of mixed alkyl leads for gasoline additives. (EPA, 1998)	2.5	5.0	2.5	5357.0	539.0	1823.0	953.0	571.0	1764.0	183.0	603.0	331.0	178.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3871	TETRAMETHYLSUCCINONITRILE	2,3-DICYANO-2,3-DIMETHYLBUTANE|SUCCINONITRILE, TETRAMETHYL-|TETRAMETHYL SUCCINODINITRILE|TETRAMETHYL SUCCINONITRILE|TETRAMETHYLSUCCINIC ACID DINITRILE|TETRAMETHYLSUCCINODINITRILE|TETRAMETHYLSUCCINONITRILE|TMSN|TSN	3333-52-6	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5358.0	539.0	1823.0	953.0	571.0	1765.0	183.0	603.0	331.0	178.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
3872	TETRANITROMETHANE	METHANE, TETRANITRO|METHANE, TETRANITRO-|NCI-C55947|TETAN|TETRANITROMETHANE|TNM	509-14-8	A pale yellow liquid. Irritates skin and respiratory tract. Very toxic by inhalation. Difficult to ignite. Burns at a steady rate once ignited. Under prolonged exposure to fire or heat containers may rupture violently and rocket Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	5358.0	539.0	1823.0	953.0	571.0	1765.0	183.0	603.0	331.0	178.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3873	TETRAPHENOXYSILANE	PHENYL SILICATE|PHENYL SILICATE ((PHO)4SI)|SILANE, TETRAPHENOXY-|SILICIC ACID, TETRAPHENYL ESTER|TETRAPHENOXYSILANE|TETRAPHENYL ORTHOSILICATE|TETRAPHENYL SILICATE	1174-72-7	PHYSICAL DESCRIPTION: White powder or light pink chunky solid. (NTP, 1992)	1.0	2.5	5.0	5359.0	539.0	1824.0	953.0	571.0	1766.0	183.0	604.0	331.0	178.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3874	TETRYL	ANILINE, N-METHYL-N,2,4,6-TETRANITRO-|CE|N-METHYL N,2,4,6-TETRANITROANILINE|N-METHYL-N-PICRYLNITRAMINE|N-PICRYL-N-METHYLNITRAMINE|2,4,6,N-TETRANITRO-N-METHYLANILINE|NITRAMINE|NITRAMINE (INDICATOR)|PICRYLMETHYLNITRAMINE|PICRYLNITROMETHYLAMINE|TETRALIT|TETRALITE|TETRIL|TETRYL|2,4,6-TETRYL|2,4,6-TRINITROPHENYL-N-METHYLNITRAMINE|2,4,6-TRINITROPHENYLMETHYLNITROAMINE	479-45-8	A yellow crystalline solid high explosive. Toxic by ingestion and skin absorption. A skin irritant. Will explode if heated above 370Â°F. Used as a detonating explosive. The primary hazard is the blast of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5359.0	539.0	1824.0	953.0	571.0	1766.0	183.0	604.0	331.0	178.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn but may not ignite readily. Containers may explode in heat of fire. When heated highly toxic fumes of phosphorus and sulfur oxides are emitted. Incompatible with alkali chemicals. Hydrolyzes in alkali, isomerizes in air. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Extinguish with dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
3875	THALLIUM	THALLIUM	7440-28-0	Bluish-white soft malleable metal or gray granules. Density 11.85 g / cm3. Emits toxic fumes when heated. May be packaged under water.	1.0	2.5	5.0	5360.0	539.0	1824.0	953.0	571.0	1767.0	183.0	604.0	331.0	178.0	INHALATION: remove victim to fresh air. INGESTION: do NOT lavage or induce vomiting; give vegetable oil and demulcents; call a doctor. EYES: flush with water for 15 min. SKIN: wipe off, wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3870	TETRAMETHYLLEAD	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	These sulfides are rather inert, dissolve into acid, insoluble in water and alkalis.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3871	TETRAMETHYLSUCCINONITRILE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May ignite (burns with a crimson flame) [Merck 11th ed. 1989]. Reacts violently with water to produce hydrogen, a flammable gas [Lab. Gov. Chemist 1966]. The heat of reaction may ignite the hydrogen.	Reacts violently with acids [Lab. Govt. Chemist 1965]. Burns spontaneously in chlorine at elevated temperatures [Mellor 3:637, 638, 651 1946-47]. Burns spontaneously in fluorine at ordinary temperatures. Reacts with incandescence with boron trifluoride.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	2	3	No Water																							
3872	TETRANITROMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	SODIUM CHLORIDE is generally unreactive. Releases gaseous hydrogen chloride if mixed with a concentrated nonvolatile acid such as sulfuric acid.						0																							
3873	TETRAPHENOXYSILANE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available,]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3874	TETRYL	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Keep unnecessary people away; stay upwind. Do not touch spilled material; stop leak if possible. Use water spray to reduce vapors. Take up with noncombustible absorbent material. For large spills, dike far ahead of spill. (EPA, 1998)	(BLOB)	Incompatible with alkali chemicals. Hydrolyzes in alkali, isomerize in air [EPA, 1998]. Slightly soluble in water.	Organothiophosphates, such as FENSULFOTHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3875	THALLIUM		Goggles or face shield; rubber gloves. (USCG, 1999)	Flammable. Insoluble in water.	1-UNDECENE may react vigorously with strong oxidizers. May react exothermically with reducing agents to release gaseous hydrogen.						0		(USCG, 1999)		160															(USCG, 1999)		-56	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3870	TETRAMETHYLLEAD																																								Class 9	SZn		2.0	0.0	2.0	1.0	1.0
3871	TETRAMETHYLSUCCINONITRILE																																								Spontaneously Combustible	Ca		1.0	0.0	1.0	1.0	1.0
3872	TETRANITROMETHANE	(NTP, 1992)		1		1589		mm Hg							(NTP, 1992)		2.165		77		(NTP, 1992)		2575		760		(NTP, 1992)		58.44						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			ClNa		1.0	0.0	1.0	1.0	1.0
3873	TETRAPHENOXYSILANE																																							Class 9	C18H16ClNO5	Mineral-Based & Clay-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3874	TETRYL														(EPA, 1998)		1.202				(EPA, 1998)		280 to 286		0.01		(EPA, 1998)		308.35						(NIOSH, 2003)	at 77Â° F	0.2		%		Poison	C11H17O4PS2		1.0	0.0	1.0	1.0	1.0
3875	THALLIUM														(USCG, 1999)		0.75		68		(USCG, 1999)		378.9		760		(USCG, 1999)		154.2										UDC		C11H22	Dirt/Earth	5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3876	THALLOUS MALONATE	DITHALLIUM MALONATE|FORMOMALENIC THALLIUM|MALONIC ACID, THALLIUM SALT (1:2)|MALONIC ACID, THALLIUM SALT(1:2)|PROPANEDIOIC ACID, DITHALLIUM SALT|THALLIUM MALONATE|THALLOUS MALONATE	2757-18-8	Solid. (EPA, 1998)	1.0	2.5	5.0	5361.0	539.0	1824.0	953.0	571.0	1768.0	183.0	604.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
3877	THIOFANOX	2-BUTANONE, 3,3-DIMETHYL-1-(METHYLTHIO)-, O-((METHYLAMINO) CARBONYL)OXIME|DACAMOX|3,3-DIMETHYL-1-(METHYLTHIO)-2-BUTANONE O-((METHYLAMINO) CARBONYL)OXIME|DS 15647|ENT 27851|THIOFANOX	39196-18-4	Thiofanox is a colorless solid with a pungent odor. Used as a systemic insecticide and acaricide. (EPA, 1998)	1.0	2.5	5.0	5362.0	539.0	1824.0	953.0	571.0	1769.0	183.0	604.0	331.0	178.0	(BLOB)	Special Hazards of Combustion Products: Decomposes in fire to give very toxic gases, including hydrogen cyanide. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3878	THIONAZIN	AC 18133|ACC 18133|AMERICAN CYANAMID 18133|CL 18133|CYNEM|CYNOPHOS|DIETHYL O-2-PYRAZINYL PHOSPHOROTHIONATE|EN 18133|ENT 25,580|ENT 26,680|ETHYL PYRAZINYL PHOSPHOROTHIOATE|EXPERIMENTAL NEMATOCIDE 18,133|NEMAFOS|NEMAFOS 10 G|NEMAPHOS|NEMATOCIDE|NEMATOCIDE GR|O,O-DIETHYL O-2-PYRAZINYL PHOSPHOROTHIOATE|O,O-DIETHYL O-2-PYRAZINYL PHOSPHOTHIONATE|O,O-DIETHYL O-PYRAZINYL PHOSPHOROTHIOATE|O,O-DIETHYL O-PYRAZINYL THIOPHOSPHATE|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-2-PYRAZINYL ESTER|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-PYRAZINYL ESTER|PYRAZINOL, O-ESTER WITH O,O-DIETHYL	297-97-2	Amber liquid. Pure compound is almost colorless; technical product is light brown to tan. Used in insecticides, fungicides, and nematocides. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5362.0	540.0	1824.0	953.0	571.0	1769.0	184.0	604.0	331.0	178.0	(BLOB)	Sodium cyanide is not combustible itself, but contact with acids releases highly flammable hydrogen cyanide gas. Fire may produce irritating or poisonous gases. Runoff from fire control water may give off poisonous gases. Container may explode in the heat of fire. Avoid strong oxidizers such as nitrates and chlorates; acids and acid salts. Avoid contact with acids. Aqueous solutions rapidly decompose. (EPA, 1998)	Full protective clothing including self-contained breathing apparatus, rubber gloves, boots, and bands around legs, arms, and waist should be provided. No skin surface should be exposed. Normal fire fighting procedures may be used. Fight fire from maximum distance. Move container from area if you can do it without risk. Dike fire control water for later disposal. Do not scatter the material. Use water. Use dry chemical, carbon dioxide, water spray, or foam for small fires, water spray, fog, or foam for large fires. (EPA, 1998)
3879	THIOPHANATE ETHYL	(1,2-PHENYLENEBIS(IMINOCARBONOTHIOYL)) BISCARBAMIC ACID DIETHYL ESTER|THIOPHANATE ETHYL	23564-06-9	Colorless crystals. Non corrosive.	1.0	2.5	5.0	5362.0	540.0	1824.0	953.0	571.0	1769.0	184.0	604.0	331.0	178.0	INGESTION: give large amount of water; do NOT induce vomiting. EYES: flush with water for at least 15 min. SKIN: wipe off, flush with water. (USCG, 1999)		
3880	THIOUREA, (2-METHYLPHENYL)-	(2-METHYLPHENYL)THIOUREA|1-(2-METHYLPHENYL)THIOUREA|N-(2-METHYLPHENYL)THIOUREA|N-(O-TOLYL)THIOUREA|O-TOLYL THIOUREA|1-O-TOLYL-2-THIOUREA|O-TOLYLTHIOUREA|THIOUREA, (2-METHYLPHENYL)-|THIOUREA,(2-METHYLPHENYL)-|2-TOLYLTHIOUREA|UREA, 2-THIO-1-O-TOLYL-	614-78-8	Crystalline solid. (EPA, 1998)	1.0	2.5	5.0	5363.0	540.0	1824.0	953.0	571.0	1770.0	184.0	604.0	331.0	178.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may form in fire. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3881	THONZYLAMINE	2-((2-DIMETHYLAMINO)ETHYL)(P-METHOXYBENZYL)AMINO) PYRIMIDINE|N,N-DIMETHYL-N'-(P-METHOXYBENZYL)-N'-(2-PYRIMIDYL)ETHYLENEDIAMINE|N-(P-METHOXYBENZYL)-N', N'-DIMETHYL-N-2-PYRIMIDINYLETHYLENEDIAMINE|NEOHETRAMINE|2-[P-METHOXYBENZYL-(2-DIMETHYLAMINOETHYL)AMINO]PYRIMIDINE|PYRIMIDINE, 2-[[2-(DIMETHYLAMINO)ETHYL](P-METHOXYBENZYL)AMINO]-|THONZYLAMINE|TONZILAMINE	91-85-0	An oily liquid. Used (in the form of the hydrochloride) as an antihistamine.	2.5	5.0	2.5	5363.0	540.0	1824.0	953.0	571.0	1770.0	184.0	604.0	331.0	178.0	(BLOB)	Special Hazards of Combustion Products: May form toxic chlorine and other gases in fire. Behavior in Fire: Decomposition can be initiated with a heat source and can propagate throughout the mass with the evolution of dense fumes. Containers may explode when heated. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3876	THALLOUS MALONATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CALCIUM CARBONATE is non-combustible. Decomposes at high temperature (825Â°C) to give gaseous carbon dioxide and calcium oxide (quicklime). Incompatible with acids, alum, ammonium salts, fluorine, magnesium. Reacts with acids and acidic salts to generate gaseous carbon dioxide with effervescence (bubbling). The reaction with concentrated solutions of acids is rapid and exothermic. The effervescence can create extensive foaming. Ignites on contact with fluorine.							0																						(NIOSH, 2003)	(Decomposes)		1517 to 2442
3877	THIOFANOX	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Self-contained breathing apparatus and full protective clothing, including rubber footwear. (USCG, 1999)	Water soluble with evolution of some hydrogen cyanide, a flammable poison gas. Release of gas is much more rapid if acid is present.	CALCIUM CYANIDE gives weakly acidic solutions. Contact with acids causes rapid evolution of hydrogen cyanide. Incompatible with isocyanates, nitrides, and peroxides. May react rapidly with oxidizing agents.		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																				(NTP, 1992)	Decomposes > 662Â° F		
3878	THIONAZIN	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Deliquescent. Soluble in water. Slowly decomposed by water and very rapidly by acids to give off hydrogen cyanide, a flammable poison gas. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Cyanide gas will be created in 12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	SODIUM CYANIDE produces deadly and flammable hydrogen cyanide gas pon contact with acids, even very weak acids , e.g., carbon dioxide dissolved in water (soda pop). Reacts violently with fluorine, magnesium, nitric acid, nitrates and nitrites [Sax, 9th ed., 1996, p. 2958]. Incompatible with strong oxidizing agents.	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1689 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(EPA, 1998)	Not combustible											(USCG, 1999)	Not flammable			(EPA, 1998)		1047	
3879	THIOPHANATE ETHYL		Goggles or face shield; rubber gloves (USCG, 1999)	The granular solid is water soluble.	Reacts as a base to neutralize acids. These reactions generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. Usually does not react as either oxidizing agents or reducing agents but such behavior is possible.							0		(USCG, 1999)			less than 100															
3880	THIOUREA, (2-METHYLPHENYL)-	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Dust respirator if required; rubber apron and boots; chemical worker's goggles or face shield (USCG, 1999)	Very hygroscopic. SIightly water soluble, where a 0.1M solution has a pH of 2.0.	Alkali metal hydroxides, acids, anhydrous chlorides of iron, tin, and aluminum, pure oxides of iron and aluminum, and metallic potassium are some of the catalysts that may cause ethylene oxide to rearrange and polymerize, liberating heat, [J. Soc. Chem. Ind. 68:179(1949)]. Explosions occur, although infrequently, from the combination of ethylene oxide and alcohols or mercaptans, [Chem. Eng. News 20:1318(1942)]. Allyl chloride may polymerize violently under conditions involving an acid catalyst, such as sulfuric acid, ferric chloride, aluminum chloride, Lewis acids, and Ziegler type catalysts (initiators), [Ventrone (1971)].	Known Catalytic Activity	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		583	
3881	THONZYLAMINE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask or chlorine-canister mask; goggles; rubber gloves and other protective clothing to prevent contact with skin (USCG, 1999)	The solid vigorously reacts with water releasing chlorine gas. Material containing less than 39% available chlorine will undergo reactions as described herein, but may take longer to initiate, and the resulting reaction may not be as vigorous. Water soluble.	Contact with ammonium compounds or hydrated salts can cause a very vigorous reaction. Prolonged exposure to heat /fire may result in the vigorous decomposition of the material with the rupture of its containers, it will accelerate the burning of combustible materials. Chlorine plus alcohols would yield alkyl hypochlorites. They decompose in the cold and explode on exposure to sunlight or heat. Tertiary hypochlorites are less unstable than secondary or primary hypochlorites [NFPA 491 M 1991].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2	2	Oxidizer																	(NTP, 1992)		437	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3876	THALLOUS MALONATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			2.7 to 2.95			(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		100.1						(NIOSH, 2003)		0.001		%			CaCO3		2.0	0.0	4.0	1.0	1.0
3877	THIOFANOX														(USCG, 1999)		1.853		68							(NTP, 1992)		92.19												CCN	Poison	Ca(CN)2		2.0	0.0	2.0	1.0	1.0
3878	THIONAZIN	(EPA, 1998)		1		1502.6		mm Hg							(USCG, 1999)		1.6		77		(EPA, 1998)		2725		760		(EPA, 1998)		49.01		(NIOSH, 2003)	(as CN)	25	mg/m3	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	SCN	Poison	CNNa		2.0	0.0	2.0	1.0	1.0
3879	THIOPHANATE ETHYL														(USCG, 1999)	1.04 at 77.0Â° F (liquid solution) 0.9 at 25Â°C (solvent)																								DCS		Ca(C12H23C6H4SO3)2		1.0	0.0	1.0	1.0	1.0
3880	THIOUREA, (2-METHYLPHENYL)-	(NTP, 1992)		1		381		mm Hg							(USCG, 1999)	(anhydrous solid)	2.8		68		(NTP, 1992)	(Decomposes)	599		760		(NTP, 1992)		162.2						(NTP, 1992)	at 68Â° F		5 to 10	mg/mL	FCL	Corrosive	Cl3Fe		3.0	0.0	4.0	1.0	1.0
3881	THONZYLAMINE														(USCG, 1999)		0.96		68							(NTP, 1992)		198						(NTP, 1992)	Soluble				SDT	Oxidizer	C3HCl2N3O3.Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3882	THONZYLAMINE HYDROCHLORIDE	ANAHIST|ANHIST|2-((2-(DIMETHYLAMINO)ETHYL)(P-METHOXY-BENZYL)AMINO)-PYRIMIDINE HYDROCHLORIDE|2-[(2-DIMETHYLAMINOETHYL)(P-METHOXYBENZYL)AMINO] PYRIMIDINE HYDROCHLORIDE|N,N-DIMETHYL-N'-(P-METHOXYBENZYL)-N''-(2-PYRIMIDYL)ETHYLENEDIAMINE HYDROCHLORID|N-((4-METHOXYPHENYL)METHYL)-N'N'-DIMETHYL-N-2-PYRIMIDINYL-1,2-ETHANEDIAMINE MONOHYDROCHLORIDE|N-P-METHOXY-N'N'-DIMETHYL-N-2-PYRIMIDINYLETHYLENE DIAMINE HYDROCHLORIDE|NEOHETRAMINE HYDROCHLORIDE|NH 188|NOVOHETRAMIN|PYRIMIDINE, 2-[[2-(DIMETHYLAMINO)ETHYL](P-METHOXYBENZYL)AMINO]-	63-56-9	PHYSICAL DESCRIPTION: White crystalline powder with a faint odor . pH: 5.1-5.7 (2 % aqueous solution). (NTP, 1992)	1.0	2.5	5.0	5364.0	540.0	1824.0	953.0	571.0	1771.0	184.0	604.0	331.0	178.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3883	THORIUM METAL, PYROPHORIC	THORIUM METAL, PYROPHORIC|THORIUM METAL, [PYROPHORIC]|THORIUM-232	7440-29-1	Silver to grayish radioactive metal. Twice as dense as lead. Radioactive materials emit ionizing radiation, detectable only using special instruments. Exposure to intense levels of radiation or prolonged exposure to low levels can be harmful. Film is also damaged by radiation.	1.0	2.5	5.0	5364.0	540.0	1824.0	953.0	571.0	1771.0	184.0	604.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3884	THORIUM OXIDE, [RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY]	THORIUM DIOXIDE|THORIUM OXIDE, [RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY]	1314-20-1	White powder. Density 9.7 g / cm3. Not soluble in water. Used in high-temperature ceramics, gas mantles, nuclear fuel, flame spraying, crucibles, non-silicia optical glass, catalysis, filaments in incandescent lamps, cathodes in electron tubes and arc-melting electrodes.	1.0	2.5	5.0	5365.0	540.0	1824.0	953.0	571.0	1772.0	184.0	604.0	331.0	178.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3885	TITANIUM DISULFIDE	TITANIUM DISULFIDE|TITANIUM DISULPHIDE	12039-13-3	A yellow or gray powder with an unpleasant odor that is used as a solid lubricant. Contact with the material may cause burns to skin, eyes, and mucous membranes. It may be toxic by ingestion, inhalation or skin absorption.	1.0	2.5	5.0	5366.0	540.0	1824.0	953.0	571.0	1773.0	184.0	604.0	331.0	178.0	INHALATION: move to fresh air. INGESTION: give large amounts of water; induce vomiting if large amounts have been swallowed. EYES: flush with water; get medical attention if irritation persists. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and nitric acid vapor may form in fires. Behavior in Fire: In contact with combustible materials, will increase the intensity of a fire. Apply water to cool containers or spilled material. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3886	TOLAZAMIDE	1-(HEXAHYDRO-1-AZEPINYL)-3-P-TOLYLSULFONYLUREA|1-(HEXAHYDRO-1H-AZEPIN-1-YL)-3-(P-TOLYLSULFONYL)UREA|1-(4-METHYLPHENYLSULFONYL)-3-(HEXAHYDRO-1H-AZEPIN-1-YL)UREA|N-(((HEXAHYDRO-1H-AZEPIN-1-YL)AMINO)CARBONYL)-4-METHYLBENZENESULFONAMIDE|N-(P-TOLUENESULFONYL)-N'-HEXAMETHYLENIMINOUREA|NCI-CO3327|NORGLYCIN|NSC-70762|4-(P-TOLYLSULFONYL)-1,1-HEXAMETHYLENESEMICARBAZIDE|TOLANASE|TOLAZAMIDE|TOLINASE|U 17835|UREA, 1-(HEXAHYDRO-1H-AZEPIN-1-YL)-3-(P-TOLYLSULFONYL)-	1156-19-0	PHYSICAL DESCRIPTION: White to off-white crystalline powder. Odorless or with a slight odor. (NTP, 1992)	1.0	2.5	5.0	5367.0	540.0	1824.0	953.0	571.0	1774.0	184.0	604.0	331.0	178.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3882	THONZYLAMINE HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very hygroscopic. Water soluble, forming acidic aqueous solutions.	FERRIC CHLORIDE behaves as an acidic salt in aqueous solution. Alkali metal hydroxides, acids, anhydrous chlorides of iron, tin, and aluminum, pure oxides of iron and aluminum, and metallic potassium are some of the catalysts that may cause ethylene oxide to rearrange and polymerize, liberating heat, [J. Soc. Chem. Ind. 68:179(1949)]. Explosions occur , although infrequently, from the combination of ethylene oxide and alcohols or mercaptans, [Chem. Eng. News 20:1318(1942)]. Allyl chloride may polymerize violently under conditions involving an acid catalyst, such as sulfuric acid, ferric chloride, aluminum chloride, Lewis acids, and Ziegler type catalysts (initiators), [Ventrone (1971)]. At high temperatures ferric chloride dissociates into FeCl2 and Cl2. It reacts violently with alkali metals sodium or potassium.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
3883	THORIUM METAL, PYROPHORIC	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.				0																									
3884	THORIUM OXIDE, [RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator, and keep away from oxidizing agents. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	TRIS(2-CHLOROETHYL) PHOSPHATE is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		450												(NTP, 1992)		1115		(NTP, 1992)		less than -76
3885	TITANIUM DISULFIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water.	FERRIC NITRATE is an oxidizing agent. Mixtures with alkyl esters may explode, owing to the formation of alkyl nitrates. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick, 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		117	
3886	TOLAZAMIDE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. If exposed to high temperatures or flames this material may ignite and burn with an intense flame. Insoluble in water and denser than water.	FERROCERIUM, a less reactive metal, can react exothermically with oxidizing acids to form noxious gases. Many metals of this group catalyze polymerization and other reactions, particularly when finely divided. Metals in this group have been known to react with halogenated hydrocarbons, sometimes forming explosive compounds (for example, copper dissolves when heated in carbon tetrachloride). They are less reactive in bulk form (sheet, rod, or drop) than when finely divided.	Air-Reactive	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3882	THONZYLAMINE HYDROCHLORIDE																																								Corrosive	FeCl3 (aqueous)		1.0	0.0	2.0	1.0	1.0
3883	THORIUM METAL, PYROPHORIC																										(NTP, 1992)		432.48						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C26H24O6		3.0	0.0	3.0	1.0	1.0
3884	THORIUM OXIDE, [RADIOACTIVE MATERIAL, LOW SPECIFIC ACTIVITY]	(NTP, 1992)		0.5		293		mm Hg							(NTP, 1992)		1.425		68		(NTP, 1992)		626		760		(NTP, 1992)		285.49						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL		Poison	C6H12Cl3O4P		3.0	0.0	4.0	1.0	1.0
3885	TITANIUM DISULFIDE														(USCG, 1999)		1.7		68								(USCG, 1999)		404.02											FNT	Oxidizer	Fe(NO3)3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	4.0	1.0	1.0
3886	TOLAZAMIDE																																								Flammable Solid	Ce, Fe, alloy		3.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3887	TOLUENE-2,6-DIISOCYANATE	BENZENE, 1,3-DIISOCYANATO-2-METHYL-|BENZENE, 2,6-DIISOCYANATO-1-METHYL-|2,6-DIISOCYANATO-1-METHYLBENZENE|1,3-DIISOCYANATO-2-METHYLBENZENE|DIISOCYANATOLUENE|2,6-DIISOCYANATOTOLUENE|HYLENE TCPA|HYLENE TIC|HYLENE TM|HYLENE TM 65|HYLENE TRF|ISOCYANIC ACID, 2-METHYL-M-PHENYLENE ESTER|ISOCYANIC ACID, 2-METHYL-META-PHENYLENE ESTER|M-TOLYLENE DIISOCYANATE|META-TOLYLENE DIISOCYANATE|2-METHYL-M-PHENYLENE DIISOCYANATE|2-METHYL-M-PHENYLENE ISOCYANATE|2-METHYL-META-PHENYLENE ISOCYANATE|NIAX TDI|NIAX TDI-P|2,6-TOLUENE DIISOCYANATE|TOLUENE-2,6-DIISOCYANATE|TOLUENE-2,6-DIISOCYANATE, 99%|TOLUENE-2,6-DIISOCYANATE, 99+%|TOLUENE-2,6-DIISOCYANATE, ACS REAGENT|TOLUENE-2,6-DIISOCYANATE, TECHNICAL GRADE	91-08-7	Liquid. Used in the manufacture of polyurethane foams, elastomers, and coatings; crosslinking agent for nylon 6. (EPA, 1998)	2.5	5.0	2.5	5367.0	540.0	1824.0	953.0	571.0	1774.0	184.0	604.0	331.0	178.0	(BLOB)		
3888	TOLUIDINES (LIQUID <OR> SOLID)	TOLUIDINES (LIQUID <OR> SOLID)	26915-12-8	One or the other or a mixture of the isomers ortho-toluidine, meta-toluidine, and para-toluidine. White lustrous plates or leaflets or colorless to light yellow liquids. Slightly denser than water. Slightly soluble in water. Aromatic odors Toxic by inhalation of vapors or dusts and by skin absorption. Toxic oxides of nitrogen produced during combustion.	2.5	5.0	2.5	5367.0	540.0	1824.0	953.0	571.0	1774.0	184.0	604.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3889	TOXAPHENE	AGRICIDE MAGGOT KILLER|AGRICIDE MAGGOT KILLER (F)|ALLTEX|ALLTOX|ANATOX|ATTAC 4-2|ATTAC 4-4|ATTAC 6|ATTAC 6-3|ATTAC 8|CAMPHECHLOR|CAMPHENE, OCTACHLORO-|CAMPHOCHLOR|CAMPHOCLOR|CAMPHOFENE HUILEUX|CAMPHOPHENE HUILEUX|CANFECLOR|CHEM-PHENE|CHLOR CHEM T-590|CHLORINATED CAMPHENE|CHLOROCAMPHENE|CLOR CHEM T-590|COMPOUND 3956|CRESTOXO|CRISTOXO|CRISTOXO 90|ENT 9,735|ESTONOX|FASCO-TERPENE|GENIPHENE|GY-PHENE|HERCULES 3956|HERCULES TOXAPHENE|KAMFOCHLOR|M 5055|MELIPAX|MOTOX|NCI-C00259|OCTACHLOROCAMPHENE|PCC|PCHK|PENPHENE|PHENACIDE|PHENATOX|PKH	8001-35-2	Yellow, waxy solid with a pleasant piney odor. Used as an insecticide, primarily for cotton and early growth stages of vegetables. Also peas, soybeans, peanut, corn, and wheat. Not produced commercially in the U.S. since 1982. Only registered for scabies control on cattle in the U.S. (EPA, 1998)	1.0	2.5	5.0	5368.0	540.0	1824.0	953.0	571.0	1775.0	184.0	604.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3890	TRANS-2-METHYL-2-BUTENENITRILE	2-BUTENENITRILE, 2-METHYL-, (E)-|CROTONONITRILE, 2-METHYL-, (E)-|TIGLONITRILE|TRANS-2-METHYL-2-BUTENENITRILE|TRANS-2-METHYL-2-BUTENONITRILE|TUBULONITRILE	30574-97-1		2.5	5.0	2.5	5369.0	540.0	1825.0	953.0	571.0	1776.0	184.0	605.0	331.0	178.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3891	TRANS-STILBENE	BENZENE, 1,1'-(1,2-ETHENEDIYL)BIS-, (E)-|(E)-1,2-DIPHENYLETHENE|(E)-1,2-DIPHENYLETHYLENE|(E)-STILBENE|STILBENE, (E)-|TOLULYNE|TOLUYLENE|TRANS-1,1'-(1,2-ETHENDIYL)-BIS(BENZENE)|TRANS-1,2-DIPHENYLETHENE|TRANS-1,2-DIPHENYLETHYLENE|TRANS-ALPHA, BETA-DIPHENYLETHYLENE|TRANS-ALPHA,BETA-DIPHENYLYLENE|TRANS-BIBENZAL|TRANS-BIBENZYLIDENE|TRANS-DIPHENYLETHENE|TRANS-STILBENE	103-30-0	PHYSICAL DESCRIPTION: Off-white crystals. Melting point of 122-124Â°C. Shows blue fluorescence. (NTP, 1992)	1.0	2.5	5.0	5370.0	540.0	1825.0	953.0	571.0	1777.0	184.0	605.0	331.0	178.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3892	TREOSULPHAN	1,4-BIS-O-METHANESULPHONYL-L-THREITOL|CB 2562|1,4-DI-O-METHANESULFONYLBUTAN-1,2,3,4-TETROLE|DIHYDROXYBUSULPHAN|1,4-DIMETHANESULPHONATE-(L-THREITOL)|L-THREITOL 1,4-BIS(METHANESULFONATE)|L-THREITOL 1,4-DIMETHANESULPHONATE|L-THREITOL DIMETHANESULPHONATE|L-THREITOL-1,4-BISMETHANESULFONATE|NSC 39069|NSC-39069|2S,3S)-THREITOL 1,4-BISMETHANESULFONATE|(2S,3S)-THREITOL 1,4-BISMETHANESULPHONATE|(2S,3S)-THREITOL 1,4-DIMETHANESULFONATE|(2S,3S)-TREITOL 1,4-DIMETHANESULFONATE|[S-(R*,R*)]-1,2,3,4-BUTANETETROL, 1,4-DIMETHANESULFONATE|THREITOL, 1,4-BIS-O-METHANESULPHONYL-L-|TREOSULFAN	299-75-2	PHYSICAL DESCRIPTION: Odorless white crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5371.0	540.0	1825.0	953.0	571.0	1778.0	184.0	605.0	331.0	178.0	INGESTION: give large amount of water; induce vomiting if large amounts have been swallowed. EYES or SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic ammonia and oxides of nitrogen may form in fires. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3887	TOLUENE-2,6-DIISOCYANATE		Rubber gloves, safety glasses. (USCG, 1999)	It is soluble in water.	SODIUM DODECYLBENZENESULFONATE is incompatible with strong oxidizers. (NTP, 1992)								0		(NTP, 1992)			greater than 200															(NTP, 1992)			greater than 572
3888	TOLUIDINES (LIQUID <OR> SOLID)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	SODIUM ERYTHORBATE may be sensitive to prolonged exposure to light. Incompatible with strong oxidizing agents (NTP, 1992).								0																		(NTP, 1992)	(decomposes)		309 to 327
3889	TOXAPHENE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	(BLOB)	Crumbles on exposure to moist air. Reacts with water to form corrosive calcium hydroxide, with evolution of much heat. Temperatures as high as 800Â° C have been reached with addition of water (moisture in air or soil). The heat of this reaction has caused ignition of neighboring quantities of sulfur, gunpowder, wood, and straw [Mellor 3: 673 1946-47].	A base and an oxidizing agent. Neutralizes acids with generation of heat. Nonflammable, but will support combustion by liberation of oxygen, especially in the presence of organic materials. Reacts very violently with liquid hydrofluoric acid [Mellor 2, Supp. 1:1129 1956]. Reacts extremely violently with phosphorus pentaoxide when reaction is initiated by local heating [Mellor 8 Supp.3:406 1971].	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																(USCG, 1999)	Not flammable			(NIOSH, 2003)		4662	
3890	TRANS-2-METHYL-2-BUTENENITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	2-(3-METHYL-2-BUTENYL)CYCLOPENTANONE may react with many acids and bases liberating heat and flammable gases (e.g., H2). The heat may be sufficient to start a fire in the unreacted portion of the ketone. May react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. May react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(NTP, 1992)			74 to 76															
3891	TRANS-STILBENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	A strong oxidizing agent. Can react with reducing agents to generate heat and products that may be gaseous (causing pressurization in closed containers). The products may themselves be capable of further reactions (such as combustion in the air). Redox reactions can be rapid or even explosive, but often requires initiation (heat, spark, catalyst, addition of a solvent). Consequently explosive mixtures with reducing agents often persist unchanged for long periods. Such systems are typically mixtures of solids, but may involve any combination of physical states. Can react violently with active metals, cyanides, esters, and thiocyanates. May cause the acceleration of the burning of combustible materials. Prolonged exposure to heat of flames may result in an explosion.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																					
3892	TREOSULPHAN		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water that forms weakly acidic solutions. Deliquesces in air.	FERROUS AMMONIUM SULFATE is a weak reducing agent. Irritating and toxic ammonia and oxides of nitrogen may form in fires (USCG, 1999).								0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3887	TOLUENE-2,6-DIISOCYANATE								(NTP, 1992)			greater than 1			(USCG, 1999)	for 60% slurry	1		68		(USCG, 1999)	Foams as water boils, 212Â° F					(NTP, 1992)		348.49						(NTP, 1992)	at 66Â° F		5 to 10	mg/mL	DAS		C18H30O3S.Na		5.0	0.0	5.0	1.0	1.0
3888	TOLUIDINES (LIQUID <OR> SOLID)														(NTP, 1992)		1.2										(NTP, 1992)		199.12						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL			C6H8O6.Na	Cellulose-Based Absorbents|Dirt/ Earth	1.0	0.0	1.0	1.0	1.0
3889	TOXAPHENE	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		3.3		68		(NIOSH, 2003)		5162		760		(USCG, 1999)		56.08		(NIOSH, 2003)		25	mg/m3	(NIOSH, 2003)	Reacts with water				CAO	Corrosive	CaO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3890	TRANS-2-METHYL-2-BUTENENITRILE														(NTP, 1992)		0.937		66								(NTP, 1992)		152.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Liquid	C10H16O	Dirt/Earth	2.0	0.0	2.0	1.0	1.0
3891	TRANS-STILBENE																																								Oxidizer	Ca(ClO4)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3892	TREOSULPHAN														(USCG, 1999)		1.86		68								(USCG, 1999)		392.16											FAS		Fe(NH4)2(SO4)2.6H2O		1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3893	TRI-(1-AZIRIDINYL)PHOSPHINE OXIDE, SOLUTION	TRI-(1-AZIRIDINYL)PHOSPHINE OXIDE, SOLUTION|TRIS-(1-AZIRIDINYL)PHOSPHINE OXIDE, SOLUTION	545-55-1	A colorless crystalline solid dissolved in water. Toxic by skin absorption, ingestion or inhalation. Produces toxic oxides of nitrogen during combustion. Used as a pesticide.	1.0	2.5	5.0	5372.0	540.0	1825.0	953.0	571.0	1779.0	184.0	605.0	331.0	178.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3894	TRIALLATE, [SOLID]	AVADEX BW|CARBAMIC ACID, DIISOPROPYLTHIO-, S-(2,3,3-TRICHLOROALLYL) ESTER|CP 23426|DIPTHAL|FAR-GO|2-PROPENE-1-THIOL, 2,3,3-TRICHLORO-, DIISOPROPYLCARBAMATE|S-2,3,3-TRICHLOROALLYL DIISOPROPYLTHIOCARBAMATE|S-2,3,3-TRICHLOROALLYL N,N-DIISOPROPYLTHIOCARBAMATE|TRIALLATE|TRIALLATE, [SOLID]|TRIAMYL|2,3,3-TRICHLOROALLYL N,N-DIISOPROPYLTHIOCARBAMATE	2303-17-5	Colorless crystals or oily amber liquid. Toxic by inhalation, ingestion or skin absorption. Used as a pesticide.	1.0	2.5	5.0	5372.0	540.0	1825.0	953.0	571.0	1779.0	184.0	605.0	331.0	178.0	(BLOB)	When heated to decomposition, very toxic fumes of sulfur oxides and nitrogen oxides are emitted. (EPA, 1998)	(Non-Specific -- Poisonous, Solid, n.o.s.) Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. (Non-Specific -- Poisonous, Solid, n.o. s) Extinguish with any chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
3895	TRIBROMOACETONITRILE	TRIBROMOACETONITRILE	75519-19-6	PHYSICAL DESCRIPTION: Liquid. (NTP, 1992)	2.5	5.0	2.5	5372.0	540.0	1825.0	953.0	571.0	1779.0	184.0	605.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3896	TRIBUTYLTIN FLUORIDE	TRIBUTYLTIN FLUORIDE	1983-10-4	A liquid.	2.5	5.0	2.5	5373.0	540.0	1825.0	953.0	571.0	1780.0	184.0	605.0	331.0	178.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3897	TRIBUTYLTIN METHACRYLATE	TRIBUTYLTIN METHACRYLATE	2155-70-6	Liquid. Irritates skin and eyes.	2.5	5.0	2.5	5374.0	540.0	1825.0	953.0	571.0	1781.0	184.0	605.0	331.0	178.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3893	TRI-(1-AZIRIDINYL)PHOSPHINE OXIDE, SOLUTION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	FERROUS ARSENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. This compound contains the iron (II) ion, which is a weak reducing agent.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3894	TRIALLATE, [SOLID]	Avoid skin contact, ingestion or inhalation. (Non-Specific -- Poisonous Solid, n.o.s.) Do not touch spilled material; stop leak if you can do it without risk. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)				356 to 363
3895	TRIBROMOACETONITRILE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water soluble.	SODIUM HYDROGEN SULFITE, [SOLID] is a reducing agent. Emits highly toxic gaseous sulfur dioxide gas when heated to decomposition or on contact with mineral acids [Sax, 9th ed., 1996, p. 2949].	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)	Not flammable			(NIOSH, 2003)	Decomposes		
3896	TRIBUTYLTIN FLUORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Heat is generated upon hydrolysis. May cause steam and spattering.	TOXIC CORROSIVE LIQUIDS CONTAINING SODIUM HYDROXIDE, CRESOL, XYLENOL are basic. Neutralize acids exothermically to form salts plus water. Can react with aluminum and zinc to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, various metals, peroxides, and hydroperoxides. May react when heated above 84ÂºC with aqueous solutions of reducing sugars other than sucrose to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for sodium hydroxide, CAS number 1310-73-2	3	0	1	1																									
3897	TRIBUTYLTIN METHACRYLATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water. Dissolution can liberate enough heat to cause steaming and spattering and ignite adjacent combustible material [Haz. Chem. Data 1966].	(BLOB)	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																							(USCG, 1999)	Not flammable			(USCG, 1999)		604	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3893	TRI-(1-AZIRIDINYL)PHOSPHINE OXIDE, SOLUTION																													(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3							Poison	AsH3O4.3(2Fe		4.0	0.0	4.0	1.0	1.0
3894	TRIALLATE, [SOLID]																				(EPA, 1998)		91.15																	Poison	CH5N3S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	4.0	0.0	5.0	1.0	1.0
3895	TRIBROMOACETONITRILE														(USCG, 1999)		1.48		68		(NIOSH, 2003)	Decomposes					(USCG, 1999)		104.06						(NIOSH, 2003)		29		%	SBS	Corrosive	NaHSO3		3.0	0.0	3.0	1.0	1.0
3896	TRIBUTYLTIN FLUORIDE																																								Corrosive|Poison	NaOH (sodium hydroxide)|C7H8O (cresol)|C8H10O (xylenol)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3897	TRIBUTYLTIN METHACRYLATE	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		2.13		68		(USCG, 1999)	Very high					(USCG, 1999)		40		(NIOSH, 2003)		10	mg/m3	(NIOSH, 2003)		111		%	SHD	Corrosive	NaOH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3898	TRICHLOROBENZENES, LIQUID	ACCELERIT|INVALON TC|PYRANOL 1478|TCB|TERYL CARRIER C 15|TRICHLOROBENZENE|TRICHLOROBENZENE, [LIQUID]|TRICHLOROBENZENES, LIQUID	12002-48-1	A colorless to clear yellowish liquid with a sweet almond-like odor. Practically insoluble in water and denser than water. Toxic by ingestion, inhalation and skin absorption. Used to make pesticides, dyes, and other chemicals.	2.5	5.0	2.5	5374.0	540.0	1826.0	953.0	571.0	1781.0	184.0	606.0	331.0	178.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO_2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3899	TRICHLOROMELAMINE	CHLOROMELAMINE|DECCO SALT NO. 5|MELAMINE, N2,N4,N6-TRICHLORO-|N(SUP 2),N(SUP 4),N(SUP 6)-TRICHLORO-2,4,6-TRIAMINO-1,3,5-TRIAZINE|N,N',N"-TRICHLORO-2,4,6-TRIAMINE-1,3,5-TRIAZINE|N,N',N"-TRICHLORO-2,4,6-TRIAMINO-1,3,5-TRIAZINE|N,N',N"-TRICHLOROMELAMINE|TCM|1,3,5-TRIAZINE, N,N',N"-TRICHLORO-2,4,6-TRIAMINO|TRICHLORO-2,4,6-TRIAMINO TRIAZINE|TRICHLOROMELAMINE|2,4,6-TRIS(CHLOROAMINE)TRIAZINE|2,4,6-TRIS(CHLOROAMINO)-1,3,5-TRIAZINE	7673-09-8	PHYSICAL DESCRIPTION: White or off-white to yellow fine powder with a chlorine odor. pH of saturated aqueous solution: 4. (NTP, 1992)	1.0	2.5	5.0	5375.0	540.0	1826.0	953.0	571.0	1782.0	184.0	606.0	331.0	178.0	INHALATION: move victim to fresh air; get medical help immediately. INGESTION: give large amounts of water; induce vomiting. EYES: flush immediately with cold water; get medical help immediately. SKIN: if molten chemical burns skin, apply cold water immediately; get medical help for burn treatment. (USCG, 1999)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO_2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3900	TRICHLOROPHENOL	DOWICIDE 2|OMAL|PHENACHLOR|TRICHLOROPHENOL|2,3,4-TRICHLOROPHENOL|2,3,5-TRICHLOROPHENOL|2,3,6-TRICHLOROPHENOL|2,4,5-TRICHLOROPHENOL|3,4,5-TRICHLOROPHENOL	15950-66-0	Solid crystals or flakes with a strong disinfectant odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5375.0	540.0	1826.0	953.0	571.0	1782.0	184.0	606.0	331.0	178.0	(BLOB)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	This compound is an insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Methods for liquid insecticides are as follows. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
3901	TRICOSANE	N-TRICOSANE|TRICOSANE	638-67-5	PHYSICAL DESCRIPTION: Leafs (ether-alcohol). (NTP, 1992)	1.0	2.5	5.0	5376.0	540.0	1826.0	953.0	571.0	1783.0	184.0	606.0	331.0	178.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3902	TRICRESYL PHOSPHATE	(BLOB)	78-30-8	A colorless,odorless liquid. Insoluble in water and slightly denser than water. Toxic by ingestion and skin absorption. Used to make plastics and lubricants.	2.5	5.0	2.5	5376.0	541.0	1826.0	953.0	572.0	1783.0	185.0	606.0	331.0	179.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3898	TRICHLOROBENZENES, LIQUID	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Ignites in moist air [Wischmeyer 1966]. Reacts with water to produce a mixed solution of sodium hydroxide and methyl alcohol.	SODIUM METHYLATE is a strong base. Reacts with light metals forming H2 gas, with fire and explosion hazards. Too rapid addition of sodium methylate to a mixture of chloroform and methanol initiated an uncontrolled exothermic reaction between the chloroform and the methylate that caused a violent explosion [MCA Case History 693 1961]. Sodium methoxide is incompatible with 4-chloronitrobenzene and fluorinated cyclopropenyl methyl ethers, such as perfluoromethoxycyclopropene. The reactions are vigorous and may initiate ignition [Bretherick, 1995, pg. 191].	Highly Flammable; Known Catalytic Activity; Water-Reactive; Pyrophoric	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3899	TRICHLOROMELAMINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; goggles or face shield; gloves (USCG, 1999)	Highly flammable. The powder spontaneously heats in the presence of air and moisture. This heat may be sufficient to ignite surrounding combustible materials. The solid is insoluble in water.	Inorganic reducing agents, such as CALCIUM RESINATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent.	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(USCG, 1999)		480					
3900	TRICHLOROPHENOL	This compound is an insecticide. Procedures for liquid insecticides are as follows. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Probably water insoluble.	FLUENETIL is a fluorinated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3901	TRICOSANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and protect it from moisture and oxidizing agents. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Soluble in water.	2-(CHLOROMETHYL)PYRIDINE HYDROCHLORIDE is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		257 to 261
3902	TRICRESYL PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water, yielding solutions with pHs of 12.0-13.5.	Salts, basic, such as SODIUM O-PHENYLPHENOXIDE are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3898	TRICHLOROBENZENES, LIQUID																																								Flammable Liquid|Corrosive	CH3ONa (sodium methylate) | CH3OH (methanol)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	1.0	0.0	2.0	1.0	1.0
3899	TRICHLOROMELAMINE														(USCG, 1999)		1.13		77		(USCG, 1999)			greater than 600	760		(USCG, 1999)	(approx.)	643											CRE	Flammable Solid			3.0	0.0	4.0	1.0	1.0
3900	TRICHLOROPHENOL																										(EPA, 1998)		258.31												Poison	C16H15FO2		1.0	0.0	1.0	1.0	1.0
3901	TRICOSANE																										(NTP, 1992)		164.04						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Corrosive	C6H6ClN.ClH	Mineral-Based & Clay-Based Absorbents	2.0	0.0	2.0	1.0	1.0
3902	TRICRESYL PHOSPHATE																										(NTP, 1992)		192.2						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C12H10O.Na		4.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3903	TRIDECYL ACID PHOSPHATE	TRIDECYL ACID PHOSPHATE	4200-55-9	A liquid. May severely irritate skin, eyes or mucous membranes.	2.5	5.0	2.5	5377.0	541.0	1826.0	953.0	572.0	1784.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3904	TRIDECYLBENZENE	1-PHENYLTRIDECANE|TRIDECYLBENZENE	123-02-4	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5378.0	541.0	1826.0	953.0	572.0	1785.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3905	TRIETHANOLAMINE STEARATE	ETHANOL, 2,2',2''-NITRILOTRI-, STEARATE (SALT)|ETHANOL, 2,2',2''-NITRILOTRIS-, OCTADECANOATE (SALT)|2,2',2''-NITRILOTRISETHANOL STEARATE (SALT)|OCTADECANOIC ACID, COMPD. WITH 2,2',2''-NITRILOTRIS[ETHANOL](1:1) |STEARIC ACID TRIETHANOLAMINE SALT|STEARIC ACID TRIS(2-HYDROXYETHYL)AMMONIUM SALT|STEARIC ACID, 2,2',2''-NITRILOTRIETHANOL SALT|STEARIC ACID, COMPOUND WITH 2,2',2''-NITRILOTRIETHANOL|STEARIC ACID, COMPOUND WITH 2,2',2''-NITRILOTRIETHANOL (1:1)|STEARIC ACID, COMPOUNDED WITH 2,2',2''-NITRILOTRIETHANOL (1:1)|TEA-STEARATE|TRIETHANOLAMINE STEARATE|TRIETHANOLAM	4568-28-9	PHYSICAL DESCRIPTION: Brown waxy solid. pH of 5% aqueous dispersion at 77Â° F: 8.8-9.2. (NTP, 1992)	1.0	2.5	5.0	5379.0	541.0	1826.0	953.0	572.0	1786.0	185.0	606.0	331.0	179.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
3906	TRIETHYL TIN BROMIDE	BROMOTRIETHYLSTANNANE|BROMOTRIETHYLTIN|STANNANE, BROMOTRIETHYL-|TIN, BROMOTRIETHYL-|TIN, TRIETHYL-, BROMIDE|TRIETHYL TIN BROMIDE|TRIETHYLSTANNIUM BROMIDE|TRIETHYLSTANNYL BROMIDE|TRIETHYLTIN BROMIDE	2767-54-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5380.0	541.0	1826.0	953.0	572.0	1787.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire, May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3907	TRIETHYLENE GLYCOL DIACETATE	ACETIC ACID, TRIETHYLENE GLYCOL DIESTER|1,2-BIS(ACETOXYETHOXY)ETHANE|ESTOL 1593|ETHANOL, 2,2'-ETHYLENEDIOXYDI-, DIACETATE|ETHANOL,2,2'-(1,2-ETHANEDIYLBIS(OXY))BIS-, DIACETATE|2,2'-(ETHYLENEDIOXY)DI(ETHYL ACETATE)|TDAC|TRIETHYLENE GLYCOL DIACETATE|TRIETHYLENE GLYCOL, DIACETATE|TRIGLYCOL DIACETATE|TRIGLYCOL, DIACETATE	111-21-7	PHYSICAL DESCRIPTION: Odorless clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5381.0	541.0	1826.0	953.0	572.0	1788.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3903	TRIDECYL ACID PHOSPHATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	In the presence of moist air or water sodium perborate rapidly evolves oxygen, especially in the presence of base. This presents a severe fire/explosion risk in enhancing combustion process.	Alkaline solution of SODIUM PERBORATE produces decomposition with liberation of hydrogen peroxide and then oxygen; in the presence of acids, hydrogen peroxide is formed [Merck 11th ed. 1989]. The true peroxoborate has been reported to detonate on light friction. The common "tetrahydrate" is not a peroxoborate, it is relatively stable under mild grinding with other substances.	Explosive; Strong Oxidizing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3904	TRIDECYLBENZENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3905	TRIETHANOLAMINE STEARATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CALCIUM SULFATE is non-combustible. Decomposes to give toxic oxides of sulfur, but only at very high temperature (>1500Â°C). Generally of low reactivity but may act as an oxidizing agent: incompatible with diazomethane, aluminum, and phosphorus. Certain forms of calcium sulfate react with water; others do not. INSOLUBLE ANHYDRITE or dead-burned gypsum is made by the dehydration of calcium sulfate dihydrate (gypsum) at high (> 600Â°C) temperature. At room temperature, insoluble anhydrite dissolves very slowly to the extent of 0.24 g per 100 g of water and does not absorb moisture from the air. SOLUBLE ANHYDRITE, which is obtained by heating calcium sulfate dihydrate at a temperature below 300Â°C, has a high affinity for water and is used as a desiccant. Soluble anhydrite absorbs water to form calcium sulfate hemihydrate (Plaster of Paris).						0																								(NIOSH, 2003)	(Decomposes)	2840	
3906	TRIETHYL TIN BROMIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble. Decomposes slowly in moist air.	SODIUM PERSULFATE is a strong oxidizing agent. Reacts with many combustible materials and reducing agents, often vigorously enough to start fires or cause explosions [Handling Chemicals Safely 1980 p. 855]. Decomposes gradually under ordinary conditions decomposition is promoted by moisture and heat [Merck]. Decomposed by alcohol and silver ions [Merck].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3907	TRIETHYLENE GLYCOL DIACETATE	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with water to form corrosive sodium hydroxide and phosphine, a flammable poison gas. Phosphine normally ignites spontaneously in contact with air. If there is an excess of water this fire of phosphine will not normally ignite surrounding combustible material [Lab. Gov. Chemist 1965]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	SODIUM PHOSPHIDE reacts quickly upon contact with moisture or acids to give the very toxic gas phosphine. Reacts vigorously with oxidizing materials.	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1432 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3903	TRIDECYL ACID PHOSPHATE																																									Oxidizer	BHO3.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3904	TRIDECYLBENZENE																																									Oxidizer	CH2O3.3H2O2.2Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3905	TRIETHANOLAMINE STEARATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.96				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		136.1						(NIOSH, 2003)		0.3		%			CaSO4		4.0	0.0	5.0	1.0	1.0
3906	TRIETHYL TIN BROMIDE																																									Oxidizer	Na2S2O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	4.0	1.0	1.0
3907	TRIETHYLENE GLYCOL DIACETATE																																									Dangerous When Wet|Poison	Na3P		2.0	0.0	2.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3908	TRIETHYLENEMELAMINE	DRP 859025|ENT 25,296|ENT 25296|M-9500|NSC 9706|PERSISTOL|PERSISTOL HO 1/193|PERSISTOL HOE 1/193|R-246|S-TRIAZINE, 2,4,6-TRIS(1-AZIRIDINYL)-|1,1',1''-S-TRIAZINE-2,4,6-TRIYLTRISAZIRIDINE|SK 1133|SK1133|TAT|TEM|TEM (CYTOSTATIC)|TEM-SIMES|TET|TRETAMIN|TRETAMINE|2,4,6-TRI(ETHYLENEIMINO)-1,3,5-TRIAZINE|TRIAMELIN|TRIAZIRIDINYL TRIAZINE|TRIETHANOMELAMINE|2,4,6-TRIETHYLENEIMINO-S-TRIAZINE|TRIETHYLENEMELAMINE|2,4,6-TRIETHYLENIMINO-1,3,5-TRIAZINE|2,4,6-TRIETHYLENIMINO-S-TRIAZINE|2,4,6-TRIS(1'-AZIRIDINYL)-1,3,5-TRIAZINE|2,4,6-TRIS(1-AZIRIDINYL)-1,3,5-TRIAZINE|2,4,6-TRIS(1-AZIRIDINYL)-S-	51-18-3	PHYSICAL DESCRIPTION: Odorless white crystalline powder. Melting point 160Â°C, then rapidly polymerizes to a white solid. Almost immediate degradation at pH 3.0; rapid degradation at pH 5.0; and very little degradation at pH 7.5. (NTP, 1992)	1.0	2.5	5.0	5381.0	541.0	1826.0	953.0	572.0	1788.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3909	TRI-ISOBUTYL VANADATE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	ISOBUTYL ORTHOVANADATE|ISOBUTYL VANADATE(V)|1-PROPANOL, 2-METHYL-, VANADIUM COMPLEX|TRI-ISOBUTYL VANADATE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)|TRIISOBUTOXYOXO VANADIUM|TRIISOBUTOXY VANADIUM OXIDE|TRIISOBUTYL ORTHOVANADATE|TRIISOBUTYL VANADATE|TRIS(ISOBUTYL) VANADATE|VANADIC ACID (H3VO4), TRIISOBUTYL ESTER|VANADIC ACID (H3VO4), TRIS(2-METHYLPROPYL) ESTER|VANADIUM OXIDE TRIISOBUTOXIDE	19120-62-8	A pale yellow liquid with an alcohol-like odor. Corrosive. Contact may severely irritate skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5381.0	541.0	1826.0	953.0	572.0	1788.0	185.0	606.0	331.0	179.0	INGESTION (large doses): give water or milk; do NOT induce vomiting. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3910	TRIISOBUTYLAMINE	2-METHYL-N,N-BIS(2-METHYLPROPYL)-1-PROPANAMINE|TRIISOBUTYLAMINE|TRIS(2-METHYLPROPYL)AMINE	1116-40-1	PHYSICAL DESCRIPTION: Clear pale yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5381.0	541.0	1826.0	953.0	572.0	1788.0	185.0	606.0	331.0	179.0	INGESTION: give water; induce vomiting; call a doctor. SKIN OR EYE CONTACT: wash with water for at least 15 min. (USCG, 1999)	Special Hazards of Combustion Products: Irritating sulfur dioxide is produced in fire. (USCG, 1999)	(BLOB)
3911	TRIISOBUTYLENE	IP 1620R|ISOBUTENE TRIMER|ISOBUTYLENE TRIMER|1-PROPENE, 2-METHYL TRIMER|PROPENE, 2-METHYL-, TRIMER|TRIISOBUTENE|TRIISOBUTYLENE	7756-94-7	A colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Used to make rubber products, oil additives and motor fuels.	2.5	5.0	2.5	5382.0	541.0	1826.0	953.0	572.0	1789.0	185.0	606.0	331.0	179.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3912	TRI-M-CRESYL PHOSPHATE	PHOSPHORIC ACID, TRI(3-TOLYL) ESTER|PHOSPHORIC ACID, TRI-M-TOLYL ESTER|TMCP|TRI(3-TOLYL)PHOSPHORIC ACID ESTER|TRI-M-CRESYL PHOSPHATE|TRI-M-TOLYL PHOSPHATE|TRIS(3-METHYLPHENYL) PHOSPHATE|TRIS(M-TOLYL) PHOSPHATE|TRIS-M-CRESYL PHOSPHATE	563-04-2	PHYSICAL DESCRIPTION: Wax. When mixed with its isomers (ortho and meta), the result is a colorless, odorless liquid. (NTP, 1992)	2.5	5.0	2.5	5382.0	541.0	1826.0	953.0	572.0	1789.0	185.0	606.0	331.0	179.0	(BLOB)	When heated to decomposition, it emits toxic fumes of tellurium and sodium monoxide. (EPA, 1998)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3908	TRIETHYLENEMELAMINE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYISOPROPYL CARBONATE is a oxidizing agent. Decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition: Several explosions were due to shock, heat or friction. Amines and certain metals can accelerate decomposition [Bretherick 1979 p. 151].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3909	TRI-ISOBUTYL VANADATE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Deliquescent. Water soluble [Handbook of Chemistry and Physics].	SODIUM SILICATE contains a variable amount of water of hydration. Rate of dissolution depends on the degree of hydration, the amount of water that is used as solvent (less soluble in large amounts of water) and the temperature (higher temperature means quicker solution). Aqueous solutions react as bases. Reacts violently with fluorine [Lewis.]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable						
3910	TRIISOBUTYLAMINE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Aqueous solutions of sodium sulfide when exposed to air slowly convert to sodium hydroxide and sodium thiosulfate. The crystalline form upon exposure to air forms hydrogen sulfide and sodium carbonate [Merck 11th ed. 1989].	SODIUM SULFIDE is a white to yellow crystalline material, flammable. Can explode on rapid heating or when shocked. Violent reaction with carbon, charcoal, diazonium salts, N,N-dichloromethylamine, strong oxidizers, water. On contact with acids it liberates highly toxic and flammable hydrogen sulfide gas. When heated to decomposition it emits toxic fumes of sodium oxide, and oxides of sulfur [Bretherick, 5th ed., 1995, p. 1729].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2																								
3911	TRIISOBUTYLENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Aqueous solutions of sodium sulfide when exposed to air slowly convert to sodium hydroxide and sodium thiosulfate. The crystalline form upon exposure to air forms hydrogen sulfide and sodium carbonate [Merck 11th ed. 1989].	SODIUM SULFIDE is a white to yellow crystalline material dissolved in water, flammable. Can explode on rapid heating or when shocked. Violent reaction with carbon, charcoal, diazonium salts, N,N-dichloromethylamine, strong oxidizers, water. On contact with acids it liberates highly toxic and flammable hydrogen sulfide gas. When heated to decomposition it emits toxic fumes of sodium oxide, and oxides of sulfur [Bretherick, 5th ed., 1995, p. 1729].	Explosive; Strong Reducing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2																								
3912	TRI-M-CRESYL PHOSPHATE	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	SODIUM TELLURITE is a weak reducing agent.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3908	TRIETHYLENEMELAMINE																																							Organic Peroxide	C8H16O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	3.0	0.0	3.0	1.0	1.0
3909	TRI-ISOBUTYL VANADATE (FLAMMABLE LIQUIDS, CORROSIVE, N.O.S.)														(USCG, 1999)			1.1 to 1.7	68								(USCG, 1999)	Not applicable												SSC	Corrosive	O3Si.2Na.x H2O		3.0	0.0	4.0	1.0	1.0
3910	TRIISOBUTYLAMINE														(USCG, 1999)		1.856		68		(USCG, 1999)	Very high					(USCG, 1999)		78.4										SDS	Spontaneously Combustible	Na2S		5.0	0.0	5.0	1.0	1.0
3911	TRIISOBUTYLENE																																								Corrosive	Na2S.H2O		1.0	0.0	1.0	1.0	1.0
3912	TRI-M-CRESYL PHOSPHATE																											(EPA, 1998)		221.58						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	H2O3Te.2Na		3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3913	TRIMETHYLOLPROPANE PHOSPHITE	ETHRIOL PHOSPHITE|4-ETHYL- 1-PHOSPHA-2,6,7-TRIOXABICYCLO[2.2.2]OCTANE|4-ETHYL-2,6,7-TRIOXA-1-PHOSPHABICYCLO[2.2.2]OCTANE|ETPB|2-(HYDROXYMETHYL)-2-ETHYL-1,3-PROPANEDIOL, CYCLIC PHOSPHITE(1:1)|1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, CYCLIC PHOSPHITE (1:1)|1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, CYCLIC PHOSPHITE(1:1)|1,3-PROPANEDIOL, 2-ETHYL-2-(HYDROXYMETHYL)-, CYCLIC PHOSPHITE|TRIMETHYLOLPROPANE CYCLIC PHOSPHITE (1:1)|TRIMETHYLOLPROPANE PHOSPHITE|1,1,1-TRIS-HYDROXYMETHYLPROPANE BICYCLIC PHOSPHITE	824-11-3	A solid. (EPA, 1998)	1.0	2.5	5.0	5383.0	541.0	1826.0	955.0	572.0	1790.0	185.0	606.0	333.0	179.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapor may be generated. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3914	TRI-N-BUTYLALUMINUM (METAL ALKYLS, N.O.S. <OR> METAL ARYLS, N.O.S.)	TRI-N-BUTYLALUMINUM|TRI-N-BUTYLALUMINUM (METAL ALKYLS, N.O.S. <OR> METAL ARYLS, N.O.S.)|TRIBUTYLALANE|TRIBUTYLALUMINUM	1116-70-7	A colorless to light-yellow colored liquid. Likely to cause burns on contact with skin, eyes or mucous membranes. Fumes pose a serious inhalation hazard.	2.5	5.0	2.5	5383.0	541.0	1826.0	955.0	572.0	1790.0	185.0	606.0	333.0	179.0	(BLOB)	Avoid air, light and moisture. (EPA, 1998)	(Non-Specific -- Organotin pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organotin pesticide, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
3915	TRINITROBENZENE SULFONIC ACID	PICRYL SULFONIC ACID|TRINITROBENZENE SULFONIC ACID|2,4,6-TRINITROBENZENE-1-SULFONIC ACID|TRINITROBENZENESULFONIC ACID|2,4,6-TRINITROBENZENESULFONIC ACID|2,4,6-TRINITROPHENYLSULFONIC ACID	2508-19-2	A detonating explosive substance derived from an organic sulfonic acid. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Under prolonged exposure to fire or heat the containers may explode violently.	1.0	2.5	5.0	5384.0	541.0	1826.0	957.0	572.0	1791.0	185.0	606.0	335.0	179.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3916	TRINITROBENZENE, [DRY]	TRINITROBENZENE, [DRY]|1,3,5-TRINITROBENZENE	99-35-4	A high explosive. Easily ignited and burns vigorously when dry. Insoluble in water. Will burn when wet, though may be difficult to ignite. Produces toxic oxides of nitrogen during combustion. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5384.0	541.0	1826.0	957.0	572.0	1791.0	185.0	606.0	335.0	179.0	Get medical attention. INHALATION: Remove to fresh air. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Since material is lighter than water and insoluble, fire could be spread by using water in an uncontained area. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
3917	TRINITROBENZENE, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	NSC 36931|S-TRINITROBENZENE|SYM-TRINITROBENZENE|TNB|TNB (NITRO COMPOUND)|TRINITROBENZENE|TRINITROBENZENE 1,3,5-|TRINITROBENZENE, WETTED|TRINITROBENZENE, WETTED WITH ALCOHOL OR ETHER|TRINITROBENZENE, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]|1,3,5-TRINITROBENZENE|2,4,6-TRINITROBENZENE	99-35-4	âŒTrinitrobenzene, wetted, with not less than 10% water by massâ€ is a yellowish moist mass of crystals or a slurry. An explosive, but wetting lowers the risk of detonation. Dangerously explosive if allowed to dry out. The dry compound has a melting point of 122.5Â°C and is only slightly soluble in water (40 mg / L at 20Â°C). Store tightly sealed (to protect from drying out) in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. May be toxic by ingestion.	1.0	2.5	5.0	5385.0	542.0	1826.0	957.0	573.0	1792.0	186.0	606.0	335.0	180.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been		
3918	TRINITROBENZENE, WETTED WITH NOT LESS THAN 30% WATER	S-TRINITROBENZENE|SYM-TRINITROBENZENE|TNB|TRINITROBENZENE|TRINITROBENZENE, WETTED WITH NOT LESS THAN 30% WATER|TRINITROBENZENE, [WET, WITH >= 10% WATER]|1,3,5-TRINITROBENZENE|2,4,6-TRINITROBENZENE	99-35-4	A light yellow crystalline sludge or slurry. Burns but may require some effort to ignite. A high explosive when dry. Easily ignited and burns very vigorously when dry. Insoluble in water. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5385.0	542.0	1826.0	957.0	573.0	1792.0	186.0	606.0	335.0	180.0	(BLOB)	Special Hazards of Combustion Products: Irritating and toxic gases are produced in a fire; they may include sulfur dioxide, hydrogen chloride, phosgene, and oxides of nitrogen. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3913	TRIMETHYLOLPROPANE PHOSPHITE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Respirator, chemical safety goggles, rubber boots and heavy rubber gloves. (USCG, 1999)	Slightly water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		220												(NTP, 1992)		716		(NTP, 1992)		27	
3914	TRI-N-BUTYLALUMINUM (METAL ALKYLS, N.O.S. <OR> METAL ARYLS, N.O.S.)	(Non-Specific -- Organotin pesticide, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slowly oxidized, hydrolyzed when exposed to air and moisture.	ACETOXYTRIPHENYLSTANNANE is subject to decomposition when exposed to air, light and moisture [EPA, 1998].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		252	
3915	TRINITROBENZENE SULFONIC ACID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek protective clothing is not worn during the handling of this chemical, wear disposable Tyvek sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	2,2',4'-TRICHLOROACETOPHENONE is incompatible with strong oxidizers and strong bases. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235														(NTP, 1992)				126 to 131
3916	TRINITROBENZENE, [DRY]		Where splashing is possible wear full face shield or chemical safety goggles. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	1-ISOBUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).						0		(USCG, 1999)		248		(USCG, 1999)	at 300Â°F	0.62		%	(USCG, 1999)	at 393Â°F	4.24		%							
3917	TRINITROBENZENE, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]		(BLOB)	No rapid reaction with air No rapid reaction with water	CAPTAFOL is non-flammable but, on heating, may decompose to generate toxic fumes, such as sulfur oxides, hydrogen sulfide, hydrochloric acid, and phosgene. Stable at room temperature when dry but readily hydrolysed, especially in an alkaline environment. Captafol and mixtures containing high concentrations of captafol may react violently with alkali. Incompatible with acids, acid chlorides, acid anhydrides, and strong oxidizing agents. Sulfhydryl compounds such as glutathione and cysteine cause a rapid chemical decomposition.						0																		(NIOSH, 2003)	(Decomposes)	321	
3918	TRINITROBENZENE, WETTED WITH NOT LESS THAN 30% WATER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	(BLOB)	Slowly hydrolyzed in aqueous neutral and acidic media. Rapidly hydrolyzed in alkaline media. Insoluble in water.	CAPTAN decomposes at or near the melting point. This chemical is incompatible with strong alkaline and oxidizing materials, sulfur and (sulfur + moisture). (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		352	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3913	TRIMETHYLOLPROPANE PHOSPHITE	(NTP, 1992)	: 1 mm Hg at 158Â° F; 20 mm Hg at 233.2Â° F	0.2		68		mm Hg	(NTP, 1992)		4.01				(USCG, 1999)		0.927				(NTP, 1992)			396 to 397	760		(NTP, 1992)		116.16						(NTP, 1992)	at 72Â° F		5 to 10	mg/mL	HXO	Corrosive	C6H12O2		2.0	0.0	2.0	1.0	1.0
3914	TRI-N-BUTYLALUMINUM (METAL ALKYLS, N.O.S. <OR> METAL ARYLS, N.O.S.)	(EPA, 1998)		1.40E-08		140		mm Hg							(EPA, 1998)		1.55		68								(EPA, 1998)		409.07												Poison	C20H18O2Sn		3.0	0.0	4.0	1.0	1.0
3915	TRINITROBENZENE SULFONIC ACID																										(NTP, 1992)		223.49						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C8H5Cl3O		3.0	0.0	3.0	1.0	1.0
3916	TRINITROBENZENE, [DRY]														(USCG, 1999)		0.95		68		(USCG, 1999)		471		760		(USCG, 1999)		216.31										TMP		(CH3)2CHCH[OH]C(CH3)2CH2OCOCH(CH3)2		2.0	0.0	3.0	1.0	1.0
3917	TRINITROBENZENE, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	(NIOSH, 2003)		8.00E-06				mm Hg													(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		349.1		(NIOSH, 2003)	A potential human carcinogen.			(NIOSH, 2003)		0.0001		%			C10H9Cl14NO2S	Dirt/Earth	2.0	0.0	3.0	1.0	1.0
3918	TRINITROBENZENE, WETTED WITH NOT LESS THAN 30% WATER	(NTP, 1992)			less than 0.00001	77		mm Hg							(USCG, 1999)		1.74		68		(NTP, 1992)	Decomposes					(NTP, 1992)		300.59		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CPT	Class 9	C9H8Cl3NO2S	Dirt/Earth	2.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3919	TRINITROBENZOIC ACID	1-CARBOXY-2,4,6-TRINITROBENZENE|SYM-TRINITROBENZOIC ACID|TNBA|TRINITROBENZOIC ACID|2,4,6-TRINITROBENZOIC ACID	129-66-8	A yellow crystalline solid high explosive. Easily ignited and burns vigorously when dry. Insoluble in water. Will burn when wet, although may be difficult to ignite. Produces toxic oxides of nitrogen during combustion. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5385.0	542.0	1826.0	957.0	573.0	1792.0	186.0	606.0	335.0	180.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3920	TRINITROBENZOIC ACID, WETTED WITH NOT LESS THAN 30% WATER	1-CARBOXY-2,4,6-TRINITROBENZENE|SYM-TRINITROBENZOIC ACID|TNBA|TRINITROBENZOIC ACID|TRINITROBENZOIC ACID, WETTED WITH NOT LESS THAN 30% WATER|TRINITROBENZOIC ACID, [WET, WITH >= 10% WATER]|2,4,6-TRINITROBENZOIC ACID	129-66-8	A sludge of yellow crystals. The dry material is a high explosive, is easily ignited and burns very vigorously. The wet material can burn but may require some effort to ignite. Insoluble in water. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5386.0	542.0	1827.0	957.0	573.0	1793.0	186.0	607.0	335.0	180.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3921	TRINITROCHLOROBENZENE	CHLOROTRINITROBENZENE|TRINITROCHLOROBENZENE	28260-61-9	A detonating explosive in the form of light yellow needles. Slightly soluble in ether, alcohol, and benzene. Insoluble in water. As insensitive to shock as TNT. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Under prolonged exposure to fire or heat the containers may explode violently.	1.0	2.5	5.0	5387.0	542.0	1827.0	957.0	573.0	1794.0	186.0	607.0	335.0	180.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3922	TRINITRORESORCINOL	TRINITRORESORCINOL	82-71-3	A yellowish, crystalline solid. Used as a priming agent. Very sensitive to heat. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Under prolonged exposure to fire or heat the containers may explode violently.	1.0	2.5	5.0	5387.0	542.0	1827.0	957.0	573.0	1794.0	186.0	607.0	335.0	180.0	(BLOB)	Flash point data for this material is not available, but it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a CO2, foam, and/or Halon extinguisher. (NTP, 1992)
3923	TRINITRORESORCINOL, [WET WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]	STYPHNIC ACID|TRINITRORESORCINOL, [WET WITH >= 20 % CENT WATER OR MIXTURE OF ALCOHOL AND WATER]|TRINITRORESORCINOL, [WET WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]|2,4,6-TRINITRORESORCINOL	82-71-3	A yellowish, crystalline solid. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Used as a priming agent. Very sensitive to heat. Water is added to lessen the explosion hazard.	2.5	5.0	2.5	5388.0	542.0	1828.0	959.0	573.0	1795.0	186.0	608.0	337.0	180.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3919	TRINITROBENZOIC ACID	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as FLUORENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.					0																						(NTP, 1992)			241 to 243
		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable.	Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3920	TRINITROBENZOIC ACID, WETTED WITH NOT LESS THAN 30% WATER																																			
3921	TRINITROCHLOROBENZENE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Contact with water or moist air generates toxic and flammable gases (amine and CO2).	Isocyanates and thioisocyanates, such as 2,2,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3922	TRINITRORESORCINOL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	FLUORESCEIN is incompatible with strong oxidizers. Also incompatible with acids, acid salts and salts of heavy metals. (NTP, 1992).					0																						(NTP, 1992)	Decomposes at 554Â° F. In sealed tube, melts at 597-601Â° F with decomposition		
3923	TRINITRORESORCINOL, [WET WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and light. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Water soluble.	FLUORESCEIN, DISODIUM SALT is incompatible with strong oxidizers. Also incompatible with acids, acid salts and salts of heavy metals (NTP, 1992).					0																						(NTP, 1992)	(decomposes)		599 to 743

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3919	TRINITROBENZOIC ACID	(NTP, 1992)		10		294.8		mm Hg							(NTP, 1992)		1.203		32		(NTP, 1992)		563		760		(NTP, 1992)		166.21						(NTP, 1992)	Insoluble. (1.7mg/kg)						C13H10		1.0	0.0	1.0	1.0	1.0
3920	TRINITROBENZOIC ACID, WETTED WITH NOT LESS THAN 30% WATER																																								Flammable Liquid|Poison			1.0	0.0	1.0	1.0	1.0
3921	TRINITROCHLOROBENZENE																																								Poison	C11H18N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3922	TRINITRORESORCINOL																										(NTP, 1992)		332.3						(NTP, 1992)	Insoluble						C20H12O5		3.0	0.0	4.0	1.0	1.0
3923	TRINITRORESORCINOL, [WET WITH >= 20 % WATER OR MIXTURE OF ALCOHOL AND WATER]	(NTP, 1992)	Negligible												(NTP, 1992)		1.601										(NTP, 1992)		376.28						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C20H10O5.2Na. x H2O		3.0	0.0	4.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3924	TRI-N-OCTYL PHOSPHATE	OCTYL PHOSPHATE ((C8H17O)3PO)|TRI-N-OCTYL PHOSPHATE|TRIOCTYL PHOSPHATE	1806-54-8	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5389.0	542.0	1828.0	959.0	573.0	1796.0	186.0	608.0	337.0	180.0	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: EXCEPT FOR ACETIC ANHYDRIDE (UN1715), THAT IS FLAMMABLE, some of these materials may burn, but none ignite readily. May ignite combustibles (wood, paper, oil, clothing, etc.). Substance will react with water (some violently), releasing corrosive and/or toxic gases and runoff. Flammable/toxic gases may accumulate in confined areas (basement, tanks, hopper/tank cars, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3925	TRIPELENAMINE HYDROCHLORIDE	(BLOB)	154-69-8	PHYSICAL DESCRIPTION: Odorless white crystalline powder or solid. Bitter taste. Solutions are neutral to litmus. pH of aqueous solution (25 mg/mL): 6.71. pH of aqueous solution (50 mg/mL): 6.67. pH of aqueous solution (100 mg/mL): 5.56. (NTP, 1992)	1.0	2.5	5.0	5389.0	542.0	1828.0	959.0	573.0	1796.0	186.0	608.0	337.0	180.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3926	TRIPROPYLALUMINUM	TRIPROPYLALUMINUM	102-67-0	Appearance and odor vary depending upon the specific aluminum compound (NIOSH 1997). Generally, a colorless, pyrophoric liquid.	2.5	5.0	2.5	5390.0	542.0	1828.0	959.0	573.0	1797.0	186.0	608.0	337.0	180.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3927	TRIPROPYLENE GLYCOL METHYL ETHER	DOWANOL TPM|PROPANOL, 3-(3-(3-METHOXY PROPOXY)prOPOXY)-|TRIPROPYLENE GLYCOL METHYL ETHER	25498-49-1	Colorless liquid with a mild odor. (USCG, 1999)	2.5	5.0	2.5	5391.0	542.0	1828.0	959.0	573.0	1798.0	186.0	608.0	337.0	180.0	(BLOB)	This chemical is combustible. This chemical can heat spontaneously. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
3928	TRIS(2-CHLOROETHYL)PHOSPHITE	CLP 1|ETHANOL, 2-CHLORO-, PHOSPHITE|ETHANOL, 2-CHLORO-, PHOSPHITE (3:1)|PHOSPHOROUS ACID, TRIS(2-CHLOROETHYL) ESTER|TRI(2-CHLOROETHYL) PHOSPHITE|TRIS(2-CHLOROETHYL) PHOSPHITE|TRIS(2-CHLOROETHYL)PHOSPHITE| TRIS(BETA-CHLOROETHYL) PHOSPHITE|TRIS(CHLOROETHYL) PHOSPHITE	140-08-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5391.0	542.0	1828.0	959.0	573.0	1798.0	186.0	608.0	337.0	180.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3924	TRI-N-OCTYL PHOSPHATE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in moist air. Reacts with water to form Hydrochloric Acid in dense white fumes [Merck 11th ed. 1989].	Acidic salts, such as STANNIC CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions (ethylene oxide polymerization). Combination of the chloride with turpentine is strongly exothermic, and may lead to ignition, [Mellor, 1941, Vol. 7, 446].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	1	1																									
3925	TRIPELENAMINE HYDROCHLORIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXYNEODECANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3926	TRIPROPYLALUMINUM	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	STANNOUS CHLORIDE is a powerful reducing agent. Can react violently with oxidizing agents. Undergoes flaming reaction with bromine trifluoride [Mellor 2 Supp. 1:164 1956]. Catalyzes the exothermic rearrangement and polymerization of ethylene oxide [J. Soc. Chem. Ind. 68:179 1949]. Mixtures with calcium carbide can be ignited with a match, and the reaction proceeds with incandescence [Mellor 7:430 1946-47]. Reacts with hydrazine hydrate to give stannous dihydrazine chloride which decomposes explosively when heated [Mellor 7:430 1946-47]. Undergoes a strongly exothermic reaction with aqueous solutions of hydrogen peroxide having concentration exceeding 3%) [Chem. & Ind., 1949, 657].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		475	
3927	TRIPROPYLENE GLYCOL METHYL ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	For prolonged exposure to vapors, use air-supplied mask or chemical cartridge respirator; impervious gloves; goggles; impervious apron (USCG, 1999)	Slightly soluble in water.	STEARIC ACID is incompatible with strong oxidizers and strong bases. It is also incompatible with reducing agents. (NTP, 1992)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		385											(USCG, 1999)		743		(NTP, 1992)		156.7	
3928	TRIS(2-CHLOROETHYL)PHOSPHITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic. Water soluble.	STREPTOMYCIN SULFATE (2:3) (SALT) is a medicinal amino saccharide. [[Details on specifics of reactivity not yet available.]]						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3924	TRI-N-OCTYL PHOSPHATE																																								Corrosive	Cl4Sn		3.0	0.0	3.0	1.0	1.0
3925	TRIPELENAMINE HYDROCHLORIDE																																								Organic Peroxide	C14H28O3 (in organic solution)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	2.0	1.0	1.0
3926	TRIPROPYLALUMINUM	(NTP, 1992)		0		68		mm Hg							(NTP, 1992)		3.95		77		(NTP, 1992)		1206		760		(NTP, 1992)		189.6						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Corrosive	SnCl2		2.0	0.0	3.0	1.0	1.0
3927	TRIPROPYLENE GLYCOL METHYL ETHER	(NTP, 1992)	: 5 mm Hg at 408.2Â° F	1		344.7		mm Hg	(NTP, 1992)		9.8				(USCG, 1999)		0.86		68		(NTP, 1992)		721		760		(NTP, 1992)		284.48						(NTP, 1992)	at 73Â° F		1 to 10	mg/mL	SRA		C18H36O2		2.0	0.0	4.0	1.0	1.0
3928	TRIS(2-CHLOROETHYL)PHOSPHITE																											(NTP, 1992)		1457.58						(NTP, 1992)	at 64Â° F		greater than or equal to 0.1	mg/mL			(C21H39N7O12)2(H2SO4)3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	3.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3929	TRIS(2-ETHYLHEXYL) PHOSPHITE	1-HEXANOL, 2-ETHYL-, PHOSPHITE (3:1)|1-HEXANOL, 2-ETHYL-, PHOSPHITE|JP 308|PHOSPHOROUS ACID, TRIS(2-ETHYLHEXYL) ESTER|TRIOCTYL PHOSPHITE|TRIS(2-ETHYLHEXYL) PHOSPHITE	301-13-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5392.0	542.0	1828.0	959.0	573.0	1799.0	186.0	608.0	337.0	180.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3930	TRIXYLENYL PHOSPHATE	COALITE NTP|DIMETHYLPHENOL PHOSPHATE (3:1)|DURAD 220X|PHOSFLEX 179|PHOSPHORIC ACID TRIXYLYL ESTER|PX 130|REOFOS 95|TRI(DIMETHYLPHENYL)PHOSPHATE|TRIDIMETHYLPHENYL PHOSPHATE|TRIXYLENYL PHOSPHATE|TRIXYLYL PHOSPHATE|TXP|XYLENOL, PHOSPHATE (3:1)|XYLYL PHOSPHATE|XYLYL PHOSPHATE ((C8H9O)3PO)	25155-23-1	Toxic by ingestion and skin absorption when pure. Produces phosphorus oxide gases during combustion. Primary hazard is threat to the environment. Immediate steps should be taken to limit spread to the environment. Easily penetrates soil to contaminate groundwater and nearby waterways.	5.0	1.0	1.0	5392.0	543.0	1828.0	959.0	574.0	1799.0	187.0	608.0	337.0	181.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorides. Hydrolyzes to hydroxide in water. Stable when stored in dark with dry air. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. (Non-Specific -- Pesticide, Solid, n.o.s.) Extinguish fires with dry chemical, carbon dioxide, water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
3931	URACIL MUSTARD	AMINOURACIL MUSTARD|5-(BIS(2-CHLOROETHYL)AMINO)-2,4(1H,3H)PYRIMIDINEDIONE|5-(BIS(2-CHLOROETHYL)AMINO)URACIL|5-[BIS(2-CHLOROETHYL)AMINO]URACIL|CB-4835|CHLORETHAMINACIL|DEMETHYLDOPAN|DESMETHYLDOPAN|5-[DI(BETA-CHLOROETHYL)AMINO]URACIL|5-(DI-(BETA-CHLOROETHYL)AMINO)URACIL|5-(DI-2-CHLOROETHYL)AMINOURACIL|2,6-DIHYDROXY-5-BIS(2-CHLOROETHYL)AMINOPYRIMIDINE|2,6-DIHYDROXY-5-BIS[2-CHLOROETHYL]AMINOPYRIMIDINE|ENT 50439|ENT-50439|5-N,N-BIS(2-CHLOROETHYL)AMINOURACIL|NCI-C04820|NORDOPAN|NSC-34462|SK-19849|U-8344|URACIL 50439|5-N,N-BIS(2-CHLOROETHYL)AMINOURACIL|NCI-C04820|NORDOPAN|NSC-34462|SK-19849|U-8344|URACIL	66-75-1	PHYSICAL DESCRIPTION: Creamy white crystals or off-white powder. Used as an anti-cancer medicine.	1.0	2.5	5.0	5393.0	543.0	1828.0	959.0	574.0	1800.0	187.0	608.0	337.0	181.0	INHALATION: remove victim to fresh air; get medical attention. INGESTION: give large amounts of water; do NOT induce vomiting. EYES: immediately wash with water for 15 min.; call a physician. SKIN: wash affected parts with water; treat as for hydrogen fluoride burn with iced benzalkonium chloride soaks. (USCG, 1999)	Special Hazards of Combustion Products: Irritating fumes of hydrogen fluoride may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3932	URANYL SULFATE	URANIUM SULFATE|URANIUM SULFATE TRIHYDRATE|URANYL SULFATE|URANYL SULFATE TRIHYDRATE	1314-64-3	An odorless yellow-green solid. Sinks in and mixes with water. A hydrate of formula (H2SO4)2.7H2O is also known.	1.0	2.5	5.0	5393.0	543.0	1829.0	959.0	574.0	1800.0	187.0	609.0	337.0	181.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
3933	UREA NITRATE, [DRY]	UREA NITRATE, [DRY]	124-47-0	A crystalline compound arising from the neutralization of urea with nitric acid. Melting point 152Â°C. Slightly soluble in water. Soluble in alcohol. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5393.0	543.0	1830.0	959.0	574.0	1800.0	187.0	610.0	337.0	181.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3929	TRIS(2-ETHYLHEXYL) PHOSPHITE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is slightly soluble in water.	STRONTIUM ARSENITE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
3930	TRIXYLENYL PHOSPHATE	(Non-Specific -- Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzes to hydroxide in water.	TRIPHENYLTIN CHLORIDE is in the family of tin compounds widely used as stabilizers for plastics, additives to paint(as antifouling agents). Some have catalytic properties. Examples include butyl tin, dibutyl tin oxide. Their main hazard is associated with their high toxicity, in skin adsorption or inhalation.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		223	
3931	URACIL MUSTARD	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; safety glasses; protective clothing (USCG, 1999)	Fumes in air. Soluble in water with release of heat and corrosive fumes.	FLUOROSILICIC ACID can react with strong acids (such as sulfuric acid) to release fumes of toxic hydrogen fluoride. Attacks glass and materials containing silica. Reacts exothermically with chemical bases (examples: amines, amides, inorganic hydroxides). Reacts with active metals, including iron and aluminum to dissolve the metal and liberate hydrogen and/or toxic gases. Can initiate polymerization in certain alkenes. Reacts with cyanide salts and compounds to release gaseous hydrogen cyanide. Flammable and/or toxic gases are also often generated by reactions with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and weak or strong reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. Can catalyze (increase the rate of) chemical reactions. Decomposes when heated to the boiling point to produce very toxic and corrosive hydrogen fluoride gas.	Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)		-4	
3932	URANYL SULFATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Carbon dioxide is water soluble, and forms carbonic acid, a mild acid in water.	(BLOB)	Highly Flammable; Explosive; Polymerizable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																													
3933	UREA NITRATE, [DRY]	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Carbon dioxide is water soluble, and forms carbonic acid, a mild acid in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3929	TRIS(2-ETHYLHEXYL) PHOSPHITE																																									Poison	As2O4Sr		3.0	0.0	3.0	1.0	1.0
3930	TRIXYLENYL PHOSPHATE																			(EPA, 1998)		464		13.5		(EPA, 1998)		385.47													Poison	C18H15ClSn		4.0	0.0	4.0	1.0	1.0
3931	URACIL MUSTARD														(USCG, 1999)	(approx.)	1.3		77		(USCG, 1999)	(water) approx.	212		760		(USCG, 1999)	(solute only)	144.09											FSL	Corrosive	H2SiF6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3932	URANYL SULFATE																																								Flammable Gas	CO2 (carbon dioxide)|C2H4O (ethylene oxide)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3933	UREA NITRATE, [DRY]																																								Non-Flammable Gas	CO2 (carbon dioxide)|N2O (nitrous oxide)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3934	UREA NITRATE, WETTED WITH NOT LESS THAN 20% WATER	ACIDOGEN NITRATE|UREA NITRATE|UREA NITRATE (1:1)|UREA NITRATE, WETTED WITH NOT LESS THAN 20% WATER|UREA NITRATE, [WET WITH >= 10% WATER]	124-47-0	An aqueous slurry of insoluble colorless crystals. Can burn though it may require some effort to ignite. The dry material is a high explosive that easily ignited and burns very vigorously. Combustion produces toxic oxides of nitrogen.	1.0	2.5	5.0	5393.0	543.0	1831.0	959.0	574.0	1800.0	187.0	611.0	337.0	181.0	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3935	VINCLOZOLIN	3-(3,5-DICHLOROPHENYL)-5-ETHENYL-5-METHYL-2,4-OXAZOLIDINEDIONE|VINCLOZOLIN	50471-44-8	Colorless crystals with slight aromatic odor. Used as a fungicide.	1.0	2.5	5.0	5393.0	544.0	1832.0	959.0	575.0	1800.0	188.0	612.0	337.0	182.0	(BLOB)	Special Hazards of Combustion Products: Forms poisonous phosgene gas when exposed to open flames. Behavior in Fire: Decomposes to form chlorine and phosgene (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3936	VINYL BUTYRATE, INHIBITED	BUTYRIC ACID, VINYL ESTER|VINYL BUTANOATE|VINYL BUTYRATE|VINYL BUTYRATE, INHIBITED|VINYL N-BUTYRATE	123-20-6	A colorless liquid. Less dense than water. Vapors heavier than air. Used to make plastics and paints.	2.5	5.0	2.5	5393.0	545.0	1832.0	959.0	576.0	1800.0	189.0	612.0	337.0	183.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3937	VINYL CARBAMATE	CARBAMIC ACID, ETHENYL ESTER|CARBAMIC ACID, VINYL ESTER|ETHENYL CARBAMATE|VINYL CARBAMATE	15805-73-9	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5394.0	545.0	1832.0	959.0	576.0	1801.0	189.0	612.0	337.0	183.0	(BLOB)	Special Hazards of Combustion Products: Toxic fumes emitted on decomposition (carbon monoxide and ammonia), beginning at 180 - 210Â°C. Behavior in Fire: Vapor will burn in air above 310Â°F. (USCG, 1999)	Fire Extinguishing Agents: Dry chemical, water, alcohol foam, or carbon dioxide. (USCG, 1999)
3938	VINYL FLUORIDE, INHIBITED	ETHENE, FLUORO-|ETHYLENE, FLUORO-|FLUOROETHENE|1-FLUOROETHENE|FLUOROETHYLENE|1-FLUOROETHYLENE|MONOFLUOROETHENE|MONOFLUOROETHYLENE|R 1141|VINYL FLUORIDE|VINYL FLUORIDE MONOMER|VINYL FLUORIDE, INHIBITED|VINYL FLUORIDE, [INHIBITED]	75-02-5	A colorless gas with a faint ethereal odor. Shipped as a confined liquid under its vapor pressure. Any leak can either be liquid or vapor. Contact with the liquid can cause frostbite. Easily ignited. Vapors are heavier than air. Can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5395.0	545.0	1832.0	959.0	576.0	1802.0	189.0	612.0	337.0	183.0	INHALATION: Move to fresh air. INGESTION: Give large amount of water. EYES or SKIN: Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May increase intensity of fire when in contact with combustible materials. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3939	VINYL METHYL ETHER	ETHENE, METHOXY-|ETHER, METHYL VINYL|METHOXYETHENE|METHOXYETHYLENE|1-METHOXYETHYLENE|METHYL VINYL ETHER|VINYL METHYL ETHER|VINYL METHYL ETHER, INHIBITED	107-25-5	A colorless gas with a sweet odor. Shipped as a liquefied gas under own vapor pressure. Contact with the liquid may cause frostbite. Easily ignited. Vapors are heavier than air. Leaks may either be liquid or vapor. May asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat containers may rupture violently and rocket.	5.0	1.0	1.0	5396.0	545.0	1832.0	959.0	576.0	1803.0	189.0	612.0	337.0	183.0	INHALATION: move to fresh air. INGESTION: give large amount of water. EYES or SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3934	UREA NITRATE, WETTED WITH NOT LESS THAN 20% WATER	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Carbon dioxide is water soluble, and forms carbonic acid, a mild acid in water.	(BLOB)	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for oxygen, CAS number 7782-44-7.	3	0	0	0	Oxidizer																						
3935	VINCLOZOLIN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	CARBON TETRACHLORIDE is a commonly used liquid in fire extinguishers to combat small fires. It has no flash point, it is not flammable. However, when heated to decomposition, it will emit fumes of extremely toxic phosgene and of hydrogen chloride. Forms explosive mixtures with chlorine trifluoride, calcium hypochlorite, decaborane, dinitrogen tetraoxide, fluorine. Forms impact-sensitive explosive mixtures with particles of many metals: lithium, sodium, potassium, beryllium, zinc, aluminum, barium. Vigorous exothermic reaction with allyl alcohol, boron trifluoride, diborane, disilane, aluminum chloride, dibenzoyl peroxide, potassium tert-butoxide, liquid oxygen, zirconium. [Bretherick, 5th ed., 1995, p. 666]. Potentially dangerous reaction with dimethylformamide or dimethylacetamide in presence of iron [Cardillo, P. et al., Ann. Chim. (Rome), 1984, 74, p. 129].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																	(USCG, 1999)	Not flammable			(NTP, 1992)		-9	
3936	VINYL BUTYRATE, INHIBITED	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slighly soluble in water.	SUCCINIC ACID 2,2-DIMETHYLHYDRAZIDE may be heat sensitive. Incompatible with strong oxidizing agents, strong acids, and bases. Also incompatible with wetting agents, alkaline materials, oils and copper-containing compounds. May corrode metals (NTP, 1992). May generate toxic gases with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. May generate flammable gases with alkali metals. Explosive reactions can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.					0																						(NTP, 1992)		309 to 311	
3937	VINYL CARBAMATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Hygroscopic. Water soluble.	FORMAMIDE is incompatible with strong oxidizers, acids and bases. Sensitive to light. Reacts with water very slowly at room temperature, but rate is accelerated by acids and bases at elevated temperatures. Incompatible with iodine, pyridine and sulfur trioxide. Reacts explosively with furfuryl alcohol, H2O2, Tl(NO3)3.H2O, nitromethane and P2O5. An effective solvent: dissolves casein, glucose, tannins, starch, lignin, polyvinyl alcohol, cellulose acetate, nylon, the chlorides of copper, lead, zinc, tin, cobalt, iron, aluminum and nickel, the acetates of the alkali metals, some inorganic sulfates and nitrates. Attacks copper and brass (NTP, 1992).			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		310											(USCG, 1999)	310		(NTP, 1992)		36.5	
3938	VINYL FLUORIDE, INHIBITED	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Water soluble.	Mixtures of metal/nonmetal nitrates, such as ZIRCONIUM NITRATE, with alkyl esters may explode owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Beetherick 1979. p. 108-109]. Dissolves in water to give an acid solution.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3939	VINYL METHYL ETHER	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Safety glasses or face shield; protective gloves; dust mask (USCG, 1999)	Water soluble. Forms corrosive acidic solutions.	Acidic salts, such as ZIRCONIUM OXYCHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3934	UREA NITRATE, WETTED WITH NOT LESS THAN 20% WATER																																								Non-Flammable Gas(Oxidizer	CO2|O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	5.0	0.0	5.0	1.0	1.0
3935	VINCLOZOLIN	(NTP, 1992)	; 113 mm Hg at 77Â° F	91		68		mm Hg	(NTP, 1992)		5.3				(USCG, 1999)		1.59		68		(NTP, 1992)		170.1		760		(NTP, 1992)		153.82		(NIOSH, 2003)	; A potential human carcinogen.	200	ppm	(NTP, 1992)	at 70Â° F		less than 1	mg/mL	CBT	Poison	CCl4		1.0	0.0	1.0	1.0	1.0
3936	VINYL BUTYRATE, INHIBITED	(NTP, 1992)			less than 0.0000750	68		mm Hg																		(NTP, 1992)		160.17						(NTP, 1992)	at 75Â° F		1 to 10	mg/mL			C6H12N2O3		2.0	0.0	2.0	1.0	1.0
3937	VINYL CARBAMATE	(NTP, 1992)	; 760 mm Hg at 410.9Â° F	3		86		mm Hg	(NTP, 1992)		1.56				(USCG, 1999)		1.1334		68		(NTP, 1992)	(decomposes)	410		760		(NTP, 1992)		45.04						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	FAM		CH3NO		2.0	0.0	2.0	1.0	1.0
3938	VINYL FLUORIDE, INHIBITED														(USCG, 1999)			greater than 1	68								(USCG, 1999)		429.3		(NIOSH, 2003)	(as Zr)	50	mg/m3						ZIR	Oxidizer	Zr(NO3)4 . 5H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	1.0	0.0	2.0	1.0	1.0
3939	VINYL METHYL ETHER														(USCG, 1999)			greater than 1	68								(USCG, 1999)		322.3		(NIOSH, 2003)	(as Zr)	50	mg/m3						ZCO	Corrosive	Cl2OZr		1.0	0.0	3.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3940	VINYL NEODECANOATE	NEODECANOIC ACID, VINYL ESTER|VINYL NEODECANOATE|VV 10 VINYL MONOMER	51000-52-3	Colorless liquid with a pleasant odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5396.0	545.0	1832.0	959.0	576.0	1803.0	189.0	612.0	337.0	183.0	(BLOB)	Special Hazards of Combustion Products: Irritating fumes may form in fires. Behavior in Fire: Melts and chars (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)
3941	VINYLTOLUENE, INHIBITED	ETHENYLMETHYLBENZENE|1-METHYL-1-PHENYLETHYLENE|METHYLETHENYLBENZENE|METHYLSTYRENE|NCI-C56406|P-METHYLSTYRENE|STYRENE, AR-METHYL-|TOLYETHYLENE|TOLYLETHYLENE|VINYL TOLUENE|VINYLTOLUENE|VINYLTOLUENE, INHIBITED	25013-15-4	A clear colorless liquid with an aromatic odor. Flash point 130Â°F. Density 7.5 lb /gal. Insoluble in water. May polymerize exothermically if heated or contaminated. If polymerization takes place inside a container, the container may rupture violently. Inhibitor is usually tert-butyl catechol. Vapors heavier than air. Used as a solvent and to make other chemicals.	2.5	5.0	2.5	5397.0	545.0	1832.0	959.0	576.0	1804.0	189.0	612.0	337.0	183.0	(BLOB)	Flammability data is lacking for this compound. It is probably non-flammable. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3942	VITAMIN A	ACON|AFAXIN|AGIOLAN|(ALL-E)-|ALL-TRANS-RETINOL|ALL-TRANS-RETINYL ALCOHOL|ALL-TRANS-VITAMIN A ALCOHOL|ALPHALIN|ALPHASTEROL|ANATOLA|ANATOLA A|ANTI-INFECTIVE VITAMIN|ANTIXEROPHTHALMIC VITAMIN|AORAL|APEXOL|APOSTAVIT|AQUASYNTH|ATARS|ATAV|AVIBON|AVITA|AVITOL|AXEROL|AXEROPHTHOL|BIOSTEROL|CHOCOLA A|3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-2,4,6,8-NONATETRAEN-1-OL|DISATABS TABS|DOFSOL|DOHYFRAL A|EPITELIOL|HI-A-VITA|HYDROVIT A|LARD FACTOR|LPK|MICROVIT A|MYVPACK|NIO-A-LET|2,4,6,8-NONATETRAEN-1-OL, 3,7-DIMETHYL-9-(2,6,6-TRIMETHYL-1-CYCLOHEXEN-1-YL)-	11103-57-4	PHYSICAL DESCRIPTION: Yellow crystals or orange solid. Practically water insoluble. (NTP, 1992)	1.0	2.5	5.0	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
3943	XYLIDINES	AMINODIMETHYLBENZENE|AMINOXYLENE|DIMETHYLAMINOBENZENE|DIMETHYLANILINE|XYLIDINE|XYLIDINE ISOMERS|XYLIDINES	1300-73-8	Pale-yellow to brown liquid with a weak, aromatic, amine-like odor. (NIOSH, 1997)	2.5	5.0	2.5	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3944	ZINC AMMONIUM NITRITE	ZINC AMMONIUM NITRITE	63885-01-8	A white powder. Combustible and readily ignited. Easily ignites if contaminated with combustible materials. May explode under exposure to heat or fire. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3945	ZINC ARSENATE	ARSENIC ACID (H3ASO4) ZINC SALT|ARSENIC ACID (H4AS2O7), ZINC SALT (1:2)|ARSENIC ACID (HASO3), ZINC SALT|ZINC ARSENATE|ZINC ARSENATE (ZN(ASO3)2)|ZINC ARSENATE (ZN2(AS2O7))|ZINC ARSENATE (ZN3(ASO4)2)|ZINC ARSENITE (ZN(ASO3)2)|ZINC ORTHOARSENATE	13464-33-0	White powder. Toxic by inhalation and ingestion.	1.0	2.5	5.0	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3940	VINYL NEODECANOATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Water soluble. Sugar dust explosion is possibility.	SUCROSE is a reducing agent. Can react explosively with oxidizing agents such as chlorates and perchlorates. Is hydrolyzed by dilute acids and by invertase (a yeast enzyme) (NTP, 1992). Chars rapidly and exothermically when mixed with concentrated sulfuric acid.							0					(NTP, 1992)		0.045		g/L									(NTP, 1992)	(decomposes)		320 to 367
		SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																						
3941	VINYLTOLUENE, INHIBITED																																(NTP, 1992)		406	
3942	VITAMIN A	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Soluble in water.	FORMANILIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).							0		(NTP, 1992)		greater than 235															(NTP, 1992)		115.9 to 117.5
3943	XYLIDINES	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Sensitive to heat. Slightly soluble in water.	[[Details on specifics of reactivity not yet available.]]							0																						
3944	ZINC AMMONIUM NITRITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water [Hawley].	CARMINIC ACID neutralizes bases in exothermic reactions. Incompatible with strong oxidizing agents. [[Details on specifics of reactivity not yet available.]]							0																						
3945	ZINC ARSENATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Insoluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.							0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3940	VINYL NEODECANOATE	(NIOSH, 2003)	(approx)	0				mm Hg							(USCG, 1999)		1.59		68		(NTP, 1992)	Decomposes					(NTP, 1992)		342.3						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	SRS		C12H22O11	Cellulose-Based Absorbents	3.0	0.0	4.0	1.0	1.0
3941	VINYLTOLUENE, INHIBITED																									(NTP, 1992)		270.35						(NTP, 1992)	Insoluble at pH 6.5 (< 1mg/ml); Soluble at pH 7.5 (>=10mg/ml).						C9H10N4O2S2		1.0	0.0	3.0	1.0	1.0
3942	VITAMIN A														(NTP, 1992)		1.144		68		(NTP, 1992)		520		760		(NTP, 1992)		121.13						(NTP, 1992)	at 77Â° F		10 to 50	mg/mL			C7H7NO		3.0	0.0	4.0	1.0	1.0
3943	XYLIDINES																									(NTP, 1992)		267.31						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL			C11H13N3O3S	Mineral-Based & Clay-Based Absorbents	4.0	0.0	4.0	1.0	1.0
3944	ZINC AMMONIUM NITRITE																									(NTP, 1992)		492.4						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C22H20O13	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3945	ZINC ARSENATE														(NTP, 1992)		1.496				(NTP, 1992)			439 to 441	751		(NTP, 1992)		152.24						(NTP, 1992)	Insoluble						C10H16O	Cellulose-Based Absorbents|Dirt/ Earth	1.0	0.0	1.0	1.0	1.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3946	ZINC ARSENATE AND ZINC ARSENITE MIXTURE	ZINC ARSENATE AND ZINC ARSENITE MIXTURE|ZINC ARSENATE-ZINC ARSENITE MIXTURE|ZINC ARSENITE AND ZINC ARSENATE MIXTURE	13464-33-0	A mixture of two compounds. Various forms of zinc arsenate are known. Zinc orthoarsenate, Zn(AsO4)2.8H2O, is a white odorless water-insoluble powder. Zinc metaarsenite is a white water-soluble powder. Highly toxic by ingestion and inhalation.	1.0	2.5	5.0	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
3947	ZINC BICHROMATE	ZINC BICHROMATE|ZINC DICHROMATE	7789-12-0	Solid orange-yellow crystal or powder. (USCG, 1999)	1.0	2.5	5.0	5397.0	545.0	1833.0	959.0	576.0	1804.0	189.0	613.0	337.0	183.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
3948	ZINC RESINATE	RESIN ACIDS, ZINC SALTS|TERPENATO 620|ZINAR|ZINC RESINATE	9010-69-9	Colorless to amber solid. Can spontaneously heat in the presence of air and moisture. This heat may be sufficient to ignite surrounding combustible materials. Not soluble in water. It is used as a drier in paints, and as a wetting agent.	1.0	2.5	5.0	5397.0	546.0	1833.0	960.0	577.0	1804.0	190.0	613.0	338.0	184.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3949	ZINC SELENATE	SELENIC ACID (H2SEO4), ZINC SALT (1:1)|ZINC SELENATE|ZINC SELENATE (ZNSEO4)	13597-54-1		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1805.0	190.0	613.0	338.0	184.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3950	(4,4'-BITHIAZOLE)-2,2'-DIAMINE	(4,4'-BITHIAZOLE)-2,2'-DIAMINE|4,4'-BITHIAZOLE, 2,2'-DIAMINO-|2,2'-DIAMINO-4,4'-BISTHIAZOLE|2,2'-DIAMINO-4,4'-BITHIAZOLE|THIAZOLE, 2,2'-DIAMINO-4,4'-BIS-	58139-59-6		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1805.0	190.0	613.0	338.0	184.0	(BLOB)	There is a moderate explosion hazard when exposed to heat or flame. When heated to decomposition, it emits nitrogen oxides, carbon monoxide and other highly toxic fumes. Avoid oxidizing materials. Stable under normal conditions. Avoid heat or flames. (EPA, 1998)	Material too dangerous to health to expose firefighters. A few whiffs of the vapor could cause death; vapor or liquid could be fatal on penetrating firefighter's normal full protective clothing. Normal full protective clothing and breathing apparatus available to the average fire department will not provide adequate protection against inhalation or skin contact. Extinguish with alcohol foam, dry chemical, or carbon dioxide. Water may cause frothing if it gets below surface of liquid and turns to steam. However, water fog gently applied to surface will cause frothing which will extinguish the fire. (EPA, 1998)
3951	(MONO)-(TRICHLORO)-TETRA-(MONOPOTASSIUM DICHLORO)-PENTA-S-TRIAZINETRIONE, DRY	(MONO)-(TRICHLORO)-TETRA-(MONOPOTASSIUM DICHLORO)-PENTA-S-TRIAZINE-TRIONE|MONO-(TRICHLORO) TETRA-(MONOPOTASSIUM DICHLORO)-PENTA-S-TRIAZINETRIONE, [DRY, WITH > 39% AVAILABLE CHLORINE]	34651-95-1	A white to yellow colored crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May accelerate the burning of combustible materials. May explode under prolonged exposure to heat or fire.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1806.0	190.0	613.0	338.0	184.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3946	ZINC ARSENATE AND ZINC ARSENITE MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.					0		(NTP, 1992)		207																		
		Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)																																	
3947	ZINC BICHROMATE		Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	TERT-BUTYL PEROXYPIVALATE explodes with great violence when rapidly heated to a critical temperature. Shock sensitive and detonable when pure [Bretherick 1979 p. 602].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	3	6	Oxidizer																								
3948	ZINC RESINATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at ambient temperatures. This compound is a Schedule IV DEA Controlled Substance and is to be stored according to State and Federal Regulations. Refer to Code of Federal Regulations Title 21 Part 1300 to End. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Water soluble.	CHLORAL HYDRATE is incompatible with alkalis, alkaline earth metals, alkali carbonates and soluble barbiturates. It is decomposed by sodium hydroxide. It reduces ammoniacal silver nitrate. It liquefies when triturated with an equal quantity of menthol, camphor or thymol. (NTP, 1992). Reaction of chloral hydrate with hydroxylamine produces toxic hydrogen cyanide gas, Org. Synth., 1941, Vol. 1, 377.						0																						(NTP, 1992)		135	
3949	ZINC SELENATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	2,2-DICHLOROETHANOL is incompatible with oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		173																					
3950	(4,4'-BITHIAZOLE)-2,2'-DIAMINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Flammable. Slightly soluble in water.	An alkaloid produced from tobacco. Colorless, oily liquid, combustible, highly toxic. When heated to decomposition it emits very toxic fumes of carbon monoxide and oxides of nitrogen [Lewis, 3rd ed., 1993, p. 919].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	1.00	0.00	1		(NIOSH, 2003)		203		(EPA, 1998)	Low fire hazard when exposed to heat or flame.	0.75		%	(EPA, 1998)	Low fire hazard when exposed to heat or flame.	4		%	(USCG, 1999)		471		(EPA, 1998)		-110	
3951	(MONO)-(TRICHLORO)-TETRA-(MONOPOTASSIUM DICHLORO)-PENTA-S-TRIAZINETRIONE, DRY	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	Self-reactive. Concentrations of CHLORIC ACID above 40% decompose [Mellor 2 Supp. 1:576 1956]. Antimony sulfide and concentrated solutions of chloric acid react with incandescence [Mellor Supp. II Part 1:584 1956]. Arsenic sulfide and concentrated solutions of chloric acid react with incandescence . Reacts with vigor even explodes with other metal sulfides, i.e. copper sulfide [Mellor Supp. II Part 1:584 1956]. In contact with oxidizable materials, including ammonia, reactions can be extremely violent. Filter paper ignites after soaking in chloric acid, [Mellor, 1946, Vol. 2, 310]. Explosions have been recorded by mixtures of chloric acid solution with metals such as: antimony, bismuth, and iron. This is due to the formation of explosive compounds including hydrogen.	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3.00	4.00	4.00	8																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3946	ZINC ARSENATE AND ZINC ARSENITE MIXTURE														(NTP, 1992)		0.976				(NTP, 1992)			171 to 174	0.1		(NTP, 1992)		194.3													C12H18O2	Dirt/Earth	1.0	0.0	1.0	1.0	1.0
3947	ZINC BICHROMATE																																									Organic Peroxide	C9H18O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	2.0	0.0	3.0	1.0	1.0
3948	ZINC RESINATE	(NTP, 1992)	; 10 mm Hg at 67.1Â° F; 60 mm Hg at 115.2Â° F	5		50		mm Hg							(NTP, 1992)		1.9081		68		(NTP, 1992)		207.5		760		(NTP, 1992)		165.4						(NTP, 1992)	at 68.9Â° F		greater than or equal to 10	mg/mL			C2H3Cl3O2	Cellulose-Based Absorbents	5.0	0.0	5.0	1.0	1.0
3949	ZINC SELENATE														(NTP, 1992)		1.404		77		(NTP, 1992)		295		760		(NTP, 1992)		114.96						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Poison	C2H4Cl2O	Cellulose-Based Absorbents	1.0	0.0	1.0	1.0	1.0
3950	(4,4'-BITHIAZOLE)-2,2'-DIAMINE	(EPA, 1998)		1		143.24		mm Hg	(EPA, 1998)		5.61				(EPA, 1998)		1.0097		68		(EPA, 1998)		476.1		745		(EPA, 1998)		162.23		(NIOSH, 2003)		5	mg/m3	(NTP, 1992)	Miscible				NIC	Poison	C10H14N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3951	(MONO)-(TRICHLORO)-TETRA-(MONOPOTASSIUM DICHLORO)-PENTA-S-TRIAZINETRIONE, DRY																																								Oxidizer	ClHO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3952	1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE	CDEC|1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE|1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE HCL|DOWCO 184|DOWICIDE 184|DOWICIDE Q|DOWICIL 100|DOWICIL 75|N-(3-CHLOROALLYL)HEXAMINIUM CHLORIDE|N-(3-CHLOROALLYL)METHENAMINE|QUATERNIUM 15|1,3,5,7-TETRAAZATRICYCLO[3.3.1.13,7]DECANE, 3,5,7-TRIAZA-1-AZONIATRICYCLO[3.3.1.13,7]DECANE DERIV.|3,5,7-TRIAZA-1-AZONIAADAMANTANE, 1-(3-CHLOROALLYL)-, CHLORIDE	4080-31-3	PHYSICAL DESCRIPTION: Cream-colored powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1807.0	190.0	613.0	338.0	184.0	EYES: Flush with copious amounts of water. SKIN: Wash with soap and copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes under fire condition. (USCG, 1999)	Fire Extinguishing Agents: Water sprays, dry chemical powder, alcohol or polymer foam. (USCG, 1999)
3953	1,1,1,2-TETRACHLORO-2-FLUOROETHANE	HCFC-121A|1,1,1,2-TETRACHLORO-2-FLUOROETHANE	354-11-0		5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1807.0	190.0	613.0	338.0	184.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
3954	1,1,1,2-TETRACHLOROETHANE	ASYM-TETRACHLOROETHANE|(CHLOROMETHYL)TRICHLOROMETHANE|ETHANE, 1,1,1,2-TETRACHLORO-|F 130A|HCC 130A|NCI-C52459|TCA|1,1,1,2-TETRACHLOROETHANE	630-20-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1807.0	191.0	614.0	339.0	185.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3955	1,1,2,3-TETRACHLOROBUTADIENE	1,3-BUTADIENE, 1,1,2,3-TETRACHLORO-|1,1,2,3-TETRACHLORO-1,3-BUTADIENE|1,1,2,3-TETRACHLOROBUTADIENE	921-09-5	Colorless liquid. Water insoluble.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1808.0	191.0	614.0	339.0	185.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3956	1,1-DICHLORO-1,2,3,3,3-PENTAFLUOROPROPANE	1,1-DICHLORO-1,2,3,3,3-PENTAFLUOROPROPANE|HCFC-225EB	127564-92-5	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1808.0	191.0	614.0	339.0	185.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3952	1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Self-contained breathing apparatus, rubber boots, and heavy rubber gloves. (USCG, 1999)	Soluble in water.	2,2-DIMETHYLPROPANE-1,3-DIOL may generate toxic gases in combination of with alkali metals, nitrides, and strong reducing agents. Reacts with inorganic acids and carboxylic acids to form esters plus water. Converted to aldehydes or acids by oxidizing agents. May initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1.00	1.00	0.00	1		(USCG, 1999)		225		(USCG, 1999)	at 300.2Â° F	1.37		%	(USCG, 1999)	at 350.6Â° F	18.8		%	(USCG, 1999)		730		(USCG, 1999)		260.6	
3953	1,1,1,2-TETRACHLORO-2-FLUOROETHANE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]					3.00	1.00	1.00	2																					
3954	1,1,1,2-TETRACHLOROETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Stable in dry air. Tarnishes in moist air. Insoluble in water.	GALLIUM ARSENIDE can react with steam, acids and acid fumes. Reacts with bases with evolution of hydrogen. Attacked by cold concentrated hydrochloric acid. Readily attacked by the halogens. The molten form attacks quartz. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	1.00	1.00	2	No Water																	(NTP, 1992)		2260	
3955	1,1,2,3-TETRACHLOROBUTADIENE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	GAMMA-VALEROLACTONE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is incompatible with strong oxidizers. (NTP, 1992). This chemical is incompatible with strong oxidizing agents. It is also incompatible with strong acids, strong bases and strong reducing agents. (NTP, 1992).		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			2.00	3.00	2.00	5		(NTP, 1992)		178													(NTP, 1992)		-24	
3956	1,1-DICHLORO-1,2,3,3,3-PENTAFLUOROPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Hygroscopic.	GENTAMYCIN SULFATE is very stable in solution, even in moderately acidic to strongly basic aqueous media. (NTP, 1992)					3.00	1.00	1.00	2																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3952	1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE																				(USCG, 1999)		406.4		760		(USCG, 1999)		104.15											DDI	Poison	C5H12O2	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3953	1,1,1,2-TETRACHLORO-2-FLUOROETHANE																											(NTP, 1992)		351.46						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C22H25NO3	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
3954	1,1,1,2-TETRACHLOROETHANE														(NTP, 1992)		5.31		77								(NTP, 1992)		144.64						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	AsGa		0.0	0.0	0.0	0.0	0.0
3955	1,1,2,3-TETRACHLOROBUTADIENE	(NTP, 1992)	; 3.5 mm Hg at 124Â° F; 11.5 mm Hg at 163Â° F	0.5		84		mm Hg	(NTP, 1992)		3.45				(NTP, 1992)		1.057		68		(NTP, 1992)			405 to 406	760		(NTP, 1992)		100.12						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C5H8O2		0.0	0.0	0.0	0.0	0.0
3956	1,1-DICHLORO-1,2,3,3,3-PENTAFLUOROPROPANE																											(NTP, 1992)								(NTP, 1992)	Soluble						C41H86N10O18S		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3957	1,1-DICHLORO-1-NITROETHANE	1,1-DICHLORO-1-NITROETHANE|DICHLORONITROETHANE|ETHANE, 1,1-DICHLORO-1-NITRO-|ETHIDE	594-72-9	A colorless liquid. Strongly irritates skin and eyes. Toxic by ingestion and inhalation. Flash point 165Â°F. Denser than water and slightly soluble in water. Used as a solvent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1809.0	191.0	615.0	339.0	185.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3958	1,1-DICHLOROPROPANE	1,1-DICHLOROPROPANE|PROPANE,1,1-DICHLORO-|PROPYLIDENE CHLORIDE	78-99-9	Colorless watery liquid with a sweet odor. Sinks in water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1809.0	191.0	615.0	339.0	185.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: Flammable; may be ignited by heat, sparks or flames. May form explosive mixtures with air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3959	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE) METHACRYLIMIDE	ASHLAND 10303|1,1-DIMETHYL-1-(2-HYDROXYPROPYL)AMINE METHACRYLIMIDE|1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)METHACRYLIMIDE|HYDRAZINIUM, 1-(2-HYDROXYPROPYL)-1,1-DIMETHYL-2-(2-METHYL-1-OXO-2-PROPENYL)-, HYDROXIDE, INNER SALT|HYDRAZINIUM, 1-(2-HYDROXYPROPYL)-2-METHACRYLOYL-1,1-DIMETHYL-, HYDROXIDE, INNER SALT|YPH 103	17341-40-1	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1810.0	191.0	615.0	339.0	186.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3960	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)TETRADECANIMIDE	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)TETRADECANIMIDE|HYDROZINIUM-1-(2-HYDROXYPROPYL)-1,1-DIMETHYL-2-(1-OXOTETRADECYL)HYDROXIDE, INNER SALT	38848-76-9	PHYSICAL DESCRIPTION: Crystalline solid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1810.0	191.0	615.0	339.0	186.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3961	1,2,3,4,6,7,9-HEPTACHLORODIBENZO-P-DIOXIN	1,2,3,4,6,7,9-HCDD|1,2,3,4,6,7,9-HEPTACHLORODIBENZO(B,E)(1,4)DIOXIN|1,2,3,4,6,7,9-HEPTACHLORODIBENZO-P-DIOXIN|1,2,3,4,6,7,9-HEPTACHLORODIBENZO-PARA-DIOXIN|1,2,3,4,6,7,9-HEPTACHLORODIBENZODIOXIN|1,2,3,4,6,7,9-HEPTACHLORODIBENZO(1,4)DIOXIN	58200-70-7	PHYSICAL DESCRIPTION: White solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1810.0	191.0	615.0	339.0	186.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3957	1,1-DICHLORO-1-NITROETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for geraniol, CAS number 106-24-1	2.00	1.00	0.00	1		(NFPA, 2010)			greater than 212																		
3958	1,1-DICHLOROPROPANE	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. FOR CHLOROSILANES, use AFFF alcohol-resistant medium expansion foam to reduce vapors. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Pyrophoric, the germanium hydrides are spontaneously flammable in air [Merck 1989]. Germanium has an exothermic reaction when dropped in water accompanied by crackling [Bretherick's 5th edition].	Hydrides, such as GERMANE, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 119 [Gases - Toxic - Flammable]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2192 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1.00	3.00	0.00	3	No Water																	(NIOSH, 2003)		-267	
3959	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE) METHACRYLIMIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CHLORINATED DIPHENYL OXIDE is incompatible with strong oxidizing agents and with bases. Reacts with aluminum.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			x	x	x	0																						
3960	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)TETRADECANIMIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	CHLORINATED TRISODIUM PHOSPHATE corrodes aluminum and zinc [Handling Chemicals Safely 1980 p. 947]. Reacts when heated above about 84Å° C with aqueous solutions of reducing sugars other than sucrose, to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].					x	x	x	0																				
3961	1,2,3,4,6,7,9-HEPTACHLORODIBENZO-P-DIOXIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,3,4,5-TETRACHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	1.00	1.00	2																					(NTP, 1992)		241	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3957	1,1-DICHLORO-1-NITROETHANE																																								Combustible Liquid	C10H18O (geraniol);C10H18O (nerol)	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
3958	1,1-DICHLOROPROPANE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-127		760		(NIOSH, 2003)		76.6						(NIOSH, 2003)	Insoluble					Poison Gas|Flammable Gas	GeH4		0.0	0.0	0.0	0.0	0.0
3959	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE) METHACRYLIMIDE																														(NIOSH, 2003)		5	mg/m3							Class 9	C12H10-nClnO		0.0	0.0	0.0	0.0	0.0
3960	1,1-DIMETHYL-1-(2-HYDROXYPROPYLAMINE)TETRADECANIMIDE																										(NTP, 1992)		238.38						(NTP, 1992)	at 57Â° F		greater than or equal to 100	mg/mL			ClO.Na.O4P	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3961	1,2,3,4,6,7,9-HEPTACHLORODIBENZO-P-DIOXIN															(NTP, 1992)		1.6		140		(NTP, 1992)	Sublimes				(NTP, 1992)		231.89						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C6H2Cl4O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3962	1,2,3,4,7,7-HEXACHLOROBICYCLO[2.2.1]HEPTA-2,5-DIENE	BICYCLO[2.2.1]HEPTA-2,5-DIENE,1,2,3,4,7,7-HEXACHLORO-|C 601|1,2,3,4,7,7-HEXACHLORO-2,5-NORBORNADIENE|1,2,3,4,7,7-HEXACHLOROBICYCLO[2.2.1]HEPTA-2,5-DIENE|1,2,3,4,7,7-HEXACHLORONORBORNADIENE|2,5-NORBORNADIENE, 1,2,3,4,7,7-HEXACHLORO-	3389-71-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1811.0	191.0	615.0	341.0	186.0	(BLOB)	Vapors form explosive mixtures in air or in sewers. Hazardous peroxides and acids emitted when heated to decomposition. Avoid nitric acid. Unstable, avoid oxygen, heat, elevated pressures. Hazardous polymerization may occur. Avoid contact with alkaline materials such as caustic ammonia or amines, or at elevated temperatures. (EPA, 1998)	All exposed skin surfaces should be covered. Wear protective clothing including self-contained breathing apparatus, coat, pants, gloves, boots, and bands around arms, wrists, legs, and waist. Massive or advanced fires should be fought from a safe distance or protected location. Isolate area for one-half mile in all directions if tank car or truck involved in fire. Use dry chemical, foam, or carbon dioxide; water may be ineffective but should be used to keep fire-exposed containers cool. If leak or spill has not ignited, use water spray to disperse vapors. Water spray may be used to flush spills away from exposures. (EPA, 1998)
3963	1,2,3,4-TETRACHLORONAPHTHALENE	1,2,3,4-TETRACHLORO-1,2,3,4 TETRAHYDRONAPHTHALEN E|1,2,3,4-TETRACHLORONAPHTHALENE|1,2,3,4-TETRACHLORONAPTHALENE	20020-02-4	PHYSICAL DESCRIPTION: Light-brown crystalline solid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1811.0	191.0	615.0	341.0	186.0	(BLOB)	May ignite other combustible materials (wood, paper, oil, etc.). Mixture with fuels may cause explosion. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors or in sewers. Hydrogen and chlorine mixtures (5-95%) are exploded by almost any form of energy (heat, sunlight, sparks, etc.). May combine with water or steam to produce toxic and corrosive fumes of hydrochloric acid. Emits highly toxic fumes when heated. Avoid plastics and rubber. Avoid heat and contact with hydrogen gas or powdered metals. (EPA, 1998)	Evacuate area endangered by gas. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and full protective clothing. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. If it is necessary to stop the flow of gas, use water spray to direct escaping gas away from those effecting shut-off. Will not burn, but most combustible materials will burn in chlorine as they do in oxygen; flammable gases will form explosive mixtures with chlorine. Dry chemical, carbon dioxide, water spray, fog or foam. (EPA, 1998)
3964	1,2-DIBROMOBUTAN-3-ONE	3,4-DIBROMO-2-BUTANONE|1,2-DIBROMOBUTAN-3-ONE|DIBROMOBUTANONE	25109-57-3	A colorless liquid. Less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1812.0	191.0	615.0	341.0	186.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3965	1,2-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE	1,2-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE|HCFC-225BB	422-44-6	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1812.0	191.0	615.0	341.0	186.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3966	1,2-DIMETHYLHYDRAZINE	DIMETHYLHYDRAZINE, SYMMETRICAL|1,2-DIMETHYLHYDRAZINE|DMH|HYDRAZINE, 1,2-DIMETHYL-|HYDRAZOMETHANE|N,N'-DIMETHYLHYDRAZINE|SDMH|SYM-DIMETHYLHYDRAZINE	540-73-8	A colorless liquid with an ammonia-like odor. Less dense than water. Contact irritate skin, eyes, and mucous membranes. Very toxic by ingestion, inhalation and skin absorption. Used to make photographic chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1813.0	191.0	615.0	341.0	186.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3962	1,2,3,4,7,7-HEXACHLOROBICYCLO(2.2.1]HEPTA-2,5-DIENE	Remove all ignition sources and ventilate area of spill. No flares, smoking, or flames in hazard area. Do not touch spilled material; stop leak if you can do so without risk. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable.	(E)-CROTONALDEHYDE is an aldehyde. It can react violently with strong oxidizing reagents, e.g., reaction with conc. nitric acid leads to instantaneous ignition [Andrussow, L., Chim. Ind. (Paris), 1961, 86, p. 542]. In contact with strong acids or bases it will undergo an exothermic condensation reaction. Reaction with 1,3-butadiene is particularly violent [Greenlee, K. W., Chem. Eng. News, 1948, 26, p. 1985]. Crotonaldehyde may rapidly polymerize with ethyl acetoacetate (Soriano, D.S. et al. 1988. Journal of Chemical Education 65:637.).	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1143 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for crotonaldehyde, CAS number 4170-30-3.	4.00	3.00	2.00	5		(EPA, 1998)		55.4		(EPA, 1998)		2.1		%	(EPA, 1998)		15.5		%					(EPA, 1998)		-101	
3963	1,2,3,4-TETRACHLORONAPHTHALENE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Water dissolves about twice its volume of chlorine gas, forming a mixture of hydrochloric acid and hypochlorous acids. Will be corrosive due to acidity and oxidizing potential.	(BLOB)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Tables 1 and 3 - Initial Isolation and Protective Action Distances on the UN/NA 1017 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4.00	0.00	0.00	0	Oxidizer															(USCG, 1999)	Not flammable			(EPA, 1998)		-150	
3964	1,2-DIBROMOBUTAN-3-ONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	GLYOXAL TRIMERIC DIHYDRATE can react with both oxidizing agents and reducing agents (such as aluminum or lithium aluminum hydride). May be incompatible with strong acids and with strong bases. May form peroxides on exposure to air and light. May attack some plastics, rubber and coatings (NTP, 1992). When ethylene glycol dimethyl ether, a glycol ether, was poured into a funnel previously used to transfer lithium aluminum hydride, a fire ignited the funnel [MCA Case History 1182, 1966].				1.00	0.00	3.00	3																								
3965	1,2-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly water soluble.	GLYPHOSATE may react with galvanized steel or unlined steel (except stainless steel) containers to produce hydrogen gas which may form a highly combustible or explosive gas mixture. It can react with caustic (basic) materials to liberate heat. It is corrosive to iron. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			1.00	0.00	0.00	0																						(NTP, 1992)	(decomposes)	446	
3966	1,2-DIMETHYLHYDRAZINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			4.00	3.00	1.00	4																						(NTP, 1992)		415	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3962	1,2,3,4,7,7-HEXACHLOROBICYCLO[2.2.1]HEPTA-2,5-DIENE	(EPA, 1998)		19		68		mm Hg	(EPA, 1998)		2.41				(EPA, 1998)		0.853		68		(EPA, 1998)		219.2		760		(EPA, 1998)		70.1												Poison Inhalation Hazard|Flammable Liquid	C4H6O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
3963	1,2,3,4-TETRACHLORONAPHTHALENE	(EPA, 1998)		7600		86		mm Hg	(EPA, 1998)		2.49				(USCG, 1999)		1.424		59		(EPA, 1998)		-30.3		760		(EPA, 1998)		70.91		(NIOSH, 2003)		10	ppm	(NIOSH, 2003)		0.7		%	CLX	Poison Gas|Oxidizer|Corrosive	Cl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
3964	1,2-DIBROMOBUTAN-3-ONE																										(NTP, 1992)		210.14						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C6H10O8	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3965	1,2-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE	(NTP, 1992)		1.94E-07		113		mm Hg							(NTP, 1992)		1.74										(NTP, 1992)		169.09						(NTP, 1992)	at 64Â° F		5 to 10	mg/mL		Class 9	C3H8NO5P	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3966	1,2-DIMETHYLHYDRAZINE																										(NTP, 1992)		270.09						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Oxidizer	C7H5Cl2NO4S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3967	1,2-EPOXY-3,3,3-TRICHLOROPROPANE	1,2-EPOXY-3,3,3-TRICHLOROPROPANE|OXIRANE,(TRICHLOROMETHYL)-|PROPANE, 1,1,1-TRICHLORO-2,3-EPOXY-|PROPANE,1,1,1-TRICHLORO-2-3-EPOXY-|PROPANE,1,2-EPOXY,3,3,3-TRICHLORO|TCPO|3,3,3-TRICHLORO-1,2-EPOXYPROPANE|1,1,1-TRICHLORO-2,3-EPOXYPROPANE|1,1,1-TRICHLORO-2-PROPENE OXIDE|3,3,3-TRICHLOROEPOXYPROPANE|(TRICHLOROMETHYL)OXIRANE|2-(TRICHLOROMETHYL)OXIRANE|1,1,1-TRICHLOROPROPANE 2,3-EPOXIDE|1,1,1-TRICHLOROPROPANE 2,3-OXIDE|TRICHLOROPROPANE OXIDE|1,1,1-TRICHLOROPROPENE 2,3-OXIDE|TRICHLOROPROPENE OXIDE|1,1,1-TRICHLOROPROPENE OXIDE|3,3,3-	3083-23-6	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1813.0	191.0	615.0	341.0	186.0			
3968	1,3,5-TRINITRONAPHTHALENE	1,3,5-TRINITRONAPHTHALENE	2243-94-9	May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1814.0	191.0	615.0	341.0	186.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3969	1,3-BIS((2-BENZOTHIAZOYLMERCAPTOMETHYL)UREA)	1,3-BIS((2-BENZOTHIAZOYLMERCAPTOMETHYL)UREA)|1,3-BIS(2-BENZOTHIAZOLYLMERCAPTOMETHYL)UREA)|1,3-BIS(2-BENZOTHIAZOLYLTHIO)METHYL)UREA|N,N'-BIS(2-BENZOTHIAZOLYLMERCAPTOMETHYL)UREA	64216-20-2	PHYSICAL DESCRIPTION: Buff to light tan or light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1815.0	191.0	615.0	341.0	186.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
3970	1,3-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE	1,3-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE|HCFC-225EA	136013-79-1	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1815.0	191.0	616.0	341.0	186.0	Excerpt from GUIDE 121 [Gases - Inert]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Non-flammable gases. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Use extinguishing agent suitable for type of surrounding fire. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3971	1,3-DINITRONAPHTHALENE	1,3-DINITRONAPHTHALENE|NAPHTHALENE, 1,3-DINITRO-	606-37-1	PHYSICAL DESCRIPTION: Beige powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1815.0	191.0	616.0	341.0	186.0	(BLOB)	This compound is considered to be combustible. (NTP, 1992)	Extinguish all fires involving this chemical with a dry chemical, carbon dioxide, water spray, foam, or halon extinguisher. (NTP, 1992)
3972	1,4-BIS(METHYLISOCYANATE) CYCLOHEXANE	1,4-BIS(METHYLISOCYANATE)CYCLOHEXANE	10347-54-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1815.0	191.0	616.0	341.0	186.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3967	1,2-EPOXY-3,3,3-TRICHLOROPROPANE			May be highly flammable.	Ethers tend to form unstable peroxides when exposed to oxygen. Ethyl, isobutyl, ethyl tert-butyl, and ethyl tert-pentyl ether are particularly hazardous in this respect. Ether peroxides can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Ethers can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.					2.00	2.00	0.00	2																						
3968	1,3,5-TRINITRONAPHTHALENE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	The solid may vigorously react with water releasing chlorine gas. Material containing less than 39% available chlorine will undergo reactions as described herein, but may take longer to initiate, and the resulting reaction may not be as vigorous. Soluble in water.	Contact with ammonium compounds or hydrated salts can cause a very vigorous reaction. Prolonged exposure to heat /fire may result in the vigorous decomposition of the material with the rupture of its containers, it will accelerate the burning of combustible materials. In aqueous solution would yield hypochlorous acid which in turn would give chlorine gas. Chlorine plus alcohols would yield alkyl hypochlorites. They decompose in the cold and explode on exposure to sunlight or heat. Tertiary hypochlorites are less unstable than secondary or primary hypochlorites [NFPA 491 M. 1991].	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3.00	0.00	2.00	2	No Water; Oxidizer																						
3969	1,3-BIS((2-BENZOTHIAZOYLMERCAPTOMETHYL)UREA)	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	2,3-DIBROMO-1-PROPANOL is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			x	x	x	0		(NTP, 1992)			greater than 235																		
3970	1,3-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE	Excerpt from GUIDE 121 [Gases - Inert]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 121 [Gases - Inert]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Pure oxygen is a potent oxidizer. The rare gas, He, is inert, so much of the reactivity of this mixture is connected to the % content of each component. The higher the % content rare gas the less reactive in terms of it being an oxidizing agent.		Excerpt from GUIDE 121 [Gases - Inert]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for oxygen, CAS number 7782-44-7.	2.00	0.00	0.00	0	Oxidizer																						
3971	1,3-DINITRONAPHTHALENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	A halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		139																		
3972	1,4-BIS(METHYLISOCYANATE) CYCLOHEXANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust may form an explosive mixture in air. Water soluble.	1-(3-CHLOROALLYL)-3,5,7-TRIAZA-1-AZONIAADAMANTANE CHLORIDE is basic. May react with strong reducing agents to give flammable gases. Possible vigorous combination with strong oxidizing agents.		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3967	1,2-EPOXY-3,3,3-TRICHLOROPROPANE																																											0.0	0.0	0.0	0.0	0.0
3968	1,3,5-TRINITRONAPHTHALENE																																									Oxidizer		Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
3969	1,3-BIS((2-BENZOTHIAZOYLMERCAPTOMETHYL)UREA)	(NTP, 1992)	; 5 mm Hg at 184.1Â° F; 10 mm Hg at 208.8Â° F	1		134.6		mm Hg							(NTP, 1992)		2.12		68		(NTP, 1992)		426		760		(NTP, 1992)		217.91						(NTP, 1992)	at 68Â° F		50 to 100	mg/mL		Poison	C3H6Br2O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3970	1,3-DICHLORO-1,1,2,3,3-PENTAFLUOROPROPANE																																								Non-Flammable Gas	He\O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3971	1,3-DINITRONAPHTHALENE																											(NTP, 1992)		285.96						(NTP, 1992)	Insoluble (<1 mg/ml)					Flammable Liquid	C7H10Br2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
3972	1,4-BIS(METHYLISOCYANATE) CYCLOHEXANE																											(NTP, 1992)		251.19						(NTP, 1992)	at 72Â° F		greater than 100	mg/mL		Flammable Solid	C9H16ClN4.Cl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3973	1,4-BUTENEDIOL	2-BUTENE-1, 4-DIOL|1,4-BUTENEDIOL|CIS-2-BUTENE-1, 4-DIOL|1,4-DIHYDROXY-2-BUTENE	29733-86-6	Odorless light yellow thick liquid. Sinks and mixes with water. Freezing point is 45Â°F. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1815.0	191.0	616.0	341.0	186.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
3974	1,4-CYCLOHEXANE DIISOCYANATE	1,4-CYCLOHEXANE DIISOCYANATE	2556-36-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1816.0	191.0	616.0	343.0	186.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3975	1,4-NAPHTHALENEDIAMINE	1,4-DIAMINONAPHTHALENE|1,4-NAPHTHALENEDIAMINE|1,4-NAPHTHYLENEDIAMINE|NCI-C03769	2243-61-0	PHYSICAL DESCRIPTION: Dark green to black crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1816.0	191.0	616.0	343.0	186.0			
3976	1,8,9-TRIHYDROXYANTHRACENE	1,8,9-ANTHRACENETRIOL|1,8,9-ANTHRATRIOL|1,8-DIHYDROXY-9-ANTHRANOL|1,8-DIHYDROXYANTHRANOL|1,8,9-TRIHYDROXYANTHRACENE	480-22-8	PHYSICAL DESCRIPTION: Odorless yellow leaflets or needles; yellow powder. Tasteless. Filtrate from water suspension is neutral to litmus. When exposed to air, alkaline solutions turn red and lose their fluorescence. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1816.0	191.0	616.0	343.0	186.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3977	1-[(4-NITROPHENYL)AZO]-2-NAPHTHENAMINE	C.I. 11385|C.I. SOLVENT RED 5|2-NAPHTHALENAMINE, 1-[(4-NITROPHENYL)AZO]-|2-NAPHTHYLAMINE, 1-[(P-NITROPHENYL)AZO]-|NITRA RED WO|1-[(4-NITROPHENYL)AZO]-2-NAPHTHENoAMINE|1-(4-NITROPHENYLAZO)-2-NAPHTHYLAMINE|SOLVENT RED 5	3025-77-2	PHYSICAL DESCRIPTION: Dull reddish blue to reddish violet solid or dark maroon powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1817.0	191.0	617.0	343.0	186.0	(BLOB)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3978	1-ACETYL-2-PICOLINOYLHYDRAZINE	1-ACETYL-2-PICOLINOL|HYDRAZINE|1-ACETYL-2-PICOLINOYL HYDRAZINE|1-ACETYL-2-PICOLINOYLHYDRAZINE|AZAPICYLIN|HYDRAZINE, 1-ACETYL-2-PICOLINOYL-|NCI-CO4739|NSC 68626|NSC-68626|P-2292	17433-31-7	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1818.0	191.0	618.0	343.0	186.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3973	1,4-BUTENEDIOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Halogenated aliphatic compounds, such as HEXABROMOCYCLODODECANE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This compound can react vigorously with oxidizing materials. (NTP, 1992)					0																									
3974	1,4-CYCLOHEXANE DIISOCYANATE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	1,1,1,2-tetrachloro-2,2-Difluoroethane is non-flammable. Incompatible with active metals such as potassium, sodium, beryllium, powdered aluminum, zinc, magnesium, and calcium. Reacts with acids.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NIOSH, 2003)		105	
3975	1,4-NAPHTHALENEDIAMINE			No rapid reaction with air. No rapid reaction with water.									0																								
3976	1,8,9-TRIHYDROXYANTHRACENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	2',3'-DIDEOXYADENOSINE may be sensitive to prolonged exposure to light. [[Details on specifics of reactivity not yet available.]]					0																							(NTP, 1992)		358 to 363	
3977	1-[(4-NITROPHENYL)AZO]-2-NAPHTHENAMINE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water and denser than water. Hence, sinks in water. Reacts with water and steam to produce toxic vapors of hydrogen chloride.	CHLOROACETONITRILE reacts with water, steam, strong acids or acid fumes to produce toxic vapors of hydrogen chloride. When heated to decomposition, it emits highly toxic fumes of hydrogen cyanide and hydrogen chloride [Sax, 2nd ed., 1963, p. 600].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2668 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		118																		
3978	1-ACETYL-2-PICOLINOYLHYDRAZINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as 2,3-DIMETHYLBUTANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. This compound is incompatible with oxidizing materials. It is also incompatible with oxygen. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		-20		(NTP, 1992)		1.2		%	(NTP, 1992)		7		%	(NTP, 1992)		788		(NTP, 1992)		-199.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3973	1,4-BUTENEDIOL																									(NTP, 1992)		641.7						(NTP, 1992)	Insoluble						C12H18Br6		0.0	0.0	0.0	0.0	0.0
3974	1,4-CYCLOHEXANE DIISOCYANATE	(NIOSH, 2003)		40				mm Hg							(NIOSH, 2003)		1.65				(NIOSH, 2003)		197		760		(NIOSH, 2003)		203.8		(NIOSH, 2003)		2000	ppm	(NIOSH, 2003)		0.01		%		Non-Flammable Gas	CCl3CClF2		0.0	0.0	0.0	0.0	0.0
3975	1,4-NAPHTHALENEDIAMINE																																												0.0	0.0	0.0	0.0	0.0
3976	1,8,9-TRIHYDROXYANTHRACENE																									(NTP, 1992)		235.28								(NTP, 1992)	at 68Â° F		10 to 50	mg/mL			C10H13N5O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3977	1-[(4-NITROPHENYL)AZO]-2-NAPHTHENAMINE														(NTP, 1992)			1.2020 to 1.2035	77		(NTP, 1992)			259 to 261	760		(NTP, 1992)		75.5						(NTP, 1992)	at 70.7Â° F		50 to 100	mg/mL		Poison Inhalation Hazard	Flammable Liquid	ClCH2CN		0.0	0.0	0.0	0.0	0.0
3978	1-ACETYL-2-PICOLINOYLHYDRAZINE	(NTP, 1992)	; 400 mm Hg at 102Â° F	200		70		mm Hg	(NTP, 1992)		3				(NTP, 1992)		0.6616		68		(NTP, 1992)		136.4		760		(NTP, 1992)		86.18						(NTP, 1992)	at 74.3Â° F		less than 1	mg/mL		Flammable Liquid	C6H14		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3979	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE	1-CHLORO-1,1,2,2-TETRAFLUOROETHANE|1-CHLORO-1,2,2,2-TETRAFLUOROETHANE|CHLOROTETRAFLUOROETHANE|F-124|HALON 241|MONOCHLOROTETRAFLUOROETHANE|R-124|REFRIGERANT GAS R-124|TETRAFLUOROCHLOROETHANE|TETRAFLUOROMONOCHLOROETHANE	63938-10-3	1-Chloro-1,2,2,2,-tetrafluoroethane is a colorless odorless gas. It is shipped as a liquefied gas under its own vapor pressure. It can asphyxiate by the displacement of air. Contact with the liquid can cause frostbite. Exposure of the container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1819.0	191.0	619.0	343.0	186.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
3980	1-METHYLPHENANTHRENE	1-METHYLPHENANTHRENE|PHENANTHRENE, 1-METHYL-	832-69-9	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1820.0	192.0	619.0	345.0	187.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3981	1-PENTOL	9-OCTADECENOIC ACID (Z)-, ESTER WITH 2,2-BIS(HYDROXYMETHYL)-1,3-PROPANEDIOL|PENTAERYTHRITOL OLEATE|PENTOL|PENTOL (EMULSIFIER)|1-PENTOL	12772-47-3	A colorless liquid. Less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1820.0	192.0	619.0	345.0	187.0			
3982	1-PHENYL-1-XYLYL ETHANE	HATCOL XPE|PHENYL XYLYL ETHANE|1-PHENYL-1-XYLYL ETHANE	40766-31-2		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1820.0	192.0	620.0	345.0	187.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3983	1-PHENYL-3,3-DIMETHYLTRIAZENE	3,3-DIMETHYL-1-PHENYLTRIAZENE|3,3-DIMETHYL-1-PHENYLTRIAZINE|DMPT|1-FENYL-3,3-DIMETHYLTRIAZIN|PDMT|PDT|1-PHENYL-3,3-DIMETHYLTRIAZENE|TRIAZENE, 3,3-DIMETHYL-1-PHENYL-	7227-91-0	PHYSICAL DESCRIPTION: Clear amber liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1820.0	192.0	620.0	345.0	187.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
3984	2-((BENZOYLOXY)METHYL)-2-METHYLDIBENZOATE-1,3-PROPANEDIOL	2-((BENZOYLOXY)METHYL)-2-METHYLDIBENZOATE-1,3-PROPANEDIOL|1,3-PROPANEDIOL, 2-(HYDROXYMETHYL)-2-METHYL-, TRIBENZOATE|1,3-PROPANEDIOL,2-(HYDROXYMETHYL)-2-METHYL,TRIBENZOATE|TRIMETHYLOLETHANE TRIBENZOATE|TRIMETHYLOLETHYL TRIBENZOATE	4196-87-6	PHYSICAL DESCRIPTION: Cream colored powder with yellow chunks. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1820.0	193.0	620.0	345.0	188.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3979	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Saturated aliphatic hydrocarbons, such as UNDECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		300														(NTP, 1992)		-14.1	
3980	1-METHYLPHENANTHRENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures and away from all mineral acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLOROBENZILATE is hydrolyzed by alkalis and strong acids. Incompatible with lime (NTP, 1992).						0																(NTP, 1992)		95 to 99	
3981	1-PENTOL			Water soluble. Rapidly decomposed in solution by strong acids and bases.	A triazine.							0																								
3982	1-PHENYL-1-XYLYL ETHANE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	1,1,1,2-TETRAFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
3983	1-PHENYL-3,3-DIMETHYLTRIAZENE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
3984	2-((BENZOYLOXY)METHYL)-2-METHYLDIBENZOATE-1,3-PROPANEDIOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	2,4,5-TRICHLOROPHENOL is a weak monobasic acid. Incompatible with acid chlorides, acid anhydrides and oxidizing agents. Produces dioxin in alkaline medium at high temperatures (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		154	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3979	1-CHLORO-1,2,2,2-TETRAFLUOROETHANE								(NTP, 1992)		5.4				(NTP, 1992)		0.74017		68		(NTP, 1992)		384.6		760		(NTP, 1992)		156.32												Flammable Liquid	C11H24		0.0	0.0	0.0	0.0	0.0
3980	1-METHYLPHENANTHRENE	(NTP, 1992)		2.20E-06		68		mm Hg							(NTP, 1992)		1.2816		68		(NTP, 1992)			313 to 316	0.07		(NTP, 1992)		325.2						(NTP, 1992)		less than 0.1	mg/mL				C16H14Cl2O3	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3981	1-PENTOL																																										C12H20N4O2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
3982	1-PHENYL-1-XYLYL ETHANE																																									Non-Flammable Gas	C2H2F4		0.0	0.0	0.0	0.0	0.0
3983	1-PHENYL-3,3-DIMETHYLTRIAZENE																																									Explosive 1.1D	C7H5N3O6 (TNT)|C3H6N6O6 (RDX)|Al (aluminum)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3984	2-((BENZOYLOXY)METHYL)-2-METHYLDIBENZOATE-1,3-PROPANEDIOL	(NTP, 1992)	: 5 mm Hg at 215.8Â° F	1		162		mm Hg	(NTP, 1992)		greater than 1				(NTP, 1992)		1.678		77		(NTP, 1992)		487		760		(NTP, 1992)		197.46						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C6H3Cl3O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3985	2-(2,4-DINITROANILINO)PHENOL	2-(2,4-DINITROANILINO)PHENOL|2-[(2,4-DINITROPHENYL)AMINO]PHENOL|2'-HYDROXY-2,4-DINITRODIPHENYLAMINE|PHENOL, O-(2,4-DINITROANILINO)-	6358-23-2	PHYSICAL DESCRIPTION: Orange crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1821.0	193.0	620.0	345.0	188.0	(BLOB)	Special Hazards of Combustion Products: Toxic hydrogen chloride and phosgene gases may be formed. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
3986	2-(2-BUTOXYETHOXY)ETHYL THIOCYANATE	BETA-BUTOXY-BETA'-THIOCYANODIETHYL ETHER|2-(2-(BUTOXY)ETHOXY)ETHYL THIOCYANIC ACID ESTER|2-BUTOXY-2'-THIOCYANODIETHYL ETHER|1-BUTOXY-2-(2-THIOCYANOETHOXY)ETHANE|2-BUTOXY-ALPHA-(2-THIOCYANOETHOXY)ETHANE|2-(2-BUTOXYETHOXY)ETHANOL THIOCYANATE|2-(2-BUTOXYETHOXY)ETHYL ESTER THIOCYANIC ACID|2-(2-BUTOXYETHOXY)ETHYL THIOCYANATE|BUTOXYRHODANODIETHYL ETHER|BUTYL CARBITOL RHODANATE|BUTYL CARBITOL THIOCYANATE|3,6-DIOXADECYL THIOCYANATE|ENT 6|LETHANE|LETHANE 384|LETHANE 384 REGULAR	112-56-1	PHYSICAL DESCRIPTION: Brownish oil or clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1821.0	193.0	621.0	345.0	189.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3987	2-(P-PENTYLPHENYL)-5-(P-PENTYLOXYPHENYL)PYRIMIDINE	2-(P-PENTYLPHENYL)-5-(P-PENTYLOXYPHENYL)PYRIMIDINE|5-(4-(PENTYLOXY)PHENYL)-2-(4-PENTYLPHENYL)PYRIMIDINE	34913-07-0		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1822.0	194.0	622.0	347.0	190.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3988	2,2-DICHLORO-1,1,1,3,3-PENTAFLUOROPROPANE	2,2-DICHLORO-1,1,1,3,3-PENTAFLUOROPROPANE|HCFC-225AA	128903-21-9	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1822.0	195.0	622.0	347.0	191.0	(BLOB)	It is a flammable/combustible material and may be ignited by heat, sparks, or flames. Vapor may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire or explosion hazard. Vapors form explosive mixtures with air. May continue to burn in the absence of air. Decomposition gives off toxic nitrogen compound fumes. Can catch fire when in contact with porous materials such as wood, asbestos, cloth, earth, and rusty metals. Incompatible with oxidizers, hydrogen peroxide, nitric acid, metal oxides, and strong acids. Hazardous polymerization may not occur. (EPA, 1998)	Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and protective clothing. Isolate for one-half mile in all directions if tank car or truck is involved in fire. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter material. Spray cooling water on containers that are exposed to flames until well after fire is out. Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
3989	2,2'-DICHLOROBIPHENYL	BIPHENYL, 2,2'-DICHLORO-|2,2'-DBCP|2,2'-DCBP|2,2'-DICHLORO-1,1'-BIPHENYL|2,2'-DICHLOROBIPHENYL|2,2'-DICHLORODIPHENYL|O,O'-DICHLOROBIPHENYL|PCB 4	13029-08-8	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1822.0	195.0	622.0	347.0	191.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3990	2,2-DIHYDROPEROXYPROPANE	2,2-DIHYDROPEROXY PROPANE, [<= 25% WITH INERT ORGANIC SOLID]|2,2-DIHYDROPEROXYPROPANE	2614-76-8	This solid peroxide is particularly sensitive to temperature rises, contamination, and friction. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a solvent slurry, water, alcohol, etc.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1823.0	195.0	622.0	347.0	191.0	(BLOB)	Data is not available for this compound. It is probably non-flammable. (NTP, 1992)	Extinguish fires involving this chemical with a dry chemical, water spray, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3985	2-(2,4-DINITROANILINO)PHENOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	2,4,5-TRICHLOROPHENOXYACETIC ACID is a weak acid. Reacts with organic and inorganic bases to form water-soluble salts and with alcohols to form esters. Incompatible with strong oxidizing agents and strong bases. Can corrode metals, especially if moist. May harm painted surfaces (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		316	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)																														
3986	2-(2-BUTOXYETHOXY)ETHYL THIOCYANATE			Water soluble.	Sensitive to light. A 10% solution in water is stable for at least 24 hours after preparation. Decomposes rapidly in aqueous acid solutions. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]						0																			(NTP, 1992)	approximately	289	
3987	2-(P-PENTYLPHENYL)-5-(P-PENTYLOXYPHENYL)PYRIMIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a refrigerator and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Water soluble.	1,1,1,3,3,3-HEXAFLUORO-2-PROPANOL is incompatible with acids, acid chlorides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																(NTP, 1992)		25	
3988	2,2-DICHLORO-1,1,1,3,3-PENTAFLUOROPROPANE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Fumes in air. Highly flammable. Can self-ignite at low temperatures if in contact with a catalyst (example: autoignition temperature is 74âˆ˚F in contact with rust). May ignite spontaneously while absorbed on porous materials such as earth, asbestos, cloth, or wood unless the heat of the continual hydrazine-air reaction has a chance to dissipate [Haz. Chem. Data(1966)]. Water soluble.	HYDRAZINE is a powerful reducing agent. May ignite spontaneously if mixed with hydrogen peroxide or with nitric acid. Decomposes with flame on contact with many metallic oxide surfaces [Haz. Chem. Data(1966)]. While boiling a piece of polyester fiber in hydrazine in a glass beaker, a technician put a somewhat rusty pair of metal tweezers into the hydrazine, which then ignited [MCA Case History 1893 (1973)]. Forms explosive metal hydrazides when mixed with alkali metals in presence of ammonia [Mellor 8, Supp. 2:95(1967)]. During the measurement of the shock sensitivity of a mixture containing hydrazine, a drop of the mixture fell on a tetryl explosive. The tetryl immediately burst into flames [ASESB 105]. Ignites spontaneously if mixed with nitrous oxide [Mellor 8, Supp. 2:214(1967)]. Reacts explosively with potassium and sodium dichromate [Mellor 11:234(1946-1947)].	Highly Flammable; Strong Reducing Agent; Air-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	3	7		(EPA, 1998)		125.6		(EPA, 1998)		4.7		%	(EPA, 1998)		100		%	(USCG, 1999)		518		(EPA, 1998)		36	
3989	2,2'-DICHLOROBIPHENYL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2,4,5-TRIMETHYLANILINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																				(NTP, 1992)		154	
3990	2,2-DIHYDROPEROXYPROPANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Slightly soluble in water.	2,4,6-TRIBROMOPHENOL can react with oxidizing materials (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		203 to 205	

id	name	vp_source	vp_note	vp_value	vp_range	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_range_tempDegF	sg_value_tempDegF	sg_range_tempDegF	sg_range	sg_value	sg_note	sg_source	sg_range_tempDegF	vd_range_tempDegF	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vp_range	vp_value	vp_note	vp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_note	tdlb_value	tdlb_unit	solbty_source	solbty_note	solbty_value	solbty_unit	solbty_range	solbty_note	chris_code	TC_Labels	formulas	incompatible_sobtents	# of Radicing	Production Score	# of Dissimilations Sites	Distribution Score	Prob Score
3985	2-(2,4-DINITROANILINO)PHENOL	(NTP, 1992)	approximately	0	68	77	mm Hg	1.011	(EPA, 1998)	59	(EPA, 1998)	236.3	760	(EPA, 1998)	32.05	(NIOSH, 2003)	50	ppm	(NIOSH, 2003)	; A potential human carcinoge n.	250	mg/m3	(NTP, 1992)	at 69.8Â° F	Miscible	(NIOSH, 2003)	less than 0.1	mg/mL	TCA	Poison	HDZ	C8H5Cl3 O3	N2H4	Corrosive	Flammable	Liquid	Poison	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3986	2-(2-BUTOXYETHOXY)ETHYL THIOCYANATE		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3991	2,2-DIMETHYL OCTANOIC ACID	2,2,-DIMETHYL OCTANOIC ACID|2,2-DIMETHYL OCTANOIC ACID|2,2-DIMETHYLCAPRYLIC ACID|2,2-DIMETHYLOCTANOIC ACID	29662-90-6	Colorless liquid with a burning, rancid odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	622.0	347.0	191.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3992	2,2'-DIMETHYLBENZIDINE HYDROCHLORIDE	BENZIDINE, 2,2'-DIMETHYL-, HYDROCHLORIDE|(1,1'-BIPHENYL)-4,4'-DIAMINE, 2,2'-DIMETHYL-, HYDROCHLORIDE|4,4'-DIAMINO-2,2'-DIMETHYLBIPHENYL HYDROCHLORIDE|2,2'-DIMETHYL-(1,1'-BIPHENYL)-4,4'-DIAMINE HYDROCHLORIDE|2,2'-DIMETHYL-4,4'-BIPHENYLDIAMINE HYDROCHLORIDE|2,2'-DIMETHYLBENZIDINE HYDROCHLORIDE|M-TOLIDINE HYDROCHLORIDE|2,2'-TOLIDINE HYDROCHLORIDE	96196-27-9	PHYSICAL DESCRIPTION: Light tan solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	622.0	347.0	191.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3993	2,3,4,5-TETRACHLOROPHENOL	2,3,4,5-TETRACHLOROPHENOL	4901-51-3	PHYSICAL DESCRIPTION: Needles (from petroleum ether, ligroin) or beige solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	622.0	347.0	191.0	(BLOB)	Literature sources indicate that this compound is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3994	2,3,4,7,8-PENTACHLORODIBENZOFURAN	DIBENZOFURAN, 2,3,4,7,8-PENTACHLORO-|F 114|PCDF|2,3,4,7,8-PENTACHLORODIBENZOFURAN	57117-31-4	PHYSICAL DESCRIPTION: Solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	622.0	347.0	191.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3995	2,3,4-TRINITROANILINE	ANILINE, TRINITRO-|2,3,4-TRINITROANILINE	26952-42-1	An orange-red crystalline structure. Highly toxic. May explode under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	622.0	347.0	191.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3991	2,2-DIMETHYL OCTANOIC ACID	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with release of heat.	(BLOB)	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																									
3992	2,2'-DIMETHYLBENZIDINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4,6-TRICHLORONITROBENZENE is incompatible with strong bases and strong oxidizing agents.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		160	
3993	2,3,4,5-TETRACHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in an explosion-proof refrigerator, and protect it from light. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Literature sources indicate that this compound is flammable. (NTP, 1992). Aromatic nitrates range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction.		Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								(NTP, 1992)		348	
3994	2,3,4,7,8-PENTACHLORODIBENZOFURAN	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	it may be sensitive to air and/or light. Insoluble in water.	2,4-BIS(P-AMINOBENZYL)ANILINE can react with strong acids and oxidizing agents. (NTP, 1992)						0																								
3995	2,3,4-TRINITROANILINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Completely soluble in water.	This material is incompatible with strong oxidizers. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	(decomposes)	419	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3991	2,2-DIMETHYL OCTANOIC ACID																																								Corrosive	HI (aqueous)		0.0	0.0	0.0	0.0	0.0
3992	2,2'-DIMETHYLBENZIDINE HYDROCHLORIDE																									(NTP, 1992)		226.45						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H2Cl3NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3993	2,3,4,5-TETRACHLOROPHENOL	(NTP, 1992)		1.10E-10				mm Hg																		(NTP, 1992)		315.2						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Explosive 1.1D	C13H5N3O7	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3994	2,3,4,7,8-PENTACHLORODIBENZOFURAN																									(NTP, 1992)		303.41						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C20H21N3		0.0	0.0	0.0	0.0	0.0
3995	2,3,4-TRINITROANILINE																									(NTP, 1992)		243.02						(NTP, 1992)	Soluble					Class 9	C8H6Cl2O3.Na		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
3996	2,3,4-TRINITROANILINE, WETTED	ANILINE, TRINITRO-[2,3,4-TRINITROANILINE, WETTED[2,3,4-TRINITROANILINE	26952-42-1	An orange-red moist crystalline solid. Water slurry mitigates explosion hazard. Specific gravity 1.8. Melting point 370Â°F. Highly toxic.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1824.0	195.0	623.0	347.0	191.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
3997	2,3,5,6-TETRACHLORO-4-NITROANISOLE	ANISOLE, 2,3,5,6-TETRACHLORO-4-NITRO-|BENZENE, 1,2,4,5-TETRACHLORO-3-METHOXY 6-NITRO-|ENT 22,335|NCI-C03032|4-NITRO-2,3,5,6-TETRACHLORANISOLE|TCNA|1,2,4,5-TETRACHLORO-3-METHOXY-6-NITROBENZENE|2,3,5,6-TETRACHLORO-4-NITROANISOLE|TETRACHLORONITROANISOLE	2438-88-2	PHYSICAL DESCRIPTION: Beige to pale yellow crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1825.0	195.0	623.0	347.0	191.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
3998	2,3,5,6-TETRACHLORONITROBENZENE	CHIPMAN 3,142|CHIPMAN 3142|FOLOSAN|FOLOSAN DB 905|FUSAREX|MYFUSAN|NAPOTATE|NEBULIN|3-NITRO-1,2,4,5-TETRACHLOROBENZENE|1-NITRO-2,3,5,6-TETRACHLOROBENZENE|TCNB|TCNB (PESTICIDE)|TECNAZEN|TECNAZENE|2,3,5,6-TETRACHLORO-1-NITROBENZENE|1,2,4,5-TETRACHLORO-3-NITROBENZENE|TETRACHLORONITROBENZENE|2,3,5,6-TETRACHLORONITROBENZENE	117-18-0	PHYSICAL DESCRIPTION: Pale yellow crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1825.0	195.0	623.0	347.0	191.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
3999	2,3,5,6-TETRACHLOROPHENOL	2,3,5,6-TETRACHLOROPHENOL	935-95-5	PHYSICAL DESCRIPTION: Leaflets (from ligroin) or light beige powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1826.0	195.0	624.0	347.0	191.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4000	2,3,5-TRIMETHYLPHENYL METHYLCARBAMATE	2,3,5-TRIMETHYLPHENYL METHYLCARBAMATE	2655-15-4	Brown crystalline solid. Non corrosive. Used as an insecticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1826.0	195.0	624.0	347.0	191.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
3996	2,3,4-TRINITROANILINE, WETTED	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CHLORODIFLUOROMETHANE AND CHLOROPENTAFLUOROETHANE MIXTURE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. Can react with strong oxidizing agents or weaker oxidizing agents under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
3997	2,3,5,6-TETRACHLORO-4-NITROANISOLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	The reaction of 2,4-Dinitrochlorobenzene and hydrazine hydrate is exothermic, it shattered the reaction flask, [Wischmeyer (1967)].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 1-chloro-2,4-dinitrobenzene, CAS number 97-00-7.	3	1	4	5																								
3998	2,3,5,6-TETRACHLORONITROBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4-D, N-BUTYL ESTER is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
3999	2,3,5,6-TETRACHLOROPHENOL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	2,4-DB is an organic acid. Neutralizes bases in exothermic reactions. Forms water soluble metal and amine salts. Hard water precipitates the calcium and magnesium salts from aqueous solutions of such salts.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
4000	2,3,5-TRIMETHYLPHENYL METHYLCARBAMATE	(Non-Specific -- Ethyl Chloroformate) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Shut off ignition sources; no flares, smoking or flames in hazard area. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Decomposed slowly by water forming ethanol, HCl, and CO2; on contact with moist air, it gives off HCl fumes; attacks many metals especially in humid atmosphere. REF [Handling Chemicals Safely, 1980. p. 476].	CHLOROETHYL CHLOROFORMATE is an acid halide. Acid halides are water reactive; some are violently reactive. They are incompatible with strong oxidizing agents, alcohols, amines, alkali. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
3996	2,3,4-TRINITROANILINE, WETTED																																											0.0	0.0	0.0	0.0	0.0
3997	2,3,5,6-TETRACHLORO-4-NITROANISOLE																																								Poison	C6H3ClN2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
3998	2,3,5,6-TETRACHLORONITROBENZENE														(NTP, 1992)			1.235 to 1.245	68		(NTP, 1992)			295 to 297	1		(NTP, 1992)		277.16						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Class 9	C12H14Cl2O3		0.0	0.0	0.0	0.0	0.0
3999	2,3,5,6-TETRACHLOROPHENOL																																								Class 9	C10H10Cl2O3		0.0	0.0	0.0	0.0	0.0
4000	2,3,5-TRIMETHYLPHENYL METHYLCARBAMATE														(EPA, 1998)			1.3847			(EPA, 1998)			312.3		760	(EPA, 1998)		142.97												Poison|Corrosive	C3H4Cl2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4001	2,3,6-COLLIDINE	2,3,6-COLLIDINE|PYRIDINE, 2,3,6-TRIMETHYL|2,3,6-TRIMETHYLPYRIDINE	1462-84-6	PHYSICAL DESCRIPTION: Colorless liquid with a density of 0.913 g / cm3. Slightly soluble in water. Found in low-temperature coal tar and coal soot.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1827.0	195.0	624.0	347.0	191.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4002	2,3-DIBROMOPROPYL METHACRYLATE	2,3-DIBROMOPROPYL METHACRYLATE|METHACRYLIC ACID, 2,3-DIBROMOPROPYL ESTER|1-PROPANOL, 2,3-DIBROMO-, METHACRYLATE	3066-70-4	PHYSICAL DESCRIPTION: Clear brown liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1828.0	195.0	624.0	347.0	191.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4003	2,3-DICHLORO-1,1,1,2,3-PENTAFLUOROPROPANE	2,3-DICHLORO-1,1,1,2,3-PENTAFLUOROPROPANE|HCFC-225BA	422-48-0	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1828.0	195.0	624.0	347.0	191.0	(BLOB)	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: These materials are extremely flammable. May form explosive mixtures with air. May be ignited by heat, sparks or flames. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Runoff may create fire or explosion hazard. Cylinders exposed to fire may vent and release toxic and flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4004	2,3-DIMETHYL-1-PENTANOL	2,3-DIMETHYL-1-PENTANOL|2,3-DIMETHYLPENTANOL|1-PENTANOL, 2,3-DIMETHYL-, (3S)-(-)-|1-PENTANOL, 2,3-DIMETHYL-	10143-23-4	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1828.0	195.0	624.0	347.0	191.0	Get medical attention. INHALATION: Remove to fresh air. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. INGESTION: Dilute with milk, lime water, or aluminum hydroxide. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Avoid direct contact between water and acid. Fire Extinguishing Agents: Use dry chemical, carbon dioxide or water spray on adjacent fires. (USCG, 1999)
4005	2,3-EPOXY-2,3-DIMETHYLBUTANE	BUTANE, 2,3-EPOXY-2,3-DIMETHYL-|2,3-DIMETHYL-2,3-EPOXYBUTANE|2,3-DIMETHYL-2-BUTENE EPOXIDE|2,3-DIMETHYL-2-BUTENE OXIDE|2,3-EPOXY-2,3-DIMETHYLBUTANE|TETRAMETHYLETHYLENE OXIDE|TETRAMETHYLOXIRANE|2,2,3,3-TETRAMETHYLOXIRANE	5076-20-0	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1829.0	195.0	624.0	347.0	191.0	(BLOB)	Behavior in Fire: Pressurized container may explode and release toxic, irritating vapor. (USCG, 1999)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4001	2,3,6-COLLIDINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water with release of heat. Fumes in air.	(BLOB)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0																								
4002	2,3-DIBROMOPROPYL METHACRYLATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1613 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5																								
4003	2,3-DICHLORO-1,1,1,2,3-PENTAFLUOROPROPANE	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Consider igniting spill or leak to eliminate toxic gas concerns. (ERG, 2012)	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 117 [Gases - Toxic - Flammable (Extreme Hazard)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1051 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5																								
4004	2,3-DIMETHYL-1-PENTANOL	Neutralizing Agents for Acids and Caustics: Lime. (USCG, 1999)	Wear full impervious protective clothing and approved respirator. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Soluble in water.	HYDROFLUOROSILICIC ACID (25% OR LESS) can react with strong acids (such as sulfuric acid) to release fumes of toxic hydrogen fluoride. Attacks glass and materials containing silica. Reacts exothermically with chemical bases (examples: amines, amides, inorganic hydroxides). Reacts with active metals, including iron and aluminum to dissolve the metal and liberate hydrogen and/or toxic gases. Can initiate polymerization in certain alkenes. Reacts with cyanide salts and compounds to release gaseous hydrogen cyanide. Flammable and/or toxic gases are also often generated by reactions with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and weak or strong reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. Can catalyze (increase the rate of) chemical reactions. Decomposes when heated to the boiling point to produce very toxic and corrosive hydrogen fluoride gas.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4005	2,3-EPOXY-2,3-DIMETHYLBUTANE	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Acrid odor, fumes in moist air forming clouds containing hydrobromic acid. Heat of solution large, [Merck, 11th ed., 1989].	(BLOB)	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1048 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4001	2,3,6-COLLIDINE																													(NIOSH, 2003)	As HBr	30	ppm							Corrosive	HBr (aqueous)		0.0	0.0	0.0	0.0	0.0
4002	2,3-DIBROMOPROPYL METHACRYLATE																													(NIOSH, 2003)		50	ppm							Poison Inhalation Hazard	CHN (aqueous)	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4003	2,3-DICHLORO-1,1,1,2,3-PENTAFLUOROPROPANE																													(NIOSH, 2003)		50	ppm							Poison Inhalation Hazard|Flammable Liquid	CHN (aqueous)	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4004	2,3-DIMETHYL-1-PENTANOL														(USCG, 1999)		1.25				(USCG, 1999)	Decomposes.					(USCG, 1999)		144.08										HFS	Corrosive	H2SiF6 (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4005	2,3-EPOXY-2,3-DIMETHYLBUTANE	(NIOSH, 2003)		20				atm							(USCG, 1999)		2.14		-88.6		(USCG, 1999)		-88.2		760		(USCG, 1999)		80.92		(NIOSH, 2003)	As HBr	30	ppm	(NIOSH, 2003)		49		%	HBR	Poison Gas|Corrosive	BrH		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4006	2,4,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	2,4,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	15646-96-5		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1829.0	195.0	625.0	347.0	191.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
4007	2,4,5-T ISOBUTYL ESTER	ACETIC ACID, (2,4,5-TRICHLOROPHENOXY)-, ISOBUTYL ESTER|ISOBUTYL 2,4,5-T|ISOBUTYL 2,4,5-TRICHLOROPHENOXYACETATE|2,4,5-T ISOBUTYL ESTER|(2,4,5-TRICHLOROPHENOXY)ACETIC ACID, ISOBUTYL ESTER|2,4,5-TRICHLOROPHENOXYACETIC ACID ISOBUTYL ESTER	4938-72-1	PHYSICAL DESCRIPTION: Off-white solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1829.0	195.0	625.0	347.0	191.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4008	2,4,5-T, N-BUTYL ESTER	ARBORICID|BUTYL (2,4,5-TRICHLOROPHENOXY)ACETATE|BUTYL 2,4,5-T|BUTYL 2,4,5-TRICHLOROPHENOXYACETATE|BUTYLATE 2,4,5-T|FLOMORE|HI-ESTER 2,4,5-T|KILEX|KRZEWOTOKS|KRZEWOTOX|N-BUTYL (2,4,5-TRICHLOROPHENOXY)ACETATE|2,4,5-T BUTYL ESTER|2,4,5-T ESTERS|2,4,5-T N-BUTYL ESTER|2,4,5-T, N-BUTYL ESTER|TORMONA|(2,4,5-TRICHLOROPHENOXY)ACETIC ACID BUTYL ESTER|(2,4,5-TRICHLOROPHENOXY)ACETIC ACID, N-BUTYL ESTER|2,4,5-TRICHLOROPHENOXYACETIC ACID, BUTYL ESTER|TRIOXONE|U 46KW|U46KW	93-79-8	PHYSICAL DESCRIPTION: Clear colorless liquid or white solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1829.0	195.0	625.0	347.0	191.0	EYES: Check for contact lenses and remove them at once if present. You should then immediately flush eyes with water from any source for 15 minutes. Do not use oil or ointment in eyes. Arrange immediate transportation to a medical facility. SKIN: You should remove all contaminated clothing and flood skin with water. Wash all affected skin areas thoroughly with soap and water and seek immediate medical attention. INGESTION: If the exposed person is convulsing or unconscious, you should not attempt first aid. Transport immediately to a hospital emergency room or poison control center. If the victim is conscious, administer large volumes of liquid then immediately induce vomiting. Transport at once to a medical facility. (NTP, 1992)	This compound is nonflammable. (NTP, 1992)	You should extinguish fires involving this chemical with a dry chemical, foam, carbon dioxide or halon extinguisher. (NTP, 1992)
4009	2,4,5-TRICHLOROPHENOXYACETIC ACID AMINES	2,4,5-T AMINES|2,4,5-TRICHLOROPHENOXYACETIC ACID AMINE, ESTER, OR SALT|2,4,5-TRICHLOROPHENOXYACETIC ACID AMINE|2,4,5-TRICHLOROPHENOXYACETIC ACID AMINES	1319-72-8	Any of a group of ammonium salts of 2,4,5-trichlorophenoxyacetate, including the 1-ammonium-2-propanol salt, the triethylammonium salt, the triethanolammonium salt, the trimethylammonium salt, and the dimethylammonium salt.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1830.0	195.0	625.0	347.0	192.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride vapor may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4010	2,4,5-TRICHLOROPHENOXYACETIC ACID ESTERS	(BLOB)	1928-47-8	2,4,5-Trichlorophenoxyacetic acid ester, are various colored solids. They are soluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. They will burn though they may take some effort to ignite. They are used as herbicides, defoliants, or plant growth regulators.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1830.0	195.0	625.0	347.0	192.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases can be evolved. Behavior in Fire: Solid melts and burns. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Water, foam, carbon dioxide, dry chemical (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4006	2,4,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	1,1,2,2-TETRACHLORO-1-FLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
4007	2,4,5-T ISOBUTYL ESTER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to exposure to air. Insoluble in water.	2,4-DICHLOROANILINE is incompatible with acids, acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		145 to 147
4008	2,4,5-T, N-BUTYL ESTER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)		Insoluble in water.	TETRABROMOBISPHENOL A is monomer.					0																						(NTP, 1992)		356 to 363
4009	2,4,5-TRICHLOROPHENOXYACETIC ACID AMINES	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	1,1,2,2-TETRACHLOROETHANE may be incompatible with strong oxidizing and reducing agents. Also may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Decomposed by heat and UV light, forming phosgene and HCl; reacts violently with finely dispersed metals [Handling Chemicals Safely 1980. p. 886].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		-33
4010	2,4,5-TRICHLOROPHENOXYACETIC ACID ESTERS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and keep it away from oxidizing materials. (NTP, 1992)	Bureau of Mines approved respirator, rubber gloves, chemical goggles. (USCG, 1999)	Insoluble in water.	2,4-DICHLOROPHENOL can react vigorously with oxidizing agents. Can also react with acids or acid fumes. Incompatible with acid chlorides and acid anhydrides. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		237																(NTP, 1992)		113	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4006	2,4,4-TRIMETHYLHEXAMETHYLENE DIISOCYANATE																																								Non-Flammable Gas	C2HCl4F		0.0	0.0	0.0	0.0	0.0
4007	2,4,5-T ISOBUTYL ESTER														(NTP, 1992)		1.567		68		(NTP, 1992)		473		760		(NTP, 1992)		162.02						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C6H5Cl2N		0.0	0.0	0.0	0.0	0.0
4008	2,4,5-T, N-BUTYL ESTER																										(NTP, 1992)		543.9						(NTP, 1992)	Insoluble (<1 mg/ml)						(C6H2Br2OH)2C(CH3)2		0.0	0.0	0.0	0.0	0.0
4009	2,4,5-TRICHLOROPHENOXYACETIC ACID AMINES	(NTP, 1992)	; 6 mm Hg at 77Â° F	5		70		mm Hg	(NTP, 1992)		5.79				(USCG, 1999)		1.595		68		(NTP, 1992)		295		760		(NTP, 1992)		167.86		(NIOSH, 2003)	; A potential human carcinogen.	100	ppm	(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL	TEC	Poison	C2H2Cl4		0.0	0.0	0.0	0.0	0.0
4010	2,4,5-TRICHLOROPHENOXYACETIC ACID ESTERS	(NTP, 1992)		1		127		mm Hg	(NTP, 1992)		5.62				(USCG, 1999)		1.4		59		(NTP, 1992)		410		760		(NTP, 1992)		163						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL	DCP	Poison	C6H4Cl2O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4011	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID	ALPHA-(2,4,5-TRICHLOROPHENOXY) PROPIONIC ACID|ALPHA-(2,4,5-TRICHLOROPHENOXY)PROPIONIC ACID|AQUA-VEX|COLOR-SET|DED-WEED|DOUBLE STRENGTH|FENOPROP|(.+-.)-FENOPROP|FENORMONE|FRUITONE T|GARLON|HERBICIDES, SILVEX|KURAN|KURONIK|UROSAL|KUROSAL G|KUROSAL SL|KUROSALG|PROPIONIC ACID, 2-(2,4,5-TRICHLOROPHENOXY)-|PROPON|SILVEX|SILVEX (2,4,5-TP)|SILVI-RHAP|STA-FAST|2,4,5-TCPP|2,4,5-TCPPA|2,4,5-TP|2-(2,4,5-TRICHLOROPHENOXY) PROPANOIC ACID|2-(2,4,5-TRICHLOROPHENOXY) PROPIONIC ACID|(.+-.)-2-(2,4,5-TRICHLOROPHENOXY)PROPIONIC ACID|2-(2,4,5-TRICHLOROPHENOXY)PROP	93-72-1	White powder. Sinks and mixes slowly with water. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1831.0	195.0	625.0	347.0	192.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
4012	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID ESTER	ALPHA-(2,4,5-TRICHLOROPHENOXY)PROPIONIC ACID ISOOCTYL ESTER|ISOOCTYL 2-(2,4,5-TRICHLOROPHENOXY)PROPIONATE|ISOOCTYL ESTER|PROPIONIC ACID, 2-(2,4,5-TRICHLOROPHENOXY)-, ISOOCTYL ESTER|SILVEX ISOOCTYL ESTER|SILVEX, ISOOCTYL ESTER|2,4,5-TP ACID ESTERS|2,4,5-TP ESTERS|2,4,5-TRICHLOROPHENOXYPROPIONIC ACID ESTER	32534-95-5	White solids. Primary hazard is to threat to the environment. Immediate steps should be taken to limit spread to the environment. Burn, though may be difficult to ignite. Used as herbicides and plant growth regulators.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1831.0	195.0	625.0	347.0	192.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4013	2,4,6-TRINITROANILINE	2-AMINO-1,3,5-TRINITROBENZENE|1-AMINO-2,4,6-TRINITROBENZENE|ANILINE, 2,4,6-TRINITRO-|MATB|MATB (EXPLOSIVE)|PICRAMIDE|TNA|2,4,6-TRINITROANILINE|2,4,6-TRINITROBENZENAMINE	489-98-5	PHYSICAL DESCRIPTION: Yellow monoclinic crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1831.0	195.0	625.0	347.0	192.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4014	2,4-BIS(P-AMINOBENZYL)ANILINE	ALPHA,ALPHA'-BIS(P-AMINOPHENYL)-2,4-XYLIDINE|2,4-BIS[(4-AMINOPHENYL)METHYL]BENZENAMINE|2,4-BIS(4-AMINOBENZYL)ANILINE|2,4-BIS(P-AMINOBENZYL)ANILINE|3-(P-AMINOBENZYL)-4,4'-DIAMINODIPHENYLMETHANE|2,4-XYLIDINE, ALPHA,ALPHA'-BIS(P-AMINOPHENYL)-	25834-80-4	PHYSICAL DESCRIPTION: Brown solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1831.0	195.0	625.0	347.0	192.0	(BLOB)	Special Hazards of Combustion Products: Vapors and combustion gases are irritating Behavior in Fire: May explode (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing Fire Extinguishing Agents: For small fires, use water, dry chemical, foam or carbon dioxide (USCG, 1999)
4015	2,4-D 2-ETHYL-4-METHYLPENTYL ESTER	2,4-D 2-ETHYL-4-METHYLPENTYL ESTER	53404-37-8	Sweet smelling liquid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1832.0	195.0	625.0	347.0	192.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4011	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 2,4-DICHLOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		7.7	
4012	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID ESTER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Water soluble.	Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		145																			(NTP, 1992)		18.5	
4013	2,4,6-TRINITROANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and oxidizing materials. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,4-DIMETHYLPHENOL is a very weak acid (pKa = 10.6) (NTP, 1992). Incompatible with acid chlorides, acid anhydrides, bases and oxidizing agents. Corrodes steel, brass, copper and copper alloys (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 235																			(NTP, 1992)		72 to 73	
4014	2,4-BIS(P-AMINOBENZYL)ANILINE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	Self-contained breathing apparatus; butyl rubber gloves; eye goggles; plastic lab coat; protective shoes. (USCG, 1999)	Insoluble in water.	2,4-DINITROANILINE may decompose violently at elevated temperatures. This compound can react with oxidizing materials, i.e. chlorine/hydrochloric acid. (NTP, 1992). In mixture with powdered charcoal ignited upon heating, [Cahiers, 1980, (99), 278].	Explosive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	3	4		(NTP, 1992)		435																			(NTP, 1992)		349 to 352	
4015	2,4-D 2-ETHYL-4-METHYLPENTYL ESTER	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Highly flammable but absorption can prevent evolution of enough vapors to ignite. Flame may easily travel back to source of leak. Vapors forms explosive mixtures with air. Soluble in water (exception of absorbing material).	HYDROGEN CYANIDE, [ABSORBED] reacts as an oxidizing agent and as a weak acid. Absorption moderates its reactivity. Presents an explosion hazard when heated or exposed to oxidizing agents. Reacts violently with acetaldehyde. May polymerize explosively at elevated temperature. May polymerize in the presence of traces of alkali [Wohler, L. et al., Chem. Ztg., 1926, 50, p. 761, 781]. During the preparation of imidoester hydrochlorides, hydrogen chloride was rapidly passed over an alcoholic solution of hydrogen cyanide. An explosion ensued, even with cooling of the process [J. Org. Chem., 1955, 20, 1573].	Highly Flammable; Polymerizable	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1614 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	1	5		(NIOSH, 2003)	-96%	0		(NIOSH, 2003)		5.6		%	(NIOSH, 2003)		40		%					(NIOSH, 2003)	-96%	7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4011	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID														(NTP, 1992)		1.2498				(NTP, 1992)			385 to 387	760		(NTP, 1992)		161.03												Poison	C7H6Cl2		0.0	0.0	0.0	0.0	0.0
4012	2,4,5-TRICHLOROPHENOXYPROPIONIC ACID ESTER														(NTP, 1992)		1.268				(NTP, 1992)		338		753		(NTP, 1992)		129.11						(NTP, 1992)	at 68.9Â° F		10 to 50	mg/mL		Poison	C6H5F2N		0.0	0.0	0.0	0.0	0.0
4013	2,4,6-TRINITROANILINE	(NTP, 1992)	; 1 mm Hg at 125.2Â° F	0.0621		68		mm Hg							(NTP, 1992)		1.0276		57		(NTP, 1992)		414		766		(NTP, 1992)		122.17						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C8H10O		0.0	0.0	0.0	0.0	0.0
4014	2,4-BIS(P-AMINOBENZYL)ANILINE								(NTP, 1992)		6.31				(USCG, 1999)		1.615		59								(NTP, 1992)		183.12						(NTP, 1992)	at 73Â° F		less than 0.1	mg/mL	DNT	Poison	C6H5N3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4015	2,4-D 2-ETHYL-4-METHYLPENTYL ESTER	(NIOSH, 2003)		630				mm Hg													(NIOSH, 2003)	-96%	78		760		(NIOSH, 2003)		27		(NIOSH, 2003)		50	ppm	(NIOSH, 2003)	Miscible					Poison	HCN	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4016	2,4-D ESTERS	ACETIC ACID, (2,4-DICHLOROPHENOXY)-, SEC-BUTYL ESTER|AGRO-D-ESTER|AGROXONE 5|BUTYL 2,4-DICHLOROPHENOXYACETATE|2,4-D BUTOXYETHYL ESTER|2,4-D CHLOROCROTYL ESTER|2,4-D ESTER|2, 4-D ESTERS|2,4-D ESTERS|2,4-D ISOOCTYL ESTER|2,4-D ISOPROPYL ESTER|2,4-D METHYL ESTER|2,4-D PROPYLENE GLYCOL BUTYL ETHER ESTER(2,4-DICHLOROPHENOXY)ACETIC ACID METHYL ESTER|2,4-DICHLOROPHENOXY)ACETIC ACID, SEC-BUTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID ISOOCTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID, BUTOXYETHYL ESTER|ISOOCTYL 2,4-DICHLOROPHENOXYACETATE|ISOOCTYL ALCOHOL, (2,4-DICHLOROPHENOXY)ACET	1928-38-7	2,4-D ester is a white solid. It is slightly soluble in water. The primary hazard is the threat posed to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a herbicide and defoliant.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1833.0	195.0	625.0	347.0	192.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4017	2,4'-DIAMINODIPHENYLMETHANE	2-((4-AMINOPHENYL)METHYL)BENZENAMINE|ANILINE, 2,4'-METHYLENEDI-|2',4-BIS(AMINOPHENYL)METHANE|2,4'-DIAMINODIPHENYLMETHANE|2,4'-DIPHENYLMETHANEDIAMINE|2,4'-METHYLENEBIS(ANILINE)|2,4'-METHYLENEDIANILINE|O,P'-DIAMINODIPHENYLMETHANE	1208-52-2	PHYSICAL DESCRIPTION: Leaflets. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1834.0	196.0	625.0	347.0	193.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases including hydrogen chloride and very small amounts of phosgene and chlorine are produced. Behavior in Fire: Forms a flammable vapor-air mixture at 109Â°F and higher. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4018	2,4'-DIISOCYANATODIPHENYL SULFIDE	2,4'-DIISOCYANATODIPHENYL SULFIDE	75790-87-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1834.0	196.0	625.0	347.0	193.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4019	2,4-DIMETHOXYANILINE HYDROCHLORIDE	ANILINE, 2,4-DIMETHOXY-, HYDROCHLORIDE|BENZENAMINE, 2,4-DIMETHOXY-, HYDROCHLORIDE|2,4-DIMETHOXYANILINE HYDROCHLORIDE|2,4-DIMETHOXYBENZENAMINE HYDROCHLORIDE|4-METHOXY-O-ANISIDINE HYDROCHLORIDE|2-METHOXY-P-ANISIDINE HYDROCHLORIDE|NCI-C02255	54150-69-5	PHYSICAL DESCRIPTION: Dark brown crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4020	2,4-DINITRO-6-(1-METHYLHEPTYL)PHENOL	2,4-DINITRO-6-(1'-METHYL)HEPTYLPHENOL|2,4-DINITRO-6-(1'-METHYLHEPTYL)PHENOL|2,4-DINITRO-6-(1-METHYLHEPTYL)PHENOL|DNOP|2-(2-HYDROXY-3,5-DINITROPHENYL)OCTANE|2-(1-METHYLHEPTYL)-4,6-DINITROPHENOL	3687-22-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4016	2,4-D ESTERS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly soluble in water.	Reacts with oxidizing agents (NTP, 1992). When air was admitted after vacuum evaporation of an ether peroxide solution, a violent explosion occurred. A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)			greater than 235													(NTP, 1992)		81.5 to 86.0
4017	2,4'-DIAMINODIPHENYLMETHANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Slightly soluble in water.	1,1,2-TRICHLOROETHANE is sensitive to light and heat. Incompatible with strong oxidizing agents and strong bases. Reacts violently with sodium, potassium, magnesium, and aluminum. Attacks some plastics, rubber and coatings. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1					(NTP, 1992)		6		%	(NTP, 1992)		15.5		%					(NTP, 1992)		-35	
4018	2,4'-DIISOCYANATODIPHENYL SULFIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An organosulfide amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																			(NTP, 1992)		172 to 174
4019	2,4-DIMETHOXYANILINE HYDROCHLORIDE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.9 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as CHLOROPHENYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1753 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4020	2,4-DINITRO-6-(1-METHYLHEPTYL)PHENOL	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Most alkyl monohydroperoxides are liquid, the explosivity of the lower members (e.g., methyl hydroperoxide, or possibly due to traces of the dialkyl peroxides) decreasing with increasing chain length and branching [Bretherick 2nd ed. 1979 p.10].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chrtz_code	doi_labels	formulas	#compatible_bonds	# of Rotations Prodacing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4016	2,4-D ESTERS																					565	; 352Â° F at 25 mm Hg ; 271Â° F at 2 mm Hg	760	(NTP, 1992)	68	1.482																		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4021	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE	2,5-BIS(BENZOYLDIOXY)-2,5-DIMETHYLHEXANE|2,5-BIS(BENZOYLPEROXY)-2,5-DIMETHYLHEXANE|2,5-DIBENZOYLPEROXY-2,5-DIMETHYLHEXANE|2,5-DIMETHYL-2,5-BIS(BENZOYLPEROXY)HEXANE|2,5-DIMETHYL-2,5-DI(BENZOYLPEROXY)HEXANE|2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, [TECHNICALLY PURE]|2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE|2,5-DIMETHYL-2,5-HEXANEDIHYDROPEROXIDE DIBENZOATE|2,5-DIMETHYL-2,5-HEXANEDIOL BIS(PEROXYBENZOATE)|2,5-DIMETHYL-2,5-HEXANEDIOL DIPEROXYBENZOATE|2,5-DIMETHYL-2,5-HEXANEDIYL BIS(PEROXYBENZOATE)|2,5-DIMETHYL-2,5-HEXANEDIYL	2618-77-1	This solid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported as a mixture, with an inert solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4022	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, [<= 82% WITH INERT SOLID]	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, [<= 82% WITH INERT SOLID]|2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE	2618-77-1	This solid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported as a mixture, with an inert solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4023	2,5-TOLUENEDIAMINE SULFATE	1,4-BENZENEDIAMINE, 2-METHYL-, SULFATE|C.I. 76043|C.I. OXIDATION BASE 4|C.I.76043|2,5-DIAMINOTOLUENE SULFATE|2,5-DIAMINOTOLUENE SULPHATE|FOURAMINE STD|2-METHYL-1,4-BENZENEDIAMINE SULFATE|2-METHYL-P-PHENYLENEDIAMINE SULPHATE|2-METHYL-PARA-PHENYLENEDIAMINE SULPHATE|NCI-C01832|OXIDATION BASE 14|P-TOLUENEDIAMINE SULFATE|P-TOLUENEDIAMINE SULPHATE|P-TOLUYLENEDIAMINE SULPHATE|P-TOLYLENEDIAMINE SULPHATE|PARA, META-TOLYLENEDIAMINE SULPHATE|PARA-TOLUENEDIAMINE SULPHATE|PARA-TOLYLENEDIAMINE	6369-59-1	PHYSICAL DESCRIPTION: Light tan to light purple powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	INHALATION: remove from exposure; call a doctor. EYES: wash with large amount of water for at least 15 min. SKIN: wash with large amount of water. (USCG, 1999)	Behavior in Fire: Decomposes violently when heated in fire. Can increase intensity of fire when in contact with combustible material. Containers may explode. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
4024	2,6-TOLUENEDIAMINE DIHYDROCHLORIDE	2,6-DIAMINOTOLUENE DIHYDROCHLORIDE|NCI-C50317|TOLUENE-2,6-DIAMINE, DIHYDROCHLORIDE|2,6-TOLUENEDIAMINE DIHYDROCHLORIDE	15481-70-6	PHYSICAL DESCRIPTION: White microcrystalline solid or light brown solid. Starts to darken in color (decompose) at approximately 437Â° F; continues to darken until the melting point (525Â° F) at which temperature it is a very dark brown liquid . (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1835.0	196.0	625.0	347.0	193.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4025	2-AMINO-3,4,6-TRICHLOROPHENOL	2-AMINO-3,4,6-TRICHLOROPHENOL|2-HYDROXY-3,5,6-TRICHLOROANILINE|3,4,6-TRICHLORO-2-AMINOPHENOL	6358-15-2	PHYSICAL DESCRIPTION: Solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1836.0	196.0	625.0	347.0	193.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4021	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4022	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, [<= 82% WITH INERT SOLID]	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4023	2,5-TOLUENEDIAMINE SULFATE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	Peroxides, such as 2,5-DIMETHYL-2,5-DIHYDROPEROXY HEXANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Decomposes in contact with many metals and acids (USCG, 1999).	Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4024	2,6-TOLUENEDIAMINE DIHYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	THONZYLAMINE HYDROCHLORIDE behaves as a weak organic acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.					0																						(NTP, 1992)		343 to 349
4025	2-AMINO-3,4,6-TRICHLOROPHENOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Water soluble.	2,5-HEXANEDIONE is incompatible with oxidizing agents. It is also incompatible with strong bases and strong reducing agents. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		174												(NTP, 1992)		920		(NTP, 1992)		22.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4021	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE																																									Organic Peroxide|Explosive	C22H26O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4022	2,5-DIMETHYL-2,5-DI-(BENZOYLPEROXY)HEXANE, [<= 82% WITH INERT SOLID]																																								Organic Peroxide|Explosive	C22H26O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4023	2,5-TOLUENEDIAMINE SULFATE														(USCG, 1999)	(est)	1		68								(USCG, 1999)		178.2											DDW	Organic Peroxide	C8H18O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4024	2,6-TOLUENEDIAMINE DIHYDROCHLORIDE																										(NTP, 1992)		322.88					(NTP, 1992)	Very soluble					C16H22N4O.ClH	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4025	2-AMINO-3,4,6-TRICHLOROPHENOL	(NTP, 1992)	; 1.6 mm Hg at 77Â° F	0.43		68		mm Hg	(NTP, 1992)		3.94				(NTP, 1992)		0.9737		68		(NTP, 1992)		376		760	(NTP, 1992)		114.14					(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C6H10O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4026	2-AMINO-6-CHLORO-4-NITROPHENOL HYDROCHLORIDE	2-AMINO-6-CHLORO-4-NITROPHENOL HYDROCHLORIDE|2-AMINO-6-CHLORO-4-NITROPHENOL MONOHYDROCHLORIDE|2-CHLORO-6-AMINO-4-NITROPHENOL HYDROCHLORIDE|2-HYDROXY-3-CHLORO-5-NITROANILINE HYDROCHLORIDE	62625-14-3	A brown powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1836.0	196.0	626.0	347.0	193.0	(BLOB)	Special Hazards of Combustion Products: Container explosion may occur under fire conditions. Emits toxic fumes under fire conditions. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4027	2-AMINOACETANILIDE	ACETANILIDE, 2-AMINO-|2-AMINO-N-PHENYLACETAMIDE|2-AMINOACETANILIDE|BENZOKOLL|GLYCINANILIDE|GLYCOCOLLANILIDE|N-GLYCYLANILINE|O-AMINOACETANILIDE	555-48-6	White or slightly reddish crystals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1837.0	196.0	626.0	347.0	193.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4028	2-AMINOACETANILIDE HYDROCHLORIDE	ACETANILIDE, 2-AMINO-, MONOHYDROCHLORIDE|2-AMINO-N-PHENYLACETAMIDE HYDROCHLORIDE|2-AMINOACETANILIDE HYDROCHLORIDE|AMINOACETIC ANILIDE HYDROCHLORIDE|BENZOKOLL|GLYCINANILIDE HYDROCHLORIDE|GLYCINANILIDE, HYDROCHLORIDE|GLYCOCOLLANILIDE HYDROCHLORIDE|N-GLYCYLANILINE HYDROCHLORIDE	4801-39-2	PHYSICAL DESCRIPTION: Black solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1838.0	197.0	626.0	347.0	194.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4029	2-AMINO-N6-HYDROXYADENINE	2-AMINO-6-(HYDROXYAMINO)PURINE|2-AMINO-N[SUP 6]-HYDROXYADENINE|2-AMINO-N6-HYDROXYADENINE|GUANINE, OXIME|N6-HYDROXY-1H-PURINE-2,6-DIAMINE|PURINE, 2-AMINO-6-(HYDROXYAMINO)-	7269-57-0	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1838.0	197.0	626.0	347.0	194.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4030	2-BENZIMIDAZOLYLUREA	BENZIMIDAZOL-2-YLUREA|2-BENZIMIDAZOLEUREA|2-BENZIMIDAZOLYL)UREA|2-BENZIMIDAZOLYLUREA|1H-BENZIMIDAZOL-2-YL-UREA|P-BENZIMIDAZOLYUREA|UREA, (2-BENZIMIDAZOLYL)-|2-UREIDOBENZIMIDAZOLE	24370-25-0	PHYSICAL DESCRIPTION: Beige solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1838.0	197.0	626.0	347.0	194.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4031	2-BUTENE	2-BUTENE, (E)|2-BUTENE-CIS|2-BUTENE-TRANS|2-BUTENE|CIS-2-BUTENE|TRANS-2-BUTENE	590-18-1	A colorless liquefied petroleum gas. Asphyxiate gas. Flammability limits in air 1.8-9.7% by volume.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1838.0	197.0	626.0	347.0	194.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	noe_ifire_resp	prec_Clothing	air_water_reactions	chemical_profile	special_hazards	isolation	mpa_soue ce	mpa_noee	mpa_Hash ir	mpa_Hash	mpa_react	mpa_Hash lab	fp_source	fp_noe	fp_value	fp_range	le_source	le_noee	le_value	le_unit	le_range	uel_source e	uel_noee	uel_value	uel_range	uel_unit	al_source	al_noee	al_value	al_range	mp_source e	mp_noee	mp_value	mp_range
4026	2-AMINO-6-CHLORO-4-NITROPHENOL; HYDROCHLORIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained breathing apparatus, rubber boots, heavy rubber gloves and protective clothing. (USCG, 1999)	Slightly soluble in water.	2,6-XYLIDINE reacts with strong oxidizing agents [Handling Chemicals Safely 1980 p. 964]. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	An organosulfide and amine derivative. Carboxylic acid. Look at Reactive Groups 20 (organosulfides), 7 (amines), and 3 (carboxylic acids) may give indications about reactive tendencies.	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0	(NTP, 1992)	196	(NTP, 1992)	1.5	%			761			(NTP, 1992)			(NTP, 1992)	(Decompo ses)	428	47.1
4029	2-AMINO-N6-HYDROXYADENINE	REC\OMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992) STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Slightly soluble in water.		An organosulfide and amine derivative. Carboxylic acid. Look at Reactive Groups 20 (organosulfides), 7 (amines), and 3 (carboxylic acids) may give indications about reactive tendencies.						0																												
4030	2-BENZIMIDAZOLYLUREA	REC\OMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992) STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	This chemical is sensitive to light and air. Slightly water soluble (NTP, 1992).		2-AMINO-3,4-DIMETHYLIMIDAZO[4,5-F]QUINOLINE is rapidly degraded by dilute hypochlorite. (NTP, 1992)						0																												
4027	2-AMINOACETANILIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)						0																												
4028	2-AMINOACETANILIDE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	(BLOB)	Insoluble in water.	2-ACETYLAMINOFLUORENE is incompatible with acids, bases and oxidizing agents. Ozone and chlorinating agents oxidize this compound (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												
4031	2-BUTENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been REC\OMENDED RESPIRATOR: Where the heat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992) STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Insoluble in water.	TRICAPRYLIN is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is incompatible with strong oxidizers. (NTP, 1992).						0	(NTP, 1992)		351																													50		(NTP, 1992)																		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4026	2-AMINO-6-CHLORO-4-NITROPHENOL HYDROCHLORIDE	(NTP, 1992)	; 5 mm Hg at 162.7Â° F; 100 mm Hg at 295Â° F	1		111.2		mm Hg	(NTP, 1992)		4.17				(USCG, 1999)		0.984				(NTP, 1992)		417		739		(NTP, 1992)		121.2						(NTP, 1992)	at 75Â° F		less than 1	mg/mL	DMM	Poison	C8H11N		0.0	0.0	0.0	0.0	0.0
4027	2-AMINOACETANILIDE																										(NTP, 1992)		181.2												Poison	C9H11NO2		0.0	0.0	0.0	0.0	0.0
4028	2-AMINOACETANILIDE HYDROCHLORIDE	(NTP, 1992)		0.00023		212		mm Hg																			(NTP, 1992)		223.28		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Class 9	C15H13NO		0.0	0.0	0.0	0.0	0.0
4029	2-AMINO-N6-HYDROXYADENINE																										(NTP, 1992)		146.17						(NTP, 1992)	at 73Â° F		1 to 5	mg/mL			C4H6N2O2S	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4030	2-BENZIMIDAZOLYLUREA																										(NTP, 1992)		212.25						(NTP, 1992)	Slightly soluble						C12H12N4	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4031	2-BUTENE	(NTP, 1992)	; 13 mm Hg at 122Â° F	3		77		mm Hg							(NTP, 1992)		0.954		68		(NTP, 1992)		451.6		760		(NTP, 1992)		470.7						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C27H50O6	Dirt/Earth	1.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4032	2-CHLORO-2-NITROPROPANE	2-CHLORO-2-NITROPROPANE|CHLORONITROPROPANE	594-71-8	PHYSICAL DESCRIPTION: Clear colorless to slightly yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1839.0	198.0	626.0	347.0	195.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4033	2-CHLOROETHYL ACRYLATE	ACRYLIC ACID BETA-CHLOROETHYL ESTER|ACRYLIC ACID, 2-CHLOROETHYL ESTER|ACRYLIC ACID, BETA-CHLOROETHYL ESTER|BETA-CHLOROETHYL ACRYLATE|2-CHLOROETHANOL ACRYLATE|CHLOROETHYL ACRYLATE|2-CHLOROETHYL ACRYLATE|ETHANOL, 2-CHLORO-, ACRYLATE|2-PROPENOIC ACID, 2-CHLOROETHYL ESTER|2-PROPENOIC ACID, BETA-CHLOROETHYL ESTER	2206-89-5	PHYSICAL DESCRIPTION: Insoluble in water (<1 mg/mL at 70Â°F). (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1839.0	198.0	626.0	347.0	195.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4034	2-CYCLOHEXYL-4,6-DINITROPHENOL	2-CYCLOHEXYL-4,6-DINITROPHENOL|DINEX|2,4-DINITRO-6-CYCLOHEXYLPHENOL|4,6-DINITRO-O-CYCLOHEXYL PHENOL|DINITRO-O-CYCLOHEXYLPHENOL|4,6-DINITRO-O-CYCLOHEXYLPHIDE|DINITROCYCLOHEXYLPHENOL|DN|DN (PESTICIDE)|DN I|DNOCHP|DRY MIX NO. 1|SN 46	131-89-5	Yellow crystals. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1839.0	198.0	626.0	347.0	195.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4035	2-ETHYLHEXENAL	ALPHA-ETHYLHEXENAL|2-ETHYLHEXEN-1-AL|2-ETHYLHEXENAL	26266-68-2	PHYSICAL DESCRIPTION: Colorless to yellow liquid with a powerful odor. Technical mixture (impure). (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1839.0	198.0	627.0	347.0	195.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. When heated emits acrid fumes. When exposed to flames can react vigorously with reducing materials. (USCG, 1999)	Extinguish with dry chemical, alcohol foam, or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water. (USCG, 1999)
4036	2-ETHYLNAPHTHALENE	B-ETHYL NAPTHALENE|BETA-ETHYLNAPHTHALENE|2-ETHYLNAPHTHALENE|NAPTHALENE, 2-ETHYL	939-27-5	Colorless liquid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1839.0	198.0	627.0	347.0	195.0	(BLOB)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4032	2-CHLORO-2-NITROPROPANE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Peroxide formation with air with initiation of polymerization No rapid reaction with water	INDENE is combustible (flash point between 140Â°F and 200Â°F). Polymerizes and oxidizes on standing in the air. This reaction is accelerated by heating, acids, and catalysts, including peroxides. Has exploded during nitration with a mixture of H2SO4 and HNO3.	Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		173															(NIOSH, 2003)		29	
4033	2-CHLOROETHYL ACRYLATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the mono functional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class. [Bretherick 2nd ed., p 44 1979.]	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4034	2-CYCLOHEXYL-4,6-DINITROPHENOL	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly Flammable. Water insoluble.	2-AMINO-4,6-DINITROPHENOL should not be subjected to strong shock or heat, and is a dangerous fire risk. This compound reacts with strong oxidizing agents. (NTP, 1992). Explodes if dried and exposed to heat, flame, friction or shock. Wetting greatly reduces this tendency. Treat as an explosive. Mixing with reducing agents, including hydrides, sulfides, nitrides, and alkali metals may lead to a vigorous reaction that culminates in a detonation. May explode in the presence of a base such as sodium hydroxide or potassium hydroxide, even in the presence of water or organic solvents. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. An amino acid (reacts as an acid with bases and as a base with acids).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4035	2-ETHYLHEXENAL	Shut off ignition sources ... Stop discharge if possible. Keep people away. Avoid contact with liquid and vapor. Stay upwind and use water spray to ``knock down" vapor. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	ISO-AMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound can react violently with oxidizing materials, nitrates, strong alkalis and strong acids. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		77		(NTP, 1992)	at 212Â° F	1		%	(NTP, 1992)		7.5		%	(USCG, 1999)		680		(NTP, 1992)		-109.3	
4036	2-ETHYLNAPHTHALENE	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber gloves, chemical goggles. (USCG, 1999)	Highly flammable. Slightly soluble in water	ISOBUTYL ACRYLATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Polymerizes readily in the presence of heat and light generating much heat; reacts with strong oxidants. REF [Handling Chemicals Safely, 1980. p. 235].	Highly Flammable; Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		86		(USCG, 1999)		1.9		%	(USCG, 1999)		8		%	(USCG, 1999)		644		(USCG, 1999)		-78	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4032	2-CHLORO-2-NITROPROPANE														(NIOSH, 2003)		0.997				(NIOSH, 2003)		359		760		(NIOSH, 2003)		116.2						(NIOSH, 2003)	Insoluble					Combustible Liquid	C9H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4033	2-CHLOROETHYL ACRYLATE																																									Organic Peroxide Explosive	C14H28O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4034	2-CYCLOHEXYL-4,6-DINITROPHENOL																																								Flammable Solid	C6H5N3O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4035	2-ETHYLHEXENAL	(NTP, 1992)	; 5 mm Hg at 74.7Â° F; 760 mm Hg at 288Â° F	4		68		mm Hg	(NTP, 1992)		4.49				(USCG, 1999)		0.876		59		(NTP, 1992)		288		760		(NTP, 1992)		130.18		(NIOSH, 2003)		1000	ppm	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	IAT	Flammable Liquid	C7H14O2		0.0	0.0	0.0	0.0	0.0
4036	2-ETHYLNAPHTHALENE	(USCG, 1999)		20.68				mm Hg							(USCG, 1999)		0.889		68		(NTP, 1992)		270		760		(NTP, 1992)		128.17						(NTP, 1992)	Slightly soluble				BAI	Flammable Liquid	C7H12O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4037	2-FLUOROTOLUENE	2-FLUORO-1-METHYLBENZENE|1-FLUORO-2-METHYLBENZENE|2-FLUOROTOLUENE|1-METHYL-2-FLUOROBENZENE|O-FLUOROTOLUENE|O-TOLYL FLUORIDE	95-52-3	A colorless liquid with an aromatic odor. May sink or float on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1840.0	198.0	628.0	347.0	195.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4038	2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL KETONE	5-ACETYL-2-MERCAPTO-4-METHYLTHIAZOLE|1-(2,3-DIHYDRO-4-METHYL-2-THIOXO-5-THIAZOLYL)ETHANONE|KETONE, 2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL|2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL KETONE|2-MERCAPTO-5-ACETYL-4-METHYLTHIAZOLE	7725-93-1		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1840.0	198.0	628.0	347.0	195.0			
4039	2-METHYL-2-HEPTANETHIOL	2-METHYL-2-HEPTANETHIOL|2-METHYL-2-HEPTYL MERCAPTAN	763-20-2	A straw-colored liquid with a strong, obnoxious odor. Lethal by inhalation of even small amounts of vapor. Lethal by skin absorption. Skin and eye irritant. Decomposes at high temperatures to form toxic sulfur oxides and flammable hydrogen sulfide. Less dense than water. Used as a lubricant additive and in polymer modification.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1841.0	198.0	628.0	347.0	195.0	INHALATION: move to fresh air. INGESTION: give large amounts of water. EYES: flush with water for at least 15 min.; get medical attention if irritation persists. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4040	2'-METHYL-4-DIMETHYLAMINOAZOBENZENE	ANILINE, N,N-DIMETHYL-P-(O-TOLYLAZO)-|BENZENAMINE, N,N-DIMETHYL-4-[(2-METHYLPHENYL)AZO]-|4-(DIMETHYLAMINO)-2'-METHYLAZOBENZENE|4-DIMETHYLAMINO-2'-METHYLAZOBENZENE|2-METHYL-4'-(DIMETHYLAMINO)AZOBENZENE|2'-METHYL-4-(DIMETHYLAMINO)AZOBENZENE|2'-METHYL-4-DIMETHYLAMINOAZOBENZENE|2'-METHYL-P-(DIMETHYLAMINO)AZOBENZENE|N,N-DIMETHYL-4-(O-TOLYAZO)-ANILINE|N,N-DIMETHYL-4-(O-TOLYAZO)-)ANILINE|N,N-DIMETHYL-4-PHENYLAZO-M-TOLUIDINE|N,N-DIMETHYL-4-[(2-METHYLPHENYL)AZO]BENZENAMINE|N,N-DIMETHYL-P-(O-TOLYLAZO)ANILINE|O'-METHYL-P-DIMETHYLAMINOAZOBENZ	3731-39-3	PHYSICAL DESCRIPTION: Red crystals or red-orange solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1841.0	198.0	629.0	347.0	195.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4041	2-METHYL-4-DIMETHYLAMINOAZOBENZENE	M-TOLUIDINE, N,N-DIMETHYL-4-(PHENYLAZO)-|2-ME DAB|2-MEDAB|2-METHYL-4-(DIMETHYLAMINO)AZOBENZENE|2-METHYL-4-DIMETHYLAMINOAZOBENZENE|2-METHYL-DAB|2-METHYL-N,N-DIMETHYL-4-AMINOAZOBENZENE|N,N-DIMETHYL-4-(PHENYLAZO)-M-TOLUIDINE|4-(N,N-DIMETHYLAMINO)-2-METHYLAZOBENZENE|2,N,N-TRIMETHYL-4-AMINOAZOBENZENE	54-88-6	PHYSICAL DESCRIPTION: Red-orange crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1841.0	198.0	629.0	347.0	195.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4042	2-METHYLGLYCIDYL ACRYLATE	ACRYLIC ACID, 2,3-EPOXY-2-METHYLPROPYL ESTER|BETA-METHYLGLYCIDYL ACRYLATE|1,2-EPOXY-2-METHYLPROPYL ACRYLATE|2,3-EPOXY-2-METHYLPROPYL ESTER ACRYLIC ACID|2-METHYL-2,3-EPOXYPROPYL ACRYLATE|2-METHYLGLYCIDYL ACRYLATE|(2-METHYLOXIRANYL)METHYL ESTER	19900-46-0		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1841.0	198.0	629.0	348.0	195.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases and vapors, such as nitrogen oxides, hydrogen chloride, and carbon monoxide, may be released in a fire. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4037	2-FLUOROTOLUENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	ISOBUTYL CAPROATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4038	2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL KETONE			No rapid reaction with air. No rapid reaction with water.	1,1-DICHLORO-1-FLUOROETHANE may be incompatible with strong oxidizing and reducing agents. May be incompatible with some amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. An explosion occurred when an emptied drum of this compound was cut into by a grinder; may be more flammable than once thought.						0																									
4039	2-METHYL-2-HEPTANETHIOL	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Organic chemical respirator; goggles or face shield; rubber gloves (USCG, 1999)	Flammable. Water soluble	ISOBUTYRIC ACID corrodes aluminum and other metals. Flammable hydrogen gas may accumulate in enclosed spaces in which this reaction has taken place (USCG, 1999).		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		132										(USCG, 1999)		935		(USCG, 1999)		-51	
4040	2'-METHYL-4-DIMETHYLAMINOAZOBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An acidic salt of an organic amine. Materials in this group are generally soluble in water, though some also may react with water. The resulting solutions contain moderate concentrations of hydrogen ions and have pHs of less than 7.0. Compounds in this group react as weak acids to neutralize bases. These neutralizations generate heat, but less than is generated by neutralization of inorganic acids, inorganic oxoacids, or carboxylic acids. Many of these compounds catalyze organic reactions.					0																							(NTP, 1992)		266 to 275
4041	2-METHYL-4-DIMETHYLAMINOAZOBENZENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation Test Results of Diluted Chemical in water (410 mg/mL): If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time PVC Edmont 34-100 0.18 mm 480 min Latex Ansell 9020-5 0.13 mm 480 min (NTP, 1992)	Decomposes on exposure to air and light, becoming yellow, pink and, finally, violet. Water soluble.	CHLORPROMAZINE HYDROCHLORIDE is incompatible in aqueous solution with sodium salts of barbiturates and other alkaline solutions. Solutions may be stabilized by addition of antioxidants and storing under nitrogen. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)		378 to 385
4042	2-METHYLGLYCIDYL ACRYLATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	1,1-DICHLORO-1-NITROETHANE is incompatible with oxidizers. It will attack some forms of plastics, rubber and coatings. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	3	5		(NTP, 1992)		168																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4037	2-FLUOROTOLUENE																																								Combustible Liquid	C10H20O2		8.0	0.0	0.0	0.0	0.0
4038	2-MERCAPTO-4-METHYL-5-THIAZOLYL METHYL KETONE																																										C2H3FCl2		0.0	0.0	0.0	0.0	0.0
4039	2-METHYL-2-HEPTANETHIOL														(USCG, 1999)		0.949		68		(USCG, 1999)		309		760		(USCG, 1999)		88											IBR	Flammable Liquid|Corrosive	C4H8O2		0.0	0.0	0.0	0.0	0.0
4040	2'-METHYL-4-DIMETHYLAMINOAZOBENZENE																				(NTP, 1992)		390.87												(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C16H19ClN2.C4H4O4	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4041	2-METHYL-4-DIMETHYLAMINOAZOBENZENE																				(NTP, 1992)		355.33												(NTP, 1992)	at 75Â° F		greater than or equal to 100	mg/mL		Poison	C17H19ClN2S.ClH	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4042	2-METHYLGLYCIDYL ACRYLATE	(NTP, 1992)		16		77		mm Hg	(NTP, 1992)		5				(USCG, 1999)		1.42				(NTP, 1992)		255		760		(NTP, 1992)		143.96		(NIOSH, 2003)		25	ppm	(NTP, 1992)	at 66Â° F		1 to 10	mg/mL	DCT	Poison	C2H3Cl2NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4043	2-METHYLPHENANTHRENE	2-METHYLPHENANTHRENE|PHENANTHRENE, 2-METHYL-	2531-84-2	PHYSICAL DESCRIPTION: White crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1842.0	198.0	630.0	348.0	195.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4044	3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YL BENZENEDIAZONIUM ZINC CHLORIDE	3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YL BENZENEDIAZONIUM ZINC CHLORIDE|3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YLBENZENE-DI-AZONIUM ZINC CHLORIDE	15005-97-7	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1843.0	198.0	630.0	348.0	195.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4045	3,3'-DICHLORO-4,4'-DIAMINODIPHENYL ETHER	ANILINE, 4,4'-OXYBIS[2-CHLORO-]|BIS(4-AMINO-3-CHLOROPHENYL) ETHER|3,3'-DICHLORO-4,4'-DIAMINODIPHENYL ETHER|4,4'-OXYBIS(2-CHLOROANILINE)|4,4'-OXYBIS(2-CHLOROBENZENAMINE)	28434-86-8		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1843.0	198.0	631.0	348.0	195.0	(BLOB)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4046	3,3'-DICHLOROBENZIDINE SULFATE	3,3'-DICHLOROBENZIDINE SULFATE	64969-34-2	A white crystalline powder. Toxic by ingestion and skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1844.0	198.0	631.0	348.0	195.0	Call a physician. EYES: Wash with plenty of water. SKIN: Wash exposed parts well with water. (USCG, 1999)	Special Hazards of Combustion Products: Decomposes to chromic acid when heated. (USCG, 1999)	
4047	3,3'-DIMETHOXYBENZIDINE HYDROCHLORIDE	3,3'-DIMETHOXYBENZIDINE HYDROCHLORIDE|O-DIANISIDINE HYDROCHLORIDE	111984-09-9	Colorless crystals. Very toxic. Azo dye intermediate.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1844.0	198.0	631.0	348.0	195.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4048	3,3'-DIMETHOXYBENZIDINE-4,4'-DIISOCYANATE	DIANISIDINE DIISOCYANATE|4,4'-DIISOCYANATO-3,3'-DIMETHOXY-1,1'-BIPHENYL|4,4'-DIISOCYANATO-3,3'-DIMETHOXYBIPHENYL|3,3'-DIMETHOXY-4,4'-BIPHENYLENE DIISOCYANATE|3,3'-DIMETHOXY-4,4'-BIPHENYLENEIISOCYANATE|3,3'-DIMETHOXY-4,4'-BIPHENYLYLENE DIISOCYANATE|3,3'-DIMETHOXY-4,4'-BIPHENYLYLENE ISOCYANATE|3,3'-DIMETHOXYBENZIDINE-4,4'-DIISOCYANATE|ISOCYANIC ACID, 3,3'-DIMETHOXY-4,4'-BIPHENYLENE ESTER|ISOCYANIC ACID, 3,3'-DIMETHOXY-4,4'-BIPHENYLYLENE ESTER|NCI C02175	91-93-0	PHYSICAL DESCRIPTION: Gray to brown powder or dark beige sandy powder. Melting point 112Â°C. Insoluble in water. Toxic by inhalation and ingestion. A skin irritant. Used in making plastics.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1844.0	198.0	631.0	348.0	195.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4043	2-METHYLPHENANTHRENE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed by strong acid and base.	A chlorinated organophosphate derivative. Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. It is incompatible with strong acids and bases.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
4044	3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YL BENZENEDIAZONIUM ZINC CHLORIDE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	(BLOB)	Water soluble.	A very powerful oxidizing agent, confirmed human carcinogen. Upon contact with reducing reagents it can cause a violent explosion, in contact with organic matter it may cause a violent oxidation leading to ignition. Dangerously reactive with acetone, alcohols, alkali metals (sodium, potassium), ammonia, arsenic, dimethylformamide, hydrogen sulfide, phosphorus, peroxyformic acid, pyridine, selenium, sulfur, and many other chemicals [Sax, 9th ed., 1996, p. 852]. When mixed with sulfuric acid for glass cleaning operations, used solution in closed bottle may explode due to internal pressure of carbon dioxide arising from contamination by carbon compounds [Bryson, W. R., Chem. Brit., 1975, 11, p. 377].	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																											
4045	3,3'-DICHLORO-4,4'-DIAMINODIPHENYL ETHER	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	1,1-DIFLUOROETHYLENE is sensitive to heat. This compound is incompatible with oxidizers. It can react violently with hydrogen chloride. Alkyl boron and alkyl hyponitrite compounds initiate polymerization. It will form peroxides on exposure to pure oxygen. (NTP, 1992).	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	2	6						(NTP, 1992)		5.5		%	(NTP, 1992)		21.3		%	(NTP, 1992)		1184		(NTP, 1992)		-227	
4046	3,3'-DICHLOROBENZIDINE SULFATE		Rubber gloves, safety glasses, laboratory coat, dust mask. (USCG, 1999)	Water soluble.	Acidic organic/inorganic salts, such as CHROMIC SULFATE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																						(USCG, 1999)		212	
4047	3,3'-DIMETHOXYBENZIDINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2-AMINOANTHRAQUINONE may react with strong oxidizing agents. Forms salts with mineral acids. Can be acylated or alkylated on the nitrogen atom and nitrated or sulgonated in the ring (NTP, 1992).						0																						(NTP, 1992)		577 to 583	
4048	3,3'-DIMETHOXYBENZIDINE-4,4'-DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	2-AMINOBENZENE SULFONIC ACID is an amino acid. Reacts weakly with both acids and bases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)	617	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4043	2-METHYLPHENANTHRENE																																								Class 9	C7H7Cl3NO3PS	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4044	3-(2-HYDROXYETHOXY)-4-PYRROLIDIN-1-YL BENZENEDIAZONIUM ZINC CHLORIDE																														(NIOSH, 2003)	As Cr(VI); A potential human carcinogen.	15	mg/m3							Oxidizer|Poison|Corrosive	CrH2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4045	3,3'-DICHLORO-4,4'-DIAMINODIPHENYL ETHER	(NTP, 1992)	; 26980 mm Hg at 68Â° F	21584		50		mm Hg	(NTP, 1992)		2.2				(NTP, 1992)	(liquid)	0.617		75		(NTP, 1992)		-123		760		(NTP, 1992)		64.04						(NTP, 1992)	at 77Â° F and 760 mm Hg	0.018		g/100 g		Flammable Gas	C2H2F2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4046	3,3'-DICHLOROBENZIDINE SULFATE														(USCG, 1999)	3.012 at 68Â° F for anhydrous salt Hydrated: 1.867 at 17 for 15 H 2 O; 1.7 at 22 for 18 H 2 O					(USCG, 1999)	Loses water of hydration at 212.0Â° F r 2 (SO 4) 3 . 18 loses 12 Cr 2 (SO 4) 3 . 15 loses 10					(USCG, 1999)		392.2		(NIOSH, 2003)	[as Cr(III)]	25	mg/m3						CHS		Cr2(SO4)3		0.0	0.0	0.0	0.0	0.0
4047	3,3'-DIMETHOXYBENZIDINE HYDROCHLORIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		223.24						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C14H9NO2		0.0	0.0	0.0	0.0	0.0
4048	3,3'-DIMETHOXYBENZIDINE-4,4'-DIISOCYANATE																										(NTP, 1992)		173.19						(NTP, 1992)	at 72Â° F		10 to 50	mg/mL		Corrosive	C6H7NO3S		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4049	3,3'-DIMETHYL DIPHENYLMETHANE-4,4'-DIISOCYANATE	3,3'-DIMETHYL DIPHENYLMETHANE-4,4'-DIISOCYANATE[3,3'-DIMETHYLDIPHENYLMETHANE-4,4'-DIISOCYANATE	139-25-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1845.0	198.0	632.0	348.0	195.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4050	3,3'-DIMETHYLBENZIDINE DIHYDROFLUORIDE	3,3'-DIMETHYLBENZIDINE DIHYDROFLUORIDE|O-TOLIDINE DIHYDROFLUORIDE	41766-75-0	A solid. This is an acidic ammonium salt. This salt is a potential source of fluoride ions, which are corrosive.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1845.0	198.0	632.0	348.0	195.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4051	3-[(2-ETHYLHEXYL)OXY]PROPIONITRILE	BETA-(2-ETHYLHEXYLOXY)PROPIONITRILE|2-CYANOETHYL 2-ETHYLHEXYL ETHER|3-[(2-ETHYLHEXYL)OXY]PROPIONITRILE|3-(2-ETHYLHEXYLOXY)PROPIONITRILE|PROPANENITRILE, 3-((2-ETHYLHEXYL)OXY)-|PROPIONITRILE, 3-[(2-ETHYLHEXYL)OXY]-	10213-75-9	PHYSICAL DESCRIPTION: Slightly cloudy yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1846.0	198.0	632.0	350.0	195.0	(BLOB)	Behavior in Fire: Highly volatile liquid. Vapors may explode when mixed with air. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
4052	3-AMINO-9-ETHYLCARBAZOLE HYDROCHLORIDE	9-AMINO ETHYL CARBAZOLE HYDROCHLORIDE|3-AMINO-9-ETHYLCARBAZOLE HCL|3-AMINO-9-ETHYLCARBAZOLE HYDROCHLORIDE|3-AMINO-N-ETHYLCARBAZOLE.HCL|CARBAZOLE, 3-AMINO-9-ETHYL-, HYDROCHLORIDE|NCI-C03043	6109-97-3	PHYSICAL DESCRIPTION: Bluish-green powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1846.0	198.0	632.0	350.0	195.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4053	3-CARBETHOXYPSORALEN	3-CARBETHOXYPSORALEN|3-ETHOXYCARBONYLPSORALEN|ETHYL FURO[3,2-G]COUMARIN-3-CARBOXYLATE|7-OXO-7H-FURO(3,2-G)(1)BENZOPYRAN-6-CARBOXYLIC ACID ETHYL ESTER	20073-24-9	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1846.0	198.0	632.0	350.0	195.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4054	3-CHLORO-4-DIETHYLAMINOBENZENEDIAZONIUM ZINC CHLORIDE	3-CHLORO-4-DIETHYLAMINOBENZENEDIAZONIUM ZINC CHLORIDE	15557-00-3	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1846.0	198.0	632.0	350.0	195.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4049	3,3'-DIMETHYL DIPHENYLMETHANE-4,4'-DIISOCYANATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. May form unstable peroxides when exposed to oxygen. These products can sometimes be observed as clear crystals deposited on containers or along the surface of the liquid. Slightly soluble in water.	1,1-DIMETHOXYETHANE may react violently with strong oxidizing agents. Can act as a weak base to form salts with strong acids and addition complexes with Lewis acids. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4050	3,3'-DIMETHYLBENZIDINE DIHYDROFLUORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		270	
4051	3-[(2-ETHYLHEXYL)OXY]PROPIONITRILE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Eye protection (as for gasoline) (USCG, 1999)	Highly flammable. Insoluble in water.	ISOPENTANE is a fire and explosion hazard when in contact with oxidizing agents. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NTP, 1992)	-70	(NTP, 1992)		1.4		%	(NTP, 1992)		7.6		%	(USCG, 1999)	800		(NTP, 1992)		-255.8	
4052	3-AMINO-9-ETHYLCARBAZOLE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This material may be sensitive to exposure to air (NTP, 1992). Insoluble in water.	A halogenated and nitrated aryl amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																							(NTP, 1992)		307 to 309	
4053	3-CARBETHOXYPSORALEN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Suggested Glove Type(s): Viton, Butyl rubber (NTP, 1992)	Hygroscopic. Water soluble.	2-BROMOETHANOL forms an azeotrope with water; hydrolysis of aqueous solutions is accelerated by heat, alkalis and acids. (NTP, 1992)		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		105																		
4054	3-CHLORO-4-DIETHYLAMINOBENZENEDIAZONIUM ZINC CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Thickens on exposure to air. May be unstable to prolonged exposure to air. Slightly water soluble (NTP, 1992).	CINNAMALDEHYDE reacts with sodium hydroxide owing to aerobic oxidation. (NTP, 1992)	Peroxidizable Compound						0		(NTP, 1992)		160																	(NTP, 1992)		18.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4049	3,3'-DIMETHYL DIPHENYLMETHANE-4,4'-DIISOCYANATE																																								Flammable Liquid	C4H10O2		0.0	0.0	0.0	0.0	0.0
4050	3,3'-DIMETHYLBENZIDINE DIHYDROFLUORIDE														(NTP, 1992)		0.5				(NTP, 1992)	Decomposes					(NTP, 1992)		150.2						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H6N2S	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4051	3-[(2-ETHYLHEXYL)OXY]PROPIONITRILE	(NTP, 1992)	; 595 mm Hg at 70.0Â° F	400		50.9		mm Hg	(NTP, 1992)		2.48				(USCG, 1999)		0.62		68		(NTP, 1992)		82		760		(NTP, 1992)		72.15						(NTP, 1992)	at 73Â° F		less than 1	mg/mL	IPT	Flammable Liquid	C5H12		0.0	0.0	0.0	0.0	0.0
4052	3-AMINO-9-ETHYLCARBAZOLE HYDROCHLORIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		262.03						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C6H4BrN3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4053	3-CARBETHOXYPSORALEN	(NTP, 1992)		12		122		mm Hg							(NTP, 1992)		1.7629		68		(NTP, 1992)	(Decomposes)		300 to 302	750		(NTP, 1992)		124.97						(NTP, 1992)	at 66Â° F		10 to 50	mg/mL		Flammable Liquid	C2H5BrO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4054	3-CHLORO-4-DIETHYLAMINOBENZENEDIAZONIUM ZINC CHLORIDE	(NTP, 1992)	; 40 mm Hg at 306Â° F	1		169		mm Hg							(NTP, 1992)		1.112		59		(NTP, 1992)		484		760		(NTP, 1992)		132.15						(NTP, 1992)	Slightly soluble						C9H8O	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4055	3-DIMETHYLAMINO-4-METHYLPHENOL	3-(DIMETHYLAMINO)-P-CRESOL|2-DIMETHYLAMINO 4-HYDROXYTOLUENE|3-DIMETHYLAMINO-4-METHYLPHENOL|P-CRESOL, 3-(DIMETHYLAMINO)-	119-31-3	Red liquid with phenolic odor.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1847.0	198.0	633.0	350.0	195.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4056	3-METHYL-6-METHOXY-2-AMINOBENZOTHIAZOLIUM CHLORIDE	3-METHYL-6-METHOXY-2-AMINOBENZOTHIAZOLIUM CHLORIDE	322012-65-7	PHYSICAL DESCRIPTION: Fine white clumpy powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1847.0	198.0	633.0	350.0	195.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
4057	3-METHYLAMINO-4-METHYLPHENOL	4-HYDROXY-2-METHYLAMINOTOLUENE|4-METHYL-3-METHYLAMINOPHENOL|3-(METHYLAMINO)-P-CRESOL|3-METHYLAMINO-4-METHYLPHENOL|P-CRESOL, 3-(METHYLAMINO)-	6265-13-0	Crystalline solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1848.0	198.0	634.0	350.0	195.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4058	3-QUINUCLIDINYL BENZILATE	3-QUINUCLIDINYL BENZILATE	6581-06-2	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1849.0	198.0	634.0	352.0	195.0	(BLOB)	Extremely dangerous; this chemical has exploded while stored in refrigerator. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. Like other chlorides, when heated to decomposition or on contact with acids or acrid fumes, they evolve highly toxic chloride fumes. Reacts violently with phosgene. Unstable, avoid phosgene (EPA, 1998)	Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Keep unnecessary people away and isolate hazard area. Stay upwind and keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. For small fires, use dry chemical, carbon dioxide, water spray or foam. For large fires, use water spray, fog or foam. Do not get water inside container. Cool containers exposed to flame with water until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
4059	4,4'-DIACETYL-BIS(AMIDINOHYDRAZONE) CARBANILIDE DIHYDROCHLORIDE TRIHYDRATE	4,4'-DIACETYL-BIS(AMIDINOHYDRAZONE) CARBANILIDE DIHYDROCHLORIDE TRIHYDRATE	13284-07-6	PHYSICAL DESCRIPTION: Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1849.0	199.0	634.0	352.0	196.0	(BLOB)	Vapor may explode if ignited in an enclosed area. Vapors may travel to a source of ignition and flashback. Runoff to sewer may create fire or explosion hazard. When it decomposes, 1,1-dimethylhydrazine gives off toxic nitrogen compound fumes. Dissolves, swells, and disintegrates many plastics. Dangerous when exposed to heat, flame, or oxidizers. Hazardous polymerization may not occur. (EPA, 1998)	Move containers from fire area if it can be done without risk. Dike fire control water for later disposal, do not scatter the material. Cool containers that are exposed to flames with water until well after fire is out, wear positive pressure breathing apparatus and special protective clothing. Isolate for one-half mile in all directions if tank car or truck is involved in fire. Use dry chemical, carbon dioxide, water spray, or foam for small fires. In large fires water fog, carbon dioxide, and bicarbonate agents may allow flashback and explosive re-ignition. (EPA, 1998)
4060	4,4'-METHYLENEDIANILINE DIHYDROCHLORIDE	ANILINE, 4,4'-METHYLENEDI-, DIHYDROCHLORIDE|BENZENAMINE, 4,4'-METHYLENEBIS-, DIHYDROCHLORIDE|4,4'-DIAMINODIPHENYLMETHANE DIHYDROCHLORIDE|4,4'-METHYLENEBISBENZENAMINE DIHYDROCHLORIDE|4,4'-METHYLENEDIANILINE DIHYDROCHLORIDE|NCI-C54604|P,P'-METHYLENEDIANILINE DIHYDROCHLORIDE	13552-44-8	PHYSICAL DESCRIPTION: Light beige fine powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1850.0	199.0	635.0	352.0	196.0	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4055	3-DIMETHYLAMINO-4-METHYLPHENOL	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Isoprene oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Insoluble in water and much less dense than water.	(BLOB)	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for isoprene, CAS number 78-79-5	1	4	2	6																								
4056	3-METHYL-6-METHOXY-2-AMINOBENZOTHIAZOLIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber, PVA (NTP, 1992)	Highly flammable. Insoluble in water.	2-CHLORO-2-NITROPROPANE is incompatible with aluminum powder, potassium, carbon tetrachloride+benzoyl peroxide, and sodium. (NTP, 1992). This compound is stable under normal laboratory conditions, but it is unstable when heated rapidly.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			2	3	5		(NTP, 1992)		135																				
4057	3-METHYLAMINO-4-METHYLPHENOL	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable.	Nitriles, such as CIS-2-METHYL-2-BUTENENITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4058	3-QUINUCLIDINYL BENZILATE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Gives off HCl fumes in moist air. Insoluble in water. Decomposes slowly in water forming isopropyl alcohol, HCl, and CO2.	ISOPROPYL CHLOROFORMATE is water reactive. A sample stored in a refrigerator exploded [Wischmeyer 1973]. Attacks many metals especially in humid atmosphere [Handling Chemicals Safely, 1980. p. 476]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2407 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)		60.1		(EPA, 1998)	Flammable; may be ignited by heat, sparks or flame.				(EPA, 1998)	Flammable; may be ignited by heat, sparks or flame.											
4059	4,4'-DIACETYL-BIS(AMIDINOHYDRAZONE) CARBANILIDE DIHYDROCHLORIDE TRIHYDRATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable over a wide range of vapor concentrations. May ignite spontaneously when spread on a large surface exposed to the air. [Def. Res. and Eng., pp 299-300(1963)]. Dissolves and slowly decomposes in water.	1,1-DIMETHYLHYDRAZINE is a powerful reducing agent. Ignition can occur on contact with oxidizing agents such hydrogen peroxide and fuming nitric acid [Haz. Chem. Data(1966)]. Also reacts as a base to neutralize acids in exothermic reactions.	Highly Flammable; Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1163 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(EPA, 1998)		5	(EPA, 1998)		2		%	(EPA, 1998)		95		%	(NTP, 1992)		480		(EPA, 1998)		-72	
4060	4,4'-METHYLENEDIANILINE DIHYDROCHLORIDE	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Halogenated aliphatic compounds, such as 2-CHLOROPROPENE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Low molecular weight haloalkenes are highly flammable, peroxidizable and may polymerize violently. They may react violently with aluminum. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(NFPA, 2010)			less than 4																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4055	3-DIMETHYLAMINO-4-METHYLPHENOL																																								Flammable Liquid	C5H8 (isoprene)|C5H10 (pentene)	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4056	3-METHYL-6-METHOXY-2-AMINOBENZOTHIAZOLIUM CHLORIDE	(NTP, 1992)		22.3		77		mm Hg	(NTP, 1992)		4.26				(NTP, 1992)		1.197		68		(NTP, 1992)	(Decomposes)	273		760		(NTP, 1992)		123.55						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C3H6ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4057	3-METHYLAMINO-4-METHYLPHENOL																																								Flammable Liquid|Poison	C5H7N	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4058	3-QUINUCLIDINYL BENZILATE								(EPA, 1998)		4.2				(EPA, 1998)		1.08				(EPA, 1998)		220		761		(EPA, 1998)		122.55												Poison Inhalation Hazard|Flammable Liquid|Corrosive	C4H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4059	4,4'-DIACETYL-BIS(AMIDINOHYDRAZONE) CARBANILIDE DIHYDROCHLORIDE TRIHYDRATE	(EPA, 1998)		157		77		mm Hg	(EPA, 1998)		1.94				(EPA, 1998)		0.7914		71.6		(EPA, 1998)		147		760		(EPA, 1998)		60.1		(NIOSH, 2003)	; A potential human carcinogen.	15	ppm	(NTP, 1992)	Decomposes				DMH	Poison Inhalation Hazard|Flammable Liquid|Corrosive	C2H8N2		0.0	0.0	0.0	0.0	0.0
4060	4,4'-METHYLENEDIANILINE DIHYDROCHLORIDE																																								Flammable Liquid	C3H5Cl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4061	4-[BENZYL(ETHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	4-(BENZYL(ETHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE|4-[BENZYL(ETHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	21723-86-4	A white or colorless crystalline solid. Insoluble in water and more dense than water. May cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1850.0	199.0	635.0	352.0	196.0	INGESTION: have victim drink water or milk; do NOT induce vomiting. EYES: flush with water for at least 15 min. SKIN: wipe off and wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective.Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
4062	4-[BENZYL(METHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	4-(BENZYL(METHYL)AMINO)-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE|4-[BENZYL(METHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	4421-50-5	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1851.0	199.0	636.0	352.0	196.0	CALL FOR MEDICAL AID. EYES: Flush with clean water for at least 15 minutes. INGESTION: No treatment normally required. SKIN: Cool hot material with cold water. Remove with vegetable or mineral oil. (USCG, 1999)	Special Hazards of Combustion Products: Toxic gases, such as carbon monoxide, may be produced. (USCG, 1999)	Fire Extinguishing Agents: Water spray or foams. Avoid solid water streams to prevent frothing. (USCG, 1999)
4063	4-CHLORO-2-(2,4-DINITROANILINO)PHENOL	4-CHLORO-2-((2,4-DINITROPHENYL)AMINO)PHENOL|4-CHLORO-2-(2,4-DINITROANILINO)PHENOL|PHENOL, 4-CHLORO-2-(2,4-DINITROANILINO)-	6358-18-5		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1851.0	199.0	636.0	352.0	197.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4064	4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE	4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE|4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE	135072-82-1	A white-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May ignite and burn vigorously and persistently if exposed to extreme heat or flame.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1852.0	199.0	636.0	352.0	197.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4065	4-HYDROXYBUTYLBUTYLNITROSAMINE	BBN|BUTANOL (4)-BUTYL-NITROSAMINE|1-BUTANOL, 4-(BUTYLNITROSAMINO)-|BUTYL(4-HYDROXYBUTYL)NITROSAMINE|BUTYLBUTANOLNITROSAMINE|4-(BUTYLNITROSAMINO)-1-BUTANOL|4-BUTYLNITROSAMINO-1-BUTANOL|4-HYDROXY-N-NITROSODIBUTYLAMINE|4-HYDROXYBUTYLBUTYLNITROSAMINE|N-BUTYL-(4-HYDROXYBUTYL)NITROSAMINE|N-BUTYL-N-(1-HYDROXYBUTYL)NITROSAMINE|N-BUTYL-N-(4-HYDROXYBUTYL)NITROSAMINE|4-(N-BUTYLNITROSAMINO)-1-BUTANOL|N-NITROSOBUTYL-4-HYDROXYBUTYLAMINE|N-NITROSOBUTYLBUTAN-4-OLAMINE|NCI-C01434	3817-11-6	PHYSICAL DESCRIPTION: Dark red liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1853.0	199.0	637.0	352.0	197.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4061	4-[BENZYL(ETHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield. (USCG, 1999)	Highly flammable.	COAL TAR OIL contains phenols, which react as weak organic acids and are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Phenols also generate heat with bases. Such heating may initiate polymerization. Phenols are exothermically sulfonated very readily (for example, by concentrated sulfuric acid at room temperature) and are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols can explode when heated and form metal salts that may detonate when shocked.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(USCG, 1999)			60 to 77	(USCG, 1999)		1.3		%	(USCG, 1999)		8		%								
4062	4-[BENZYL(METHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear approved organic vapor respirator, chemical resistant gloves, and safety goggles. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0			(USCG, 1999)			greater than 842.0																		
4063	4-CHLORO-2-(2,4-DINITROANILINO)PHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this container from damage. Store under refrigeration at 5 degrees centigrade and protect from light. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: It is recommended that you wear two dissimilar glove types when working with this chemical. (NTP, 1992)	Insoluble in water.	1,2,3,4,6,7,8-HEPTACHLORODIBENZO-P-DIOXIN may be sensitive to prolonged exposure to light. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
4064	4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY) TOLUENE-2-DIAZONIUM ZINC CHLORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Air [Note: Unstable gas that decomposes rapidly in air at room temperature to cobalt carbonyl & hydrogen.]	COBALT HYDROCARBONYL is flammable. Reacts exothermically with strong oxidizing agents and acids. Decomposes rapidly in air at room temperature to cobalt carbonyl (an orange solid of formula Co(CO)4) and hydrogen. These products also act as reducing agents. The orange solid (cobalt carbonyl) decomposes at 52Â°C producing toxic fumes of carbon monoxide and cobalt; reacts with acids and strong oxidizing agents below that temperature.	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3281 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NIOSH, 2003)		-15	
4065	4-HYDROXYBUTYLBUTYLNITROSAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	ISOPROPYL PROPIONATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4061	4-[BENZYL(ETHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE														(USCG, 1999)	(est.)	0.9		68		(USCG, 1999)			223 to 333	760															OCT	Flammable Liquid			0.0	0.0	0.0	0.0	0.0
4062	4-[BENZYL(METHYL)AMINO]-3-ETHOXYBENZENEDIAZONIUM ZINC CHLORIDE														(USCG, 1999)			greater than 1.1			(USCG, 1999)			greater than 150	760		(USCG, 1999)	Mixture												CTP	Flammable Liquid			0.0	0.0	0.0	0.0	0.0
4063	4-CHLORO-2-(2,4-DINITROANILINO)PHENOL																										(NTP, 1992)		425.28						(NTP, 1992)	Insoluble					Poison	C12HCl7O2		0.0	0.0	0.0	0.0	0.0
4064	4-DIMETHYLAMINO-6-(2-DIMETHYLAMINOETHOXY)TOLUENE-2-DIAZONIUM ZINC CHLORIDE	(NIOSH, 2003)			greater than 1			atm																			(NIOSH, 2003)		172						(NIOSH, 2003)		0.05		%		Poison	HCo(CO)4		0.0	0.0	0.0	0.0	0.0
4065	4-HYDROXYBUTYLBUTYLNITROSAMINE																																								Flammable Liquid	C6H12O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4066	4-METHOXY-3-NITRO-N-PHENYLBENZAMIDE	4-METHOXY-3-NITRO-N-PHENYLBENZAMIDE[3-NITRO-P-ANISANILIDE]P-ANISANILIDE, 3-NITRO-	97-32-5	PHYSICAL DESCRIPTION: Light tan solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1854.0	199.0	637.0	352.0	197.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4067	4-METHYLDIPHENYLMETHANE-3,4-DIISOCYANATE	4-METHYLDIPHENYLMETHANE-3,4-DIISOCYANATE	75790-84-0		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1854.0	199.0	637.0	352.0	197.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4068	4-NITROHIPPURIC ACID	GLYCINE, N-(P-NITROBENZOYL)-[HIPPURIC ACID, P-NITRO-]N-(4-NITROBENZOYL)GLYCINE]N-(P-NITROBENZOYL)GLYCINE]4-NITROBENZOYLGLYCINE]4-NITROHIPPURIC ACID]P-NITROHIPPURIC ACID	2645-07-0	PHYSICAL DESCRIPTION: Yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1855.0	199.0	638.0	352.0	197.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4069	4'-OCTADECYLOXY-3'-NITRODIPHENYL-4-CARBOXYLIC ACID	4-BIPHENYLCARBOXYLIC ACID, 3'-NITRO-4'-(OCTADECYLOXY)-[3'-NITRO-4'-(OCTADECYLOXY)-(1,1'-BIPHENYL)-4-CARBOXYLIC ACID]3'-NITRO-4'-(OCTADECYLOXY)-4-BIPHENYLCARBOXYLIC ACID]4'-OCTADECYLOXY-3'-NITRO-4-BIPHENYLCARBOXYLIC ACID]4'-OCTADECYLOXY-3'-NITRODIPHENYL-4-CARBOXYLIC ACID	21351-71-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1855.0	199.0	638.0	352.0	197.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4070	4-O-METHYL-12-O-TETRADECANOYLPHORBOL-13-ACETATE	1H-CYCLOPROPA[3,4]BENZ[1,2-E]AZULENE, TETRADECANOIC ACID DERIV.;MPMA]4-O-METHYL-12-O-TETRADECANOYLPHORBOL 13-ACETATE]4-O-METHYL-12-O-TETRADECANOYLPHORBOL-13-ACETATE]4-O-METHYL-TPA]4-O-METHYLPHORBOL 12-MYRISTATE 13-ACETATE]4-O-METHYLPHORBOL-12-MYRISTATE-13-ACETATE]TETRADECANOIC ACID, 9A-(ACETYLOXY)-1A,1B,4,4A,5,7A,7B,8,9,9A-DECAHYDRO-7B-HYDROXY-3-(HYDROXYMETHYL)-4A-METHOXY-1,1,6,8-TETRAMETHYL-5-OXO-1H-CYCLOPROPA[3,4]BENZ[1,2-E]AZULEN-9-YL ESTER, [1AR-(1AALPHA,1BBETA,4ABETA,7AALPHA,7BALPHA,8ALPHA,9BETA,9A.ALPHA]).-	57716-89-9	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1856.0	199.0	638.0	352.0	197.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4071	4-QUINOLINAMINE-N-HYDROXY-1-OXIDE	4HAQO]4-(HYDROXYAMINO)-QUINOLINE-1-OXIDE]4-(HYDROXYAMINO)QUINOLINE 1-OXIDE]4-HYDROXYAMINOQUINOLINE N-OXIDE]4-HYDROXYLAMINOQUINOLINE 1-OXIDE]4-HYDROXYLAMINOQUINOLINE N-OXIDE]N-(4-QUINOLYL)-HYDROXYLAMINE, 1'-OXIDE]4-QUINOLINAMINE-N-HYDROXY-1-OXIDE]QUINOLINE, 4-(HYDROXYAMINO)-, 1-OXIDE	4637-56-3	PHYSICAL DESCRIPTION: Gold -colored granular solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1856.0	199.0	638.0	352.0	197.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using dry chemical, carbon dioxide or Halon extinguishers. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	hfpa_spoue ce	hfpa_noee	hfpa_healt h	hfpa_flam	hfpa_reac	hfpa_spec ial	fp_source	fp_note	fp_value	fp_range	fp_source	hel_noee	hel_value	hel_range	hel_unit	hel_note	hel_source	hel_unit	hel_value	hel_range	hel_note	al_source	al_value	al_range	mp_source e	mp_note	mp_value	mp_range
4069	4-ACETADECYLOXY-3-NITRODIPHENYL-4-CARBOXYLIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, first remove all ignition sources (no smoking, flares, sparks or flames in immediate area). Wear protective clothing and gloves. A self-contained breathing apparatus should be worn to avoid inhalation of this material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	2-ETHYLANILINE neutralizes acids in exothermic reactions to form salts plus water. The liquid may react with acids to release toxic fumes of aniline and oxides of nitrogen. Reacts violently with oxidizing materials. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	This type of compound is extremely stable, even on heating to 1292ºF. Solutions of this type of chemical in methanol are degraded by exposure to summer sunlight or irradiation with an ultraviolet lamp (300 nm). (NTP, 1992).	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	1	2	0	2	(NFPA, 2010)	185	fp_value	fp_range	fp_source	fp_note	fp_value	fp_range	fp_source	hel_noee	hel_value	hel_range	hel_unit	hel_note	hel_source	hel_unit	hel_value	hel_range	hel_note	al_source	al_value	al_range	mp_source e	mp_note	mp_value	mp_range
4067	4-METHYLDIPHENYLMETHANE-4,4'-DIISOCYANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reseal the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is soiled, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	(BLOB)	0																															385
4070	4-O-METHYL-L-O-TETRADECANOYLPHORBOL-13-ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, PRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reseal the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-ETHYLHEXYL (1,1,2,2-ETHER is incompatible with acids, bases and oxidizing agents. (NTP, 1992)	0				(NTP, 1992)	206																								13
4071	4-QUINOLINAMINE-N-HYDROXY-1-OXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]	0																															13
4068	4-NITROHIPPURIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, first REMOVE ALL																																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4066	4-METHOXY-3-NITRO-N-PHENYLBENZAMIDE																																								Poison	C8H11N		0.0	0.0	0.0	0.0	0.0
4067	4-METHYLDIPHENYLMETHANE-3,4-DIISOCYANATE																									(NTP, 1992)		234.18						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL			C8H10O8		0.0	0.0	0.0	0.0	0.0
4068	4-NITROHIPPURIC ACID																																								Flammable Liquid	C8H16O2		0.0	0.0	0.0	0.0	0.0
4069	4'-OCTADECYLOXY-3'-NITRODIPHENYL-4-CARBOXYLIC ACID																									(NTP, 1992)		321.96													Poison	C12H4Cl4O2		0.0	0.0	0.0	0.0	0.0
4070	4-O-METHYL-12-O-TETRADECANOYLPHORBOL-13-ACETATE															(NTP, 1992)		0.893		68		(NTP, 1992)			244 to 248	20		(NTP, 1992)		186.3						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C11H22O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4071	4-QUINOLINAMINE-N-HYDROXY-1-OXIDE															(NTP, 1992)		1.01 to 1.02		68		(NTP, 1992)			388 to 392	3		(NTP, 1992)		290.4						(NTP, 1992)	at 81Â° F		less than 1	mg/mL			C18H26O3	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4072	5-(4-AMINOBENZAMIDO)-2,3-CRESOTIC ACID	5-(4-AMINOBENZAMIDO)-2,3-CRESOTIC ACID|2,3-CRESOTIC ACID, 5-(P-AMINOBENZAMIDO)-	6265-15-2		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1857.0	199.0	638.0	352.0	198.0	(BLOB)	The flash point of this compound has not been determined, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4073	5-(4-NITROPHENYL)-2,4-PENTADIENAL	5-(4-NITROPHENYL)-2,4-PENTADIEN-1-AL|5-(4-NITROPHENYL)-2,4-PENTADIENAL|NPPD|5-(P-NITROPHENYL)-2,4-PENTADIENAL|2,4-PENTADIENAL, 5-(P-NITROPHENYL)-|SPY DUST	2608-48-2	PHYSICAL DESCRIPTION: White to orange yellowish powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1858.0	199.0	638.0	353.0	198.0	(BLOB)	Special Hazards of Combustion Products: Carbon monoxide and/or carbon dioxide and toxic oxides of nitogen may be produced. Behavior in Fire: Can react vigorously with oxidizing materials. (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4074	5,6-DIHYDRO-5-AZACYTIDINE	4-AMINO-5,6-DIHYDRO-1-BETA-D-RIBOFURANOSYL-S-TRIAZIN-2(1H)-ONE|DHAC|5,6-DIHYDRO-4-AMINO-1-BETA-D-RIBOFURANOSYL-S-TRIAZIN-2(1H)-ONE|5,6-DIHYDRO-5-AZACYTIDINE|NSC 264-880|NSC 26480|1,3,5,-TRIAZIN-2(1H)-ONE, 4-AMINO-3,6-DIHYDRO-1-, BETA, -D-RIBOFURANOSYL-	62488-57-7	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1858.0	199.0	638.0	353.0	198.0	(BLOB)		Fires involving this compound can be controlled with dry chemicals, carbon dioxide, and/or Halon extinguishers. (NTP, 1992)
4075	5-DIETHYLAMINO-2-NITROSO-4-METHYLPHENOL	5-(DIETHYLAMINO)-2-NITROSO-P-CRESOL|5-(DIETHYLAMINO)-4-METHYL-2-NITROSOPHENOL|5-DIETHYLAMINO-2-NITROSO-4-METHYLPHENOL|P-CRESOL, 5-(DIETHYLAMINO)-2-NITROSO-	6265-09-4		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1859.0	199.0	638.0	353.0	198.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4076	5-DIETHYLAMINO-2-NITROSOPHENOL HYDROCHLORIDE	5-(DIETHYLAMINO)-2-NITROSOPHENOL MONOHYDROCHLORIDE|5-DIETHYLAMINO-2-NITROSOPHENOL HYDROCHLORIDE	25953-06-4	PHYSICAL DESCRIPTION: Yellow or dark yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1859.0	199.0	638.0	353.0	198.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4072	5-(4-AMINOBENZAMIDO)-2,3-CRESOTIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1,2,3,4-TETRACHLORONAPHTHALENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.						0																											
4073	5-(4-NITROPHENYL)-2,4-PENTADIENAL	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Air supplied or cartridge respirator, impermeable gloves, apron, and boots if condition warrants. Face shield or splash proof goggles and other protective equipment as necessary to prevent skin contact. (USCG, 1999)	Flammable. Soluble in water. Sensitive to prolonged exposure to air.	2-ETHYLHEXYLAMINE reacts with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		140											(USCG, 1999)		563		(USCG, 1999)		less than - 94
4074	5,6-DIHYDRO-5-AZACYTIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as C2-ETHYLNAPHTHALENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.				0		(NTP, 1992)		220											(NTP, 1992)		18.7				
4075	5-DIETHYLAMINO-2-NITROSO-4-METHYLPHENOL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	1,2,3,4-TETRAHYDRO-9-AMINOACRIDINE HYDROCHLORIDE MONOHYDRATE is incompatible with strong oxidizing agents, acid chlorides and acid anhydrides (NTP, 1992). Neutralize bases in slightly exothermic reactions.						0																	(NTP, 1992)		543 to 547
4076	5-DIETHYLAMINO-2-NITROSOPHENOL HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Highly flammable.	2-FLUOROPHENOL reacts as a weak organic acid. May be incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction with bases. Such heating may initiate polymerization of the organic compound. Sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Nitrated very rapidly, even by dilute nitric acid.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(NTP, 1992)		61	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4072	5-(4-AMINOBENZAMIDO)-2,3 CRESOTIC ACID																									(NTP, 1992)		265.9						(NTP, 1992)	at 63.5Â° F		less than 1	mg/mL			C10H4Cl4		0.0	0.0	0.0	0.0	0.0
4073	5-(4-NITROPHENYL)-2,4-PENTADIENAL	(NTP, 1992)		1.2		68		mm Hg							(USCG, 1999)		0.79		68		(NTP, 1992)		336.6		760		(NTP, 1992)		129.28						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	EHM	Flammable Liquid|Corrosive	C8H19N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4074	5,6-DIHYDRO-5-AZACYTIDINE														(NTP, 1992)		0.9922		68		(NTP, 1992)		496		760		(NTP, 1992)		156.23													C12H12		0.0	0.0	0.0	0.0	0.0
4075	5-DIETHYLAMINO-2-NITROSO-4-METHYLPHENOL																				(NTP, 1992)						(NTP, 1992)		252.77						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C13H15CIN2.H2O		0.0	0.0	0.0	0.0	0.0
4076	5-DIETHYLAMINO-2-NITROSOPHENOL HYDROCHLORIDE																				(NTP, 1992)		304 to 306	760			(NTP, 1992)		112.1												Combustible Liquid	C6H5FO		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4077	5-DIMETHYLAMINO-2-NITROSO-4-METHYLPHENOL	5-(DIMETHYLAMINO)-2-NITROSO-P-CRESOL|5-(DIMETHYLAMINO)-4-METHYL-2-NITROSOPHENOL|5-DIMETHYLAMINO-2-NITROSO-4-METHYLPHENOL|P-CRESOL, 5-(DIMETHYLAMINO)-2-NITROSO-	6265-11-8		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1859.0	199.0	638.0	353.0	198.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4078	5-ISATINSULFONIC ACID, SODIUM SALT	2,3-DIHYDRO-2,3-DIOXO-1H-INDOLE-5-SULFONIC ACID|2,3-DIOXO-5-INDOLINESULFONIC ACID, SODIUM SALT|5-INDOLINESULFONIC ACID, 2,3-DIOXO-, SODIUM SALT|ISATIN-5-SULFONIC ACID, SODIUM SALT|5-ISATINSULFONIC ACID, SODIUM SALT|SODIUM 2,3-DIHYDRO-2,3-DIOXO-1H-INDOLE-5-SULFONATE|SODIUM 2,3-DIOXO-5-INDOLINESULFONATE|SODIUM 5-ISATINSULFONATE|SODIUM ISATIN-5-SULFONATE|5-SULFOISATIN, SODIUM SALT	80789-74-8	PHYSICAL DESCRIPTION: Orange powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1860.0	199.0	639.0	353.0	198.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4079	5-MERCAPTOTETRAZOL-1-ACETIC ACID	5-MERCAPTOTETRAZOL-1-ACETIC ACID	730915-04-5	A solid or liquid. May be liable to extremely rapid burning. Explosive effects largely confined to the package. No projection of fragments of appreciable size or range expected.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1860.0	200.0	639.0	354.0	198.0	(BLOB)	Flash point data concerning this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4080	5-METHYL-2-NITROANILINE	1-AMINO-3-METHYL-6-NITROBENZENE|3-AMINO-4-NITROTOLUENE|BENZENAMINE, 5-METHYL-2-NITRO-|M-TOLUIDINE, 6-NITRO-|5-METHYL-2-NITROANILINE|3-METHYL-6-NITROANILINE|5-METHYL-O-NITROANILINE|4-NITRO-3-AMINOTOLUENE|2-NITRO-5-METHYLANILINE|2-NITRO-5-METHYLBENZENAMINE|6-NITRO-M-TOLUIDINE	578-46-1	PHYSICAL DESCRIPTION: Yellow leaflets (from water) or orange powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1860.0	200.0	639.0	354.0	198.0	(BLOB)	Flash point data for this chemical are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4081	5-METHYLISOPSORALEN	5-METHYL-2H-FURO(2,3-H)-1BENZOPYRAN-2-ONE|5-METHYLANGELICIN|5-METHYLISOPSORALEN	73459-03-7	PHYSICAL DESCRIPTION: White fibrous crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1861.0	200.0	639.0	354.0	198.0	(BLOB)	Poisonous, volatile arsenic oxide may be formed in fires. Exposure of dust to flame may cause explosion. When heated, or on contact with acid or acid fumes, it emits highly toxic fumes. Decomposes readily in the presence of water and carbon dioxide to yield phytotoxic arsenical compounds. Can react vigorously with oxidizing materials. Unstable in acids and bases. Hazardous polymerization may not occur. (EPA, 1998)	Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. For small fires, use dry chemical, water spray, or foam. For large fires, use water spray, fog, or foam. Use of water may result in generation of toxic fumes. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4077	5-DIMETHYLAMINO-2-NITROSO-4-METHYLPHENOL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1,2,3,5-TETRACHLOROBENZENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. This chemical may react with oxidizers. (NTP, 1992).					0		(NTP, 1992)			greater than 235															(NTP, 1992)			122 to 126
4078	5-ISATINSULFONIC ACID, SODIUM SALT	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	2-HEPTANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(NFPA, 2010)		160																				
4079	5-MERCAPTOTETRAZOL-1-ACETIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	TETRACYCLINE HYDROCHLORIDE is acidic. Reacts with strong oxidizing agents (NTP, 1992).					0																						(NTP, 1992)	(decomposes)	417	
4080	5-METHYL-2-NITROANILINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Phenols, such as 2-HYDROXY-1,4-NAPHTHOQUINONE, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid. Nitrated phenols often explode when heated. Many of them form metal salts that tend toward detonation by rather mild shock.					0																								(NTP, 1992)	(Decomposes)	378	
4081	5-METHYLISOPSORALEN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water. Decomposes on prolonged heating in water [Merck].	COPPER ACETOARSENITE is soluble in acids. Is unstable in acids, bases and toward hydrogen sulfide [Merck]. Has weak oxidizing or reducing powers. Redox reactions can however still occur.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0							(EPA, 1998)	Not flammable.				(EPA, 1998)	Not flammable.									(NTP, 1992)	Decomposes >653Â°F		

id	name	vp_source	vp_note	vp_value	vp_range	vp_unit	vp_range_tempDegF	vp_value_tempDegF	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMH G	bp_range_pressMMH G	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdlh_source	fdlh_note	fdlh_value	fdlh_unit	soldity_source	soldity_note	soldity_value	soldity_unit	solubility_range	solubility_unit	chris_code	des_labels	formulas	incompatible_labels	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4077	5-DIMETHYL-2-NITROSO-4-METHYLPHENOL	(NTP, 1992)	5 mm Hg at 192°F; 760 mm Hg at 475°F	1	136.8	mm Hg																	475			760	(NTP, 1992)			215.89									less than 1	mg/mL		C6H2Cl4			0.0	0.0	0.0	0.0	0.0
4080	5-METHYL-2-NITROANILINE																									(NTP, 1992)			174.16									less than 1	mg/mL		C10H6O3			0.0	0.0	0.0	0.0	0.0
4081	5-METHYLISOPSORALEN																									(EPA, 1998)			1013.78	(NIOSH, 2003)			5	mg/m3		at 66Â° F	(NTP, 1992)			mg/mL	CAA	Poison	C14(C2H3O2)2.3Ca (A5O2)2		0.0	0.0	0.0	0.0	0.0
4078	5-ISATINSULFONIC ACID, SODIUM SALT																					Decomposes				(EPA, 1998)																								
4079	5-MERCAPTOTETRAZOL-1-ACETIC ACID																									(NTP, 1992)			480.94							at 72Â° F	(NTP, 1992)			50 to 100	mg/mL		C2H2AN4O8.HCl	Cellulose-Based Absorbents	Dirt Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4082	6-DIMETHYLAMINOPHENYLAZOBENZOTHIAZOLE	BENZOTHIAZOLE, 6-[[P-(DIMETHYLAMINO)PHENYL]AZO]-|4-(6-BENZOTHIAZOLYLAZO)-N,N-DIMETHYLBENZENAMINE|BT 6|6-DIMETHYLAMINOPHENYLAZOBENZOTHIAZOLE|6-DIMETHYLAMINOPHENYLAZOBENZTHIAZOLE|N,N-DIMETHYL-4(6'-BENZTHIAZOLYLAZO)ANILINE|N,N-DIMETHYL-P-(6-BENZOTHIAZOLYLAZO)ANILINE|N,N-DIMETHYL-P-(6-BENZTHIAZOLYLAZO)ANILINE|6-((P-(DIMETHYLAMINO)PHENYL)AZO)BENZOTHIAZOLE	18463-85-9	PHYSICAL DESCRIPTION: Orange powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1862.0	200.0	639.0	354.0	198.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
4083	6-HYDROXYDOPAMINE	5-(2-AMINOETHYL)-1,2,4-BENZENETRIOL|DOPAMINE, 6-HYDROXY-|6-HYDROXYDOPAMINE|OXIDOPAMINE|2,4,5-TRIHYDROXYPHENETHYLAMINE	1199-18-4	Solid. Used as a pharmacological agent.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1862.0	200.0	639.0	354.0	198.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4084	7,9-DIMETHYLBENZ(C)ACRIDINE	BENZ(C)ACRIDINE, 7,9-DIMETHYL-|7,9-DIMETHYLBENZ(C)ACRIDINE|7,9-DIMETHYLBENZ[C]ACRIDINE	963-89-3	PHYSICAL DESCRIPTION: Light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1863.0	200.0	640.0	354.0	198.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4085	7-BROMOMETHYL-12-METHYLBENZ(A)ANTHRACENE	BENZ(A)ANTHRACENE, 7-BROMOMETHYL-12-METHYL-|7-(BROMOMETHYL)-12-METHYLBENZ[A]ANTHRACENE|7-BROMOMETHYL-12-METHYLBENZ(A)ANTHRACENE|ICR 502	16238-56-5	PHYSICAL DESCRIPTION: Fine yellow crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1864.0	200.0	641.0	354.0	198.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4086	ACETYL BENZOYL PEROXIDE	ACETOZONE|ACETYL BENZOYL PEROXIDE|ACETYL BENZOYL PEROXIDE SOLUTION, [<= 40% PEROXIDE]|BENZOYL ACETYL PEROXIDE|BENZOZONE	644-31-5	A solution containing less than 40% by mass of the white crystalline solid in a nonvolatile solvent. Dilution moderates reactivity of the pure solvent. Irritating to the skin, eyes and mucous membranes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1864.0	200.0	641.0	354.0	198.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4087	ACETYL IODIDE	ACETYL IODIDE	507-02-8	A colorless, fuming liquid with a pungent odor. Soluble in benzene and ether (Merck 11th ed., 1989). Vapors are irritating to the eyes and mucous membranes. Vapor causes pulmonary edema. Corrosive to metals and skin.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1864.0	200.0	641.0	354.0	198.0	(BLOB)	Cyanide fumes released when heated to decomposition. Avoid alkali, oxidizing material. (EPA, 1998)	Foam, carbon dioxide, dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4082	6-DIMETHYLAMINOPHENYLAZOBENZOTHIAZOLE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. Keep it away from oxidizing materials and acids. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	2-MERCAPTOBENZOTHIAZOLE is incompatible with strong oxidizing agents. Also incompatible with acids and acid fumes (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		392														(NTP, 1992)			351 to 358
4083	6-HYDROXYDOPAMINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	2-METHOXYETHYL ACRYLATE is sensitive to heat and light. Incompatible with strong oxidizing agents and polymerization initiators (NTP, 1992).	Polymerizable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4		(NTP, 1992)		180														(NTP, 1992)			-48.3	
4084	7,9-DIMETHYLBENZ(C)ACRIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Highly flammable. This chemical may react with air to form dangerous peroxides. (NTP, 1992). Insoluble in water.	2-METHYL-2-ETHOXYPROPANE can act as a base to form salts with strong acids and addition complexes with Lewis acids. May react violently with strong oxidizing agents. Relatively inert in other reactions, which typically involve the breaking of the carbon-oxygen bond.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		-3														(NTP, 1992)			-137	
4085	7-BROMOMETHYL-12-METHYLBENZ(A)ANTHRACENE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable.	Organosulfides, such as 2-METHYL-2-HEPTANETHIOL, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3023 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
4086	ACETYL BENZOYL PEROXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	COTTONSEED OIL is sensitive to heat and light.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)	(refined oil) 610Â° F (cc): (cooking oil) 486Â° F (cc)												(USCG, 1999)		650		(USCG, 1999)		32	
4087	ACETYL IODIDE	Caution : Lactonitrile toxicity can occur via ingestion, dermal/eye contact, or ingestion; death may occur within minutes. IMMEDIATELY begin administering 100% oxygen and rush victims to a health care facility. Toxic hydrogen cyanide gas may be released upon contact with alkali or when heated to decomposition. Do not breathe vapors or touch spilled material. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble.	LACTONITRILE is incompatible with strong acids, strong bases and strong reducing agents. It is also incompatible with strong oxidizers. In the presence of alkali, it evolves toxic compounds. (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3276 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	0	2		(EPA, 1998)		170		(EPA, 1998)	Moderate when exposed to heat or flame.				(EPA, 1998)	Moderate when exposed to heat or flame.								(EPA, 1998)		-40	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4082	6-DIMETHYLAMINOPHENYLAZOBENZOTHIAZOLE														(NTP, 1992)		1.42		68		(NTP, 1992)	Decomposes					(NTP, 1992)		167.25						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H5NS2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4083	6-HYDROXYDOPAMINE								(NTP, 1992)		4.49				(NTP, 1992)		1.0131		68		(NTP, 1992)		312.8		760		(NTP, 1992)		130.14						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL		Poison	C6H10O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4084	7,9-DIMETHYLBENZ(C)ACRIDINE	(NTP, 1992)	; 185 mm Hg at 122Â° F; 447 mm Hg at 158Â° F	10		77		mm Hg							(NTP, 1992)		0.7519		77		(NTP, 1992)		163.6		760		(NTP, 1992)		102.18						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C6H14O		0.0	0.0	0.0	0.0	0.0
4085	7-BROMOMETHYL-12-METHYLBENZ(A)ANTHRACENE																																								Poison Inhalation Hazard|Flammable Liquid	C8H18S		0.0	0.0	0.0	0.0	0.0
4086	ACETYL BENZOYL PEROXIDE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.922		68		(USCG, 1999)	Very high																	OCS			Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4087	ACETYL IODIDE	(EPA, 1998)		10		165.2		mm Hg	(EPA, 1998)		2.45				(EPA, 1998)		0.9877		68		(EPA, 1998)	Slight decomposition		360 to 363	760		(EPA, 1998)		71						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL	LNI	Poison	C3H5NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4088	AGARITINE	AGARITINE|BETA-N-(GAMMA-L(+)-GLUTAMYL)-4-HYDROXYMETHYLPHENYL HYDRAZIDE|GLUTAMIC ACID, 5-[2-(ALPHA-HYDROXY-P-TOLYL)HYDRAZIDE], L-|L-GLUTAMIC ACID 5-(2-(4-(HYDROXYMETHYL)PHENYL)HYDRAZIDE)|NCI-C08899	2757-90-6	PHYSICAL DESCRIPTION: Colorless glistening crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1865.0	200.0	642.0	354.0	198.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4089	ALKYL THIADIAZOLE (COMBUSTIBLE LIQUID, N.O.S.)	ALKYL THIADIAZOLE (COMBUSTIBLE LIQUID, N.O.S.)	134758-98-8	An odorless brown liquid. Insoluble in water and about the same density as water. Contact may moderately irritate skin, eyes,and mucous membranes, and may cause dizziness, nausea and loss of consciousness. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1865.0	200.0	642.0	354.0	198.0	(BLOB)	Special Hazards of Combustion Products: Poisonous and irritating gases (e.g., sulfur dioxide) are generated in fires. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
4090	ALPHA - ENDOSULFAN	A-ENDOSULFAN|ALPHA - ENDOSULFAN|ALPHA-BENZOEPIN|ALPHA-ENDOSULFAN|ALPHA-THIODAN|BETA-THIONEX|ENDOSULFAN I|ENDOSULFAN A|ENDOSULFAN I|5-NORBORNENE-2,3-DIMETHANOL, 1,4,5,6,7,7-HEXACHLORO-, CYCLIC SULFITE, ENDO-|THIODAN I	959-98-8	PHYSICAL DESCRIPTION: Brown crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1865.0	200.0	642.0	354.0	198.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4091	ALUMINUM BOROHYDRIDE	ALUMINUM BOROHYDRIDE|ALUMINUM HYDROBORATE (AL[BH4I3)|ALUMINUM TETRAHYDROBORATE|BORATE(1-), TETRAHYDRO-, ALUMINUM	16962-07-5	A clear, colorless liquid. Slightly denser than water. Contact causes burns to skin, eyes, and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1866.0	200.0	642.0	354.0	198.0	Remove at once all cases of lead intoxication from further exposure until the blood level is reduced to a safe value; immediately place the individual under medical care. INGESTION: give gastric lavage using 1% solution of sodium or magnesium sulfate; leave 15-30 gm magnesium sulfate in 6-8 oz. of water in the stomach as antidote and cathartic; egg white, milk, and tannin are useful demulcents; atropine sulfate and other antispasmodics may relieve abdominal pain, but morphine may be necessary. EYES: flush with water for at least 15 min. SKIN: wash well with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating sulfur dioxide gas may form in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4092	ALUMINUM FERROSILICON POWDER	ALUMINUM FERROSILICON POWDER|ALUMINUM FERROSILICON, [POWDER]	12003-41-7	A whitish to gray-colored solid. Denser than water. Contact may cause burns to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1866.0	200.0	642.0	354.0	198.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4093	ALUMINUM HYDRIDE	ALANE|ALUMINUM HYDRIDE|ALUMINUM TRIHYDRIDE	7784-21-6	A colorless to white solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1867.0	200.0	642.0	354.0	198.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating fumes of unburned material and oxides of nitrogen can form in fire. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4088	AGARITINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water.	2-METHYLPENTAN-2-OL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4089	ALKYL THIADIAZOLE (COMBUSTIBLE LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Air and moisture sensitive. Insoluble in water. Reacts vigorously with water or steam.	LAURYL MERCAPTAN is incompatible with bases, oxidizing agents, reducing agents and alkali metals. Easily oxidized to disulfide. (NTP, 1992)	Water-Reactive	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		190														(NTP, 1992)		19	
4090	ALPHA - ENDOSULFAN	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0		(NTP, 1992)		greater than 200														(NTP, 1992)		-53	
4091	ALUMINUM BOROHYDRIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Slightly soluble in water.	Nitric acid violently oxidized a thiocyanate solution [Bretherick 1979. p. 121]. Caution should be exercised in treating a thiocyanate with an oxidizing agent such as a peroxide or chlorate as such mixtures have been known to explode. May be thermally unstable. Special Hazards of Combustion Products: Irritating sulfur dioxide gas may form in fire (USCG, 1999).	Strong Reducing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4092	ALUMINUM FERROSILICON POWDER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 2-NITROFLUORENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. Stable under normal conditions. Protect from bases. (NTP, 1992)						0																				(NTP, 1992)		316	
4093	ALUMINUM HYDRIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Self-contained breathing apparatus for fumes; rubber gloves; goggles (USCG, 1999)	Water insoluble.	2-NITROPHENOL is a yellow, crystalline material, moderately toxic, low melting point (45Â° C). When heated to decomposition it emits toxic fumes of oxides of nitrogen. In molten form violent reaction with strong alkali (85% potassium hydroxide) {491 M, 1975, p. 342]. Reaction product with chlorosulfuric acid decomposes violently at room temperature [Vervalin, C. H., Hydrocarbon Proc., 1976, 55(9), p. 321].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		113 to 115	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4088	AGARITINE																																								Flammable Liquid	C6H14O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4089	ALKYL THIADIAZOLE (COMBUSTIBLE LIQUID, N.O.S.)	(NTP, 1992)	(estimated)		less than 1			mm Hg	(NTP, 1992)	(estimated)		greater than 1			(USCG, 1999)		0.85		59		(NTP, 1992)			511 to 541	760		(NTP, 1992)		202.41						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	LRM	Class 9	C12H26S		0.0	0.0	0.0	0.0	0.0
4090	ALPHA - ENDOSULFAN	(NTP, 1992)		10		221		mm Hg							(NTP, 1992)		1.1332		77		(NTP, 1992)		221		10		(NTP, 1992)		119.12						(NTP, 1992)	at 64Â° F		10 to 50	mg/mL			C4H9NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4091	ALUMINUM BOROHYDRIDE														(USCG, 1999)		3.82		68								(USCG, 1999)		323.4										LTC	Poison	CHNS.1|2Pb		0.0	0.0	0.0	0.0	0.0
4092	ALUMINUM FERROSILICON POWDER																										(NTP, 1992)		211.23						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C13H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4093	ALUMINUM HYDRIDE	(NTP, 1992)		1		120.7		mm Hg							(USCG, 1999)		1.49		68		(NTP, 1992)	(Decomposes)		417 to 421	760		(NTP, 1992)		139.11						(NTP, 1992)	at 70Â° F		less than 1	mg/mL	NTP	Poison	C6H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4094	ALUMINUM RESINATE	ALUMINUM RESINATE|DIMAREX RESIN|METAL RESINATE A 380B|RESIN ACID ALUMINUM SALTS|RESIN ACIDS, ALUMINUM SALTS	61789-65-9	A brown solid. An aluminum salt of mixed resin acids, such as abietic acid and pimaric acid. Insoluble in water and denser than water. Contact irritates skin, eyes, and mucous membranes. May be toxic by ingestion. Use as a drier for varnishes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1868.0	200.0	643.0	354.0	198.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4095	AMATOL	AKVATOL|AMATOL|AMMONITE 6GV|AMMONITE 6ZHV|AMMOTOL|AQUATOL|BENZENE, 2-METHYL-1,3,5-TRINITRO-, MIXT. CONTAINING|DT AMMONITE|GABROVIT ZHV|GL|GL (EXPLOSIVE)|IFZANIT|REOLIT 25|ROCK NO. 2|6ZHV	8006-19-7	Pourable mixtures of ammonium nitrate and trinitrotoluene of widely varying compositions (40:60, 50:50, 80:20). Used in grenades.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1868.0	200.0	643.0	354.0	198.0	(BLOB)	Flash point data for this compound are not available but it is probably non-flammable. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4096	AMINOPHENOLS	AMINOPHENOL|AMINOPHENOLS|HYDROXYANILINE|HYDROXYPHENYLAMINE	27598-85-2	Aminophenols is either a white or reddish colored crystals, or a solution of the crystals and a solvent. The solvent is usually either alcohol or water. They are soluble in water. They may be poisonous by ingestion. They are used to make dyes and pharmaceuticals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1868.0	200.0	644.0	354.0	198.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4097	AMINOPYRIDINES	AMINOPYRIDINE|AMINOPYRIDINES|PYRIDINE, AMINO-	26445-05-6	Aminopyridine is a white or clear colored crystalline solid. It is soluble in water and alcohol. It is toxic by ingestion and by inhalation of the dust. It is used to make pharmaceuticals and dyes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1869.0	200.0	645.0	354.0	198.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4098	AMITON	AMITON|CHIPMAN 6200|CITRAM|DIETHYL S-2-DIETHYLAMINOETHYL PHOSPHOROTHIOATE|(2-DIETHYLAMINO)ETHYLPHOSPHOROTHIOIC ACID O,O-DIETHYL ESTER|DSDP|ENT 24,980-X|INFERNO|METRAMAC|METRAMAK|O,O-DIETHYL S-(2-DIETHYLAMINOETHYL) THIOPHOSPHATE|O,O-DIETHYL S-(BETA-DIETHYLAMINO)ETHYL PHOSPHOROTHIOLATE|O,O-DIETHYL S-2-DIETHYL-AMINOETHYL PHOSPHOROTHIOLATE|O,O-DIETHYL S-2-DIETHYLAMINOETHYL PHOSPHOROTHIOATE|O,O-DIETHYL S-2-DIETHYLAMINOETHYL PHOSPHOROTHIOLATE|O,O-DIETHYL S-DIETHYLAMINOETHYL PHOSPHOROTHIOLATE|PHOSPHOROTHIOIC ACID, S-(2-(DIETHYLAMINO)ETHYL)	78-53-5	Liquid. Used as an acaricide and insecticide. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4094	ALUMINUM RESINATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as 2-PENTENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NFPA, 2010)			less than - 4																			
4095	AMATOL	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1,2-BIS(2,4,6-TRIBROMOPHENOXY)ETHANE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.						0																							
4096	AMINOPHENOLS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2-PHENYLPHENOL react as a weak organic acid. Exothermically neutralizes bases. May react with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides to generate flammable gas (H2) and the heat of the reaction may ignite the gas. Is sulfonated very readily (for example, by concentrated sulfuric acid at room temperature) in exothermic reactions. May be nitrated very rapidly. Nitrated phenols often explode when heated and also form metal salts that tend toward detonation by rather mild shock. Can react with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		255														(NTP, 1992)		131.9 to 135.5
4097	AMINOPYRIDINES	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CUPRIC CHLORIDE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4098	AMITON		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	LIMESTONE has generally low chemical reactivity and is non-combustible. It decomposes at high temperature (825Â°C) to give gaseous carbon dioxide and calcium oxide (quicklime). Incompatible with acids, alum, ammonium salts, fluorine, magnesium. Reacts with acids and acidic salts to generate gaseous carbon dioxide with effervescence (bubbling). The reaction is rapid and exothermic with concentrated solutions of acids. The effervescence can create extensive foaming. Ignites on contact with fluorine.						0																		(NIOSH, 2003)	(Decomposes)		1517 to 2442

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_range_tempDegF	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	sg_value_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	molwgt_source	molwgt_n_otr	molwgt_value	molwgt_range	solbly_source	solbly_value	solbly_note	solbly_range	solbly_units	solbly_unit	solbly_value	solbly_note	solbly_range	chris_codes	formulas	descriptive_labels	incompatible_substances	# of Natural Products	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4094	ALUMINUM RESINATE																																																0.0
4097	AMINOPYRIDINES																																												Flammable Liquid	C5H10	Dir/Earth	0.0	0.0	0.0	0.0	0.0
4095	AMATOL																									(NTP, 1992)			687.63																C14H8Br6O2		0.0	0.0	0.0	0.0	0.0
4096	AMINOPHENOLS	(NTP, 1992)		1		212		mm Hg						1.213			(NTP, 1992)				(NTP, 1992)		77					(NTP, 1992)		760		527			170.21	less than 0.1	mg/mL			at 68.9°F	(NTP, 1992)				C12H10O	Class 9		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4099	AMITON OXALATE	AMITON OXALATE|CHIPMAN 6199|CHIPMAN R-6,199|CITRAM|ENT 20,993|HYDROGEN OXALATE OF AMITON|O,O-DIETHYL S-(2-DIETHYLAMINO)ETHYL PHOSPHOROTHIOATE HYDROGEN OXALATE|O,O-DIETHYL S-(2-ETHYL-N,N-DIETHYLAMINO) PHOSPHOROTHIOATE HYDROGEN OXALATE|O,O-DIETHYL S-(BETA-DIETHYLAMINO)ETHYL PHOSPHOROTHIOLATE HYDROGEN OXALATE|O,O-DIETHYL-S-(2-DIETHYLAMINO) ETHYLPHOSPHOROTHIOATE HYDROGEN OXALATE|PHOSPHOROTHIOIC ACID, S-(2-DIETHYLAMINO)ETHYL) O,O-DIETHYL ESTER, OXALATE(1:1)|PHOSPHOROTHIOIC ACID, S-[2-(DIETHYLAMINO)ETHYL]	3734-97-2	Crystals. Used as an insecticide. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0	INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. SKIN AND EYES: Immediately flush skin or eyes with running water for at least 15 minutes; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes. Maintain normal body temperture. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May produce toxic oxides of nitrogen. (USCG, 1999)	Fire Extinguishing Agents: Small fires: Dry chemical, CO 2 , water spray or alcohol foam. Large fires: Water spray, fog or alcohol foam. (USCG, 1999)
4100	AMMONIUM DINITRO-O-CRESOLATE	AMMONIUM DINITRO-O-CRESOLATE|O-CRESOL, DINITRO-, AMMONIUM SALT	29595-25-3	A dark colored thick liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4101	AMMONIUM GLUCONATE	AMMONIUM GLUCONATE	19222-41-4	White solid with a weak odor of ammonia. Sinks and mixes with water. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4102	AMMONIUM NITRATE FERTILIZERS, WITH PHOSPHATE OR POTASH	AMMONIUM NITRATE FERTILIZERS, WITH PHOSPHATE OR POTASH|AMMONIUM NITRATE-PHOSPHATE|AMMONIUM NITRATE-PHOSPHATE MIXTURE	57608-40-9	Grayish-white solids in the form of prills. Accelerates the burning of combustible material. Produces toxic oxides of nitrogen when heated to decomposition.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0			
4103	AMMONIUM PERMANGANATE	AMMONIUM PERMANGANATE	13446-10-1	A crystal or powder with a rich violet-brown or dark purple metallic sheen. Toxic by ingestion or inhalation of dust.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1870.0	200.0	645.0	354.0	198.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4104	AMMONIUM PICRATE, [DRY]	AMMONIUM PICRATE|AMMONIUM PICRATE, [DRY]	131-74-8	A yellow crystalline solid. Produces toxic oxides of nitrogen during decomposition . Easily ignited and burns vigorously. May explode under prolonged exposure to fire or heat. The primary hazard is the blast effect of instantaneous explosion and not from flying projectiles and fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1871.0	200.0	645.0	354.0	198.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of fluorides and nitrogen oxides. Avoid decomposing heat. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4105	AMMONIUM PICRATE, WETTED WITH NOT LESS THAN 10% WATER	AMMONIUM CARBAZOATE|AMMONIUM PICRATE|AMMONIUM PICRATE (YELLOW)|AMMONIUM PICRATE, WET|AMMONIUM PICRATE, WETTED WITH NOT LESS THAN 10% WATER|AMMONIUM PICRATE, [WET, WITH >= 10% WATER]|AMMONIUM PICRONITRATE|EXPLOSIVE D|OBELINE PICRATE|PHENOL, 2,4,6-TRINITRO-, AMMONIUM SALT|PICRATOL|PICRIC ACID, AMMONIUM SALT	131-74-8	A slurry or sludge of yellow crystals in water. Will burn, although may be difficult to ignite. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1872.0	200.0	645.0	354.0	198.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4099	AMITON OXALATE	Neutralizing Agents for Acids and Caustics: Cover spilled material with sodium bisulfate. Flush with water. (USCG, 1999)	Wear butyl rubber gloves and face shield or all-purpose canister respirator for spills. Wear self-contained breathing apparatus and full protective clothing for fires. (USCG, 1999)	Very soluble in water.	2-PROPANOLAMINE is a chemical base. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		145																			
4100	AMMONIUM DINITRO-O-CRESOLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air and light. (NTP, 1992). Oxidizes across carbon double bonds	LINOLEIC ACID reacts to neutralize bases. May react vigorously with oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.						0																				(NTP, 1992)		23	
4101	AMMONIUM GLUCONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound will hydrolyze under basic conditions. (NTP, 1992). Insoluble in water.	An ester and a phenol. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(NTP, 1992)			greater than 200																		
4102	AMMONIUM NITRATE FERTILIZERS, WITH PHOSPHATE OR POTASH			Slightly soluble in water.	A halogenated acidic organic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.						0																							
4103	AMMONIUM PERMANGANATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in hot water [Hawley].	An amide and amine. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generate mixed oxides of nitrogen (NOx)						0																						(NTP, 1992)	(DEC.)		greater than 680
4104	AMMONIUM PICRATE, [DRY]	Avoid inhalation and skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3389 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4105	AMMONIUM PICRATE, WETTED WITH NOT LESS THAN 10% WATER	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	3,3'-DIMETHOXYBENZIDINE-4,4'-DIISOCYANATE may react with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizing agents, hydrides, phenols, and peroxides with vigorous releases of heat. May undergo polymerization reactions with acids and bases.		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		234	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4099	AMITON OXALATE														(USCG, 1999)	(dl mixture)	0.943		68		(USCG, 1999)			311 to 317	760		(USCG, 1999)		75.11											PAM	Corrosive	C3H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4100	AMMONIUM DINITRO-O-CRESOLATE														(NTP, 1992)		0.9007		72		(NTP, 1992)			444 to 446	16		(NTP, 1992)		280.46						(NTP, 1992)	Insoluble						C18H32O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4101	AMMONIUM GLUCONATE														(NTP, 1992)		1.045		77		(NTP, 1992)			322 to 329	760		(NTP, 1992)		262.36						(NTP, 1992)	Insoluble (<1 mg/ml at 79Â° F)						C16H22O3		0.0	0.0	0.0	0.0	0.0
4102	AMMONIUM NITRATE FERTILIZERS, WITH PHOSPHATE OR POTASH																																									C12H10Cl2N2.H2SO4		0.0	0.0	0.0	0.0	0.0
4103	AMMONIUM PERMANGANATE														(NTP, 1992)		2.5		68		(NTP, 1992)	DECOMPOSES					(NTP, 1992)		129.08						(NTP, 1992)		0.5		mL			C3H3N3O3		0.0	0.0	0.0	0.0	0.0
4104	AMMONIUM PICRATE, [DRY]																											(EPA, 1998)		135.06											Poison Inhalation Hazard|Corrosive	C3F3N3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4105	AMMONIUM PICRATE, WETTED WITH NOT LESS THAN 10% WATER																											(NTP, 1992)		296.3						(NTP, 1992)	at 63.5Â° F		less than 1	mg/mL		Poison	C16H12N2O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4106	AMSCO SOLVENT F	AMSCO SOLVENT F	142582-74-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1873.0	200.0	645.0	354.0	198.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
4107	AMYL NITRATE	AMYL NITRATE|AMYL NITRATE (MIXED ISOMERS)|DIESEL IGNITION IMPROVER|MIXED PRIMARY AMYL NITRATES|N-AMYL NITRATE|N-PENTYL NITRATE|PENTYL NITRATE|1 PENTYL NITRATE	1002-16-0	A clear colorless liquid with an ether-like odor. Flash point 118Â°F. About the same density as water and insoluble in water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used as an additive for diesel fuels.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1874.0	201.0	645.0	354.0	199.0	Call a doctor. INHALATION: Move to fresh air. EYES: Hold lids open and flush immediately with a slow stream of water. Continue for 10 to 15 minutes. SKIN: Wash with large amounts of water then apply a paste of sodium bicarbonate. INGESTION: Drink copious amounts of water. Administer a neutralizer like milk of magnesia, calcium hydroxide, etc. Do not induce vomiting. Call a physician. (USCG, 1999)	Behavior in Fire: May decompose giving off oxygen with supports further combustion. (USCG, 1999)	Fire Extinguishing Agents: Flood spill area with water. (USCG, 1999)
4108	AMYL PHENOL	AMYL PHENOL|AMYLHYDROXYBENZENE|AMYLPHENOL|PENTYLPHENOL	1322-06-1	Amyl phenol is a colorless to straw colored liquid. It is slightly soluble in water. It may burn though it may require some effort to ignite. It is corrosive to tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1875.0	201.0	645.0	354.0	199.0	(BLOB)	In a fire, irritating alkali fumes may form. Lithium hydride can form airborne dust clouds which may explode on contact with flame, heat, or oxidizing materials. Additionally, spontaneous ignition occurs when nitrous oxide and lithium hydride are mixed. Lithium hydride also forms explosive mixtures with liquid oxygen. Contact with heat, moisture or acid causes exothermic reaction and evolution of hydrogen as well as lithium hydroxide. Incompatible with air and moisture, nitrous oxide, strong oxidizers, and liquid oxygen. Lithium hydride may ignite spontaneously in air and should be maintained and handled out of contact with air and moisture. Any contact with nitrous oxide; airborne powders may ignite upon reaching moisture. (EPA, 1998)	Wear protective goggles or face shield, rubberized gloves, flame-proof outer clothing, respirator, and high boots or shoes. Large fires: withdraw from area and let fire burn, as lithium hydride may continue to re-ignite. A fire, once started, cannot be extinguished by ordinary methods. Do not use water, carbon dioxide, dry chemical, or halogenated extinguishing agents such as carbon tetrachloride. Use dry graphite; or ground dolomite-based dry chemical extinguishers such as "Lith-X". Fires may be smothered by inverting a can over them. (EPA, 1998)
4109	ANISIDINES	ANISIDINE|ANISIDINE, ISOMERS|ANISIDINES|ANISIDINES, LIQUID|ANISIDINES, SOLID|METHOXYANILINE|(METHOXYPHENYL)AMINE	29191-52-4	A fused crystalline solid or a reddish to yellowish oily liquid. More dense than water and insoluble in water. Very irritating to skin, eyes, and mucous membranes. Toxic by ingestion and skin contact. Used to make dyes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1876.0	201.0	645.0	354.0	199.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4110	ANTIMONY LACTATE	ANTIMONY LACTATE|PROPANOIC ACID, 2-HYDROXY-, TRIANHYDRIDE WITH ANTIMONIC ACID (H3SBO3)	58164-88-8	Antimony lactate is an odorless, tan colored solid. It is toxic by inhalation or ingestion. When exposed to high temperatures antimony lactate may release highly toxic antimony fumes. Antimony lactate is used in fabric dyes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1876.0	201.0	645.0	354.0	199.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4106	AMSCO SOLVENT F	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Reacts with water or moist air to generate a dangerous amount of heat [Chem Reviews 12:61. 1933]. Lithium amide reacts vigorously with water to generate gaseous NH3. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of ammonia gas will be created in 0.23 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Powdered LITHIUM AMIDE is highly reactive. A strong base. Reacts to release toxic ammonia gas with water. Forms explosive peroxide on storage.	Highly Flammable; Water-Reactive; Peroxidizable Compound	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4107	AMYL NITRATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved dust mask, goggles or face shield, rubber gloves. (USCG, 1999)	Hygroscopic. Water soluble.	LITHIUM DICHROMATE is an oxidizer. Can react with combustibles. May decompose when heated giving off oxygen that further supports combustion (USCG, 1999).	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)		266				
4108	AMYL PHENOL	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	(BLOB)	Burns readily in air, particularly if powdered. May ignite spontaneously in moist air. Reacts rapidly with water to form caustic lithium hydroxide and hydrogen [Bretherick 1979 p. 107].	LITHIUM HYDRIDE is a strong reducing agent. Th esolid may decompose violently in contact with most oxidizing materials. It reacts exothermically with water to form caustic lithium hydroxide and hydrogen gas; the hydrogen may ignite. May ignite spontaneously in moist air. Mixtures with liquid oxygen are explosive. Ignites on contact with dinitrogen oxide [Mellor, 1967, vol. 8, suppl. 2.2, p. 214].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	2	4	No Water					(EPA, 1998)	Flammable solid.				(EPA, 1998)	Flammable solid.				(USCG, 1999)		392		(EPA, 1998)		1256	
4109	ANISIDINES	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4110	ANTIMONY LACTATE			Dust/air mixtures may ignite and explode.	Acidic organic/inorganic salts, such as 3,3'-DIMETHYLBENZIDINE DIHYDROFLUORIDE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. With this material avoid strong oxidizing agents. This salt is a potential source of fluoride ions, which are corrosive.							0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_range_tempDegF	vp_value_tempDegF	vd_range	vd_value	vd_note	vd_source	vp_unit	vp_range_tempDegF	vp_value_tempDegF	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_range_tempDegF	bp_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressNMH G	bp_range_pressNMH G	molwgt_source	molwgt_n otr	molwgt_value	molwgt_range	molwgt_Pange	adln_source	adln_note	adln_value	adln_unit	solbly_source	solbly_note	solbly_unit	solbly_value	solbly_note	solbly_range	solbly_units	chris_codes	doc_labels	formulas	#compatible_solvents	# of Radicalg. Products	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4106	AMSCO SOLVENT F		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4111	ANTIMONY SULFIDE, SOLID	ANTIMONIAL GLASS|ANTIMONY SULFIDE, SOLID|ANTIMONY SULFIDE, [SOLID]|ANTIMONY SULPHIDE, SOLID|VITREOUS ANTIMONY	12627-52-0	An odorless orange or black-colored, crystalline solid. Toxic by ingestion. Used in fireworks.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1876.0	201.0	645.0	354.0	199.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4112	APC	ACETAMIDE, N-(4-ETHOXYPHENYL)-, MIXT. CONTAINING|2-(ACETYLOXY)-BENZOIC ACID MIXED WITH 3,7-DIHYDRO-1,3,7-TRIMETHYL-1H-|ACETYLSALICYLIC ACID, PHENACETIN, AND CAFFEINE|ACETYLSALICYLIC ACID-CAFFEINE-PHENACETIN MIXT.|APC|APC (PHARMACEUTICAL)|APC TABLETS|ASCOPHEN|ASKOPHEN|ASPIRIN, PHENACETIN AND CAFFEINE|ASPIRIN, PHENACETIN, AND CAFFEINE|ASPIRIN-CAFFEINE-PHENACETIN MIXT.|BENZOIC ACID, 2-(ACETYLOXY)-, MIXED WITH 3,7-DIHYDRO-1,3,7-TRIMETHYL-|CITRAMON|EMPIRIN COMPOUND|1H-PURINE-2,6-DIONE AND N-(4-ETHOXYPHENYL)ACETAMIDE|1H-PURINE-2,6-DIONE, 3,7-DIHYDRO-1,3,7-TRIMETHYL-	8003-03-0	PHYSICAL DESCRIPTION: A mixture of aspirin (A), phenactin (P) and caffeine (C). Used an an analgesic. White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1876.0	201.0	645.0	354.0	199.0	(BLOB)	The flash point of this material has not been determined, but it is probably non-flammable. (NTP, 1992)	Fires associated with this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4113	AQUA REGIA	AQUA REGIA|CHLOROAZOTIC ACID|CHLORONITROUS ACID|MET-ETCH|NITROHYDROCHLORIC ACID|NITROMURIATIC ACID	8007-56-5	A yellow liquid with a pungent odor prepared by mixing nitric acid and hydrochloric acid, usually in a ratio of one part of nitric acid to three or four parts of hydrochloric acid. Fumes are irritating to the eyes and mucous membranes. Corrosive to metals and to tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1877.0	201.0	645.0	354.0	199.0	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: May explode from friction, heat or contamination. These substances will accelerate burning when involved in a fire. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react explosively with hydrocarbons (fuels). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4114	ARSENIC BROMIDE	ARSENIC BROMIDE|ARSENIC BROMIDE, [SOLID]	64973-06-4	A yellowish white crystalline solid. Absorbs moisture from the air. Decomposed by water to form arsenic acid and hydrobromic acid, a corrosive. Intensely toxic.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1878.0	201.0	645.0	354.0	199.0	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4115	ARSENIC DISULFIDE	ARSENIC DISULFIDE|REALGAR|RED ARSENIC GLASS|RED ARSENIC SULFIDE|RED ORPIMENT|RUBY ARSENIC	1303-32-8	An odorless red-brown solid. Insoluble in water and denser than water. Hence sinks in water. Highly toxic by ingestion and inhalation.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1878.0	201.0	645.0	354.0	199.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4111	ANTIMONY SULFIDE, SOLID	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Combines with water to form grayish paste. Insoluble in water.	Peroxides, such as CYCLOHEXANONE PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4112	APC	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 3,4,5,6-TETRABROMO-O-XYLENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.				0																										(NTP, 1992)		504	
4113	AQUA REGIA	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The powder in contact with water or moist air generates a large amount of heat and corrosive, alkaline lithium hydroxide.	LITHIUM PEROXIDE is strongly basic and an extremely powerful oxidizing agent. Accelerates the combustion of other materials, especially organic materials, involved in a fire. Can ignite wood, paper, oil, clothing, etc. on contact. May react explosively with hydrocarbons (fuels). Exposure to heat in a closed container may result in a vigorous reaction that violently ruptures the container.	Explosive; Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4114	ARSENIC BROMIDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water. Reacts slowly with water to form the amine and CO2.	Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence [Wischmeyer 1969].	Highly Flammable; Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2488 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		120																				(NTP, 1992)		-112	
4115	ARSENIC DISULFIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3,4,6-TRICHLORO-2-NITROPHENOL reacts as a weak acid. Incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases.						0																										(NTP, 1992)		198 to 199	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4111	ANTIMONY SULFIDE, SOLID																																								Organic Peroxide	C12H22O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4112	APC																			(NTP, 1992)			705 to 707	760		(NTP, 1992)		421.77						(NTP, 1992)	Insoluble (<1 mg/ml at 70Â° F)						C8H6Br4		0.0	0.0	0.0	0.0	0.0
4113	AQUA REGIA																																								Oxidizer	Li2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4114	ARSENIC BROMIDE	(NTP, 1992)		2		77.4		mm Hg							(NTP, 1992)		0.98				(NTP, 1992)			334 to 338	760		(NTP, 1992)		125.17						(NTP, 1992)	Reacts with water (decomposes)					Poison Inhalation Hazard|Flammable Liquid	C7H11NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4115	ARSENIC DISULFIDE																																			(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C6H2Cl3NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4116	ARSENICAL DUST	ARSENICAL DUST|ARSENICAL FLUE DUST	8028-73-7	A grayish-colored powder. Insoluble in water. Toxic by inhalation (dust) and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1878.0	201.0	645.0	354.0	199.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4117	ASBESTOS, [BLUE]	ASBESTOS|ASBESTOS, BLUE|ASBESTOS, BROWN|ASBESTOS, [BLUE]|BLUE ASBESTOS|BROWN ASBESTOS|CROCIDOLITE|CROCIDOLITE ASBESTOS	12001-28-4	Asbestos is a slender, fine, flaxy fiber. Long term occupational exposure to the dust can result in lung cancer. Asbestos is resistant to fire and most solvents. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a heat resistant material, in cement, furnace bricks, and brake linings.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1878.0	201.0	646.0	354.0	199.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
4118	ASBESTOS, WHITE	ASBESTOS, WHITE|ASBESTOS, [WHITE]|CHRYSOTILE|CHRYSOTILE (H4MG3(SI2O9))|METAXITE|SERPENTINE CHRYSOTILE|WHITE ASBESTOS	12001-29-5	White asbestos is a slender, fine, flaxy fiber. Long term occupational exposure to the dust can result in lung cancer. Asbestos is resistant to fire and most solvents. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a heat resistant material, in cement, furnace bricks, and brake linings.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1879.0	201.0	647.0	354.0	199.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4119	AZASERINE	AZASERINE	115-02-6	Pale yellow to green crystals. Used as an antifungal agent.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1880.0	201.0	647.0	354.0	199.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4120	AZINPHOS-ETHYL	ATHYL-GUSATHION|AZINPHOS A|AZINPHOS ETHYL DITHIOPHOSPHATE|AZINPHOS-ETHYL|BAY 16259|BAYER 16259|1,2,3-BENZOTRIAZINE, PHOSPHORODITHIOIC ACID DERIV.|COTNION-ETHYL|CRYSTHION|3,4-DIHYDRO-4-OXO-3-BENZOTRIAZINYLMETHYL O,O-DIETHYL PHOSPHORODITHIOATE|ENT 22,014|ETHYL AZINPHOS|ETHYL GUSATHION|ETHYL GUTHION|ETHYL HOMOLOG OF GUTHION|GUSATHION A|GUSATHION ETHYL|GUSATHION H|GUSATHION H AND K|GUSATHION K|GUSATHION K FORTE|GUSATION A|GUTHION ETHYL|GUTHION(ETHYL)|O,O-DIETHYL S-(4-OXOBENZOTRIAZINO-3-	2642-71-9	Colorless crystals. Used as a non-systemic insecticide with good ovicidal properties and long persistence. Used on cotton, citrus, vegetables, potatoes, tobacco, rice, and cereals to control caterpillars, beetles, aphids, spiders and many other insects. Not registered for use in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1880.0	201.0	647.0	354.0	200.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4116	ARSENICAL DUST	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to moisture. Insoluble in water.	Simple aromatic halogenated organic compounds, such as 3,4,ALPHA,ALPHA,ALPHA-PENTACHLOROTOLUENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200																	(NTP, 1992)		78.4	
		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)				Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)																													
4117	ASBESTOS, [BLUE]			No rapid reaction with air. No rapid reaction with water.	1,2-DICHLORO-1,1,2-TRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.						0																							
4118	ASBESTOS, WHITE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water	1,2-DICHLORO-1,1,3,3,3-PENTAFLUOROPROPANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4119	AZASERINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Slightly soluble in water.	Simple aromatic halogenated organic compounds are very unreactive; halogenated aliphatic compounds are moderately or very reactive. Both subgroups generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4120	AZINPHOS-ETHYL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and keep it away from all oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Can react vigorously with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		255																	(NTP, 1992)		109	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4116	ARSENICAL DUST	(NTP, 1992)	; 7 mm Hg at 122Â° F; 12 mm Hg at 158Â° F	2		77		mm Hg							(NTP, 1992)		1.591		68		(NTP, 1992)		541.6		760		(NTP, 1992)		246.36						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Corrosive	C7H3Cl5		0.0	0.0	0.0	0.0	0.0
4117	ASBESTOS, [BLUE]																																									Non-Flammable Gas	C2HCl2F3		0.0	0.0	0.0	0.0	0.0
4118	ASBESTOS, WHITE																																									Class 9	C3HCl2F5		0.0	0.0	0.0	0.0	0.0
4119	AZASERINE																																									Corrosive	C7H3Cl2F3		0.0	0.0	0.0	0.0	0.0
4120	AZINPHOS-ETHYL								(NTP, 1992)		6.63				(NTP, 1992)		1.4558		167		(NTP, 1992)		491 to 493	760			(NTP, 1992)		192						(NTP, 1992)	at 74.3Â° F		less than 0.1	mg/mL		Poison	C6H3Cl2NO2	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4121	BARBAN	BARBAN	101-27-9	Crystalline solid. Water solubility is 11 ppm at 20Â°C. Used as a selective herbicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1881.0	201.0	648.0	354.0	200.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4122	BARIUM HYPOCHLORITE, WITH MORE THAN 22% AVAILABLE CHLORINE	BARIUM HYPOCHLORITE|BARIUM HYPOCHLORITE, WITH MORE THAN 22% AVAILABLE CHLORINE	13477-10-6	A white-colored crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. May accelerate the burning of combustible materials. Prolonged exposure to heat or flames may result in an explosion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1882.0	201.0	648.0	354.0	200.0	INHALATION: remove promptly to fresh air; if symptoms of asphyxia- tion persist, administer artificial respiration and oxygen; treat symptomatically thereafter. SKIN: if frostbite has occurred, apply warm water; treat burn. (USCG, 1999)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4123	BARIUM STYPHNATE, [MONOHYDRATE]	BARIUM STYPHNATE, [MONOHYDRATE]	20236-55-9	The barium salt of 2,4,6-trinitroresorcinol. Shipped as a slurry or wet mass of orange-yellow crystals. Shock, heat, flame or friction may cause explosion if dried out. The primary hazard is blast of instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1883.0	201.0	648.0	354.0	200.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4124	BENDECTIN	BENDECTIN|BUTANEDIOIC ACID, COMPOUND WITH N,N-DIMETHYL-2-(1-PHENYL-1-(2-PYRIDINYL)ETHOXY) ETHANAMINE (1:1), MIXT. WITH 2-(DIETHYLAMINO)ETHYL(1,1'-BICYCLOHEXYL)-1-CARBOXYLATE HYDROCHLORIDE AND 5-HYDROXY-6-METHYL-3,4-PYRIDINEDIMETHANOL HYDROCHLORIDE|DEBENDOX|LENOTAN	8064-77-5	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1883.0	201.0	648.0	354.0	200.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4125	BENDIOCARB PHENOL	BENDIOCARB PHENOL	22961-82-6	White crystalline solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1884.0	201.0	648.0	354.0	200.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4121	BARBAN	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	CYCLOPENTANONE polymerizes easily, especially in the presence of acids. Can react with oxidizing materials, i.e. hydrogen peroxide. (NTP, 1992)	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		86												(NTP, 1992)		-60.3	
4122	BARIUM HYPOCHLORITE, WITH MORE THAN 22% AVAILABLE CHLORINE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Self-contained breathing apparatus for high concentrations of vapor; safety goggles or face shield. (USCG, 1999)	Highly flammable. Insoluble in water.	CYCLOPROPANE is incompatible with strong oxidizing agents such as nitric acid. Boiling of the liquid and charring may occur followed by ignition of remaining material and other nearby combustibles. Adsorbed readily by concentrated sulfuric acid [Merck]. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water. Mixtures with oxygen or air may explode [Merck]. Contact of the cold liquefied gas with water may result in vigorous or violent boiling and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if the liquid contacts water in a closed container, [Handling Chemicals Safely, 1980. p. 250].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4				(USCG, 1999)		2.4		%	(USCG, 1999)		10.3		%	(USCG, 1999)		932		(USCG, 1999)		-197.3	
4123	BARIUM STYPHNATE, [MONOHYDRATE]	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	3,5-DICHLORO-2,4,6-TRI-FLUOROPYRIDINE is a halide- and amine-substituted aromatic compound. Behaves as a weak chemical base, neutralizing acids in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9264 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					
4124	BENDECTIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	3,5-DICHLOROPHENOL is incompatible with acid chlorides, acid anhydrides and oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(NTP, 1992)		154	
4125	BENDIOCARB PHENOL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	CYFLUTHRIN is a pyrethrine derivative. Incompatible with azocyclotin, and perhaps other azo compounds and organometallics.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4121	BARBAN														(NTP, 1992)		0.94869		68		(NTP, 1992)		267.17		760		(NTP, 1992)		84.12												Flammable Liquid	C5H8O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4122	BARIUM HYPOCHLORITE, WITH MORE THAN 22% AVAILABLE CHLORINE														(USCG, 1999)		0.676		-27.4		(USCG, 1999)		-27.2		760		(USCG, 1999)		42.1											CPR	Flammable Gas	C3H6		0.0	0.0	0.0	0.0	0.0
4123	BARIUM STYPHNATE, [MONOHYDRATE]																																							Poison Inhalation Hazard	C5Cl2F3N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4124	BENDECTIN																				(NTP, 1992)		451		760		(NTP, 1992)		163						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C6H4Cl2O		0.0	0.0	0.0	0.0	0.0
4125	BENDIOCARB PHENOL																																							Poison	C22H18CI2FNO3	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4126	BENZ[C]ACRIDINE	BENZ[C]ACRIDINE	225-51-4	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1884.0	201.0	648.0	354.0	200.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4127	BENZENE PHOSPHORUS THIODICHLORIDE	BENZENE PHOSPHORUS THIODICHLORIDE|BENZENETHIOPHOSPHONYL CHLORIDE|DICHLORO(PHENYLTHIO)PHOSPHINE|PHENYL PHOSPHORODICHLORIDOTHIOITE|PHENYLPHOSPHINE THIODICHLORIDE|PHENYLPHOSPHONOTHIOIC DICHLORIDE|S-PHENYL DICHLOROTHIOPHOSPHITE	14684-25-4	A colorless fuming liquid. Corrosive to metals and tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1885.0	201.0	649.0	354.0	200.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4128	BENZENE-1,3-DISULFONYL HYDRAZIDE	BENZENE-1,3-DISULFONYL HYDRAZIDE|BENZENE-1,3-DISULPHONYL HYDRAZIDE	4547-70-0	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Readily ignited by sparks or flames and burns vigorously. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4129	BENZETHONIUM CHLORIDE MONOHYDRATE	AMMONIUM, BENZYLDIMETHYL(2-(2-(P-(1,1,3,3-TETRAMETHYLBUTYL)PHENOXY)ETHOXY)-ETHYL)-, CHLORIDE, MONOHYDRATE|AMMONIUM, BENZYLDIMETHYL[2-(2-[P-(1,1,3,3-TETRAMETHYLBUTYL)PHENOXY]ETHOXY)ETHYL]-, CHLORIDE, MONOHYDRATE|BENZETHONIUM CHLORIDE MONOHYDRATE|DALIDYNE|P-DIISOBUTYLPHENOXYETHOXYETHYLDIMETHYLBENZYLAMMONIUM CHLORIDE MONOHYDRATE|PHEMEROL CHLORIDE MONOHYDRATE	5929-09-9	PHYSICAL DESCRIPTION: Thin hexagonal plates. Melting point 323.6-327.2Â°F (162-164Â°C). pH of 1% aqueous solution: 4.8-5.5. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4130	BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)-	BENZIMIDAZOLE, 4,5(OR 6,7)-DICHLORO-2-(TRIFLUOROMETHYL)-|BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)-|CHLORFLURAZOLE|CHLOROFLURAZOLE|4,5-DICHLORO-2-(TRIFLUOROMETHYL)-1H-BENZIMIDAZOLE|4,5-DICHLORO-2-(TRIFLUOROMETHYL)BENZIMIDAZOLE|4,5-DICHLORO-2-TRIFLUOROMETHYLBENZIMIDAZOLE|1H-BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)-|NC 3363	3615-21-2	A crystalline solid. Fine white needles when pure; the commercial material is brownish. Used as an herbicide. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4126	BENZ[C]ACRIDINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to air and light (NTP, 1992). Insoluble in water.	(BLOB)								0																				(NTP, 1992)		257 to 261
4127	BENZENE PHOSPHORUS THIODICHLORIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	LUTIDENE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4128	BENZENE-1,3-DISULFONYL HYDRAZIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	CYHEXATIN is incompatible with strong oxidizing agents. Soluble in some organic solvents (acetone 1.3 g/L; xylenes 3.6 g/L; carbon tetrachloride 28 g/L; dichloromethane 34 g/L). Stable in aqueous suspensions in neutral and alkaline pH (above pH 6), but reacts exothermically as a base in the presence of strong acids to form salts. Converts to dicyclohexyltin oxide and further to cyclohexylstannoic acid upon exposure to ultraviolet radiation.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NIOSH, 2003)		383
4129	BENZETHONIUM CHLORIDE MONOHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from moisture and store it in a freezer. Keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Probably moisture sensitive. Water soluble.	1,2-DIETHYLHYDRAZINE DIHYDROCHLORIDE is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992)	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)	336	
4130	BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)-	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and keep it away from oxidizing materials, acids and bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	CYTOCHALASIN D may be sensitive to exposure to heat. This chemical can react with strong oxidizing agents, strong acids and strong bases. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		491 to 500

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4126	BENZ[C]ACRIDINE																									(NTP, 1992)		194.26						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C10H14N2O2		0.0	0.0	0.0	0.0	0.0
4127	BENZENE PHOSPHORUS THIODICHLORIDE																																							Flammable Liquid	C7H9N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4128	BENZENE-1,3-DISULFONYL HYDRAZIDE	(NIOSH, 2003)	(approx)	0				mm Hg													(NIOSH, 2003)	(Decomposes)	442		760		(NIOSH, 2003)		385.2		(NIOSH, 2003)	[25 mg/m3 (as Sn)]	80	mg/m3	(NIOSH, 2003)	Insoluble					Poison	(C6H11)3SnOH		0.0	0.0	0.0	0.0	0.0
4129	BENZETHONIUM CHLORIDE MONOHYDRATE																									(NTP, 1992)		161.1						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL		Poison	C4H12N2,2ClH		0.0	0.0	0.0	0.0	0.0
4130	BENZIMIDAZOLE, 4,5-DICHLORO-2-(TRIFLUOROMETHYL)-																									(NTP, 1992)		507.63												Poison	C30H37NO6	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4131	BENZO(J)FLUORANTHENE	BENZO(J)FLUORANTHENE	205-82-3	Yellow crystals. Insoluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	(BLOB)	This chemical is combustible. (NTP, 1992)	It is combustible. Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4132	BETA - ENDOSULFAN	ALPHA-THIONEX|B-ENDOSULFAN|BETA - ENDOSULFAN|BETA-BENZOEPIN|BETA-ENDOSULFAN|BETA-THIODAN|ENDOSULFAN 2|ENDOSULFAN B|ENDOSULFAN II|GENERAL WEED KILLER|5-NORBORNENE-2,3-DIMETHANOL, 1,4,5,6,7,7-HEXACHLORO-, CYCLIC SULFITE, EXO-|THIODAN II	33213-65-9	PHYSICAL DESCRIPTION: Brown crystals. Melting point 208-210Â°C. Used as an insecticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	EYES OR SKIN: Immediately flush with running water for at least 15 min.; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes at the site. INGESTION: If victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Contain toxic chloride fumes. Behavior in Fire: May produce toxic and irritating fumes. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
4133	BETA-CADINENE	BETA-CADINENE|(-)-BETA-CADINENE|CADINA-3,9-DIENE|3,9-CADINADIENE|CADINE-3,9-DIENE|CADINENE|NAPHTHALENE, 1,2,4A,5,8,8A-HEXAHYDRO-4,7-DIMETHYL-1-(1-METHYLETHYL)-(1S-(1ALPHA,4BETA,8ALPHA))-|NAPHTHALENE, 1,2,4A,5,8,8A-HEXAHYDRO-4,7-DIMETHYL-1-(1-METHYLETHYL)-, [1S-(1ALPHA,4ABETA,8A.ALPHA])-|NCI-C56008	523-47-7	PHYSICAL DESCRIPTION: Colorless viscous oil. A constituent of various wood oils such as cade oil, cedarleaf oil.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1886.0	202.0	650.0	354.0	201.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4134	BETA-DIOXYTHIOGUANOSINE	BETA-DIOXYTHIOGUANOSINE	64039-27-6		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1887.0	202.0	650.0	354.0	201.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4135	BICYCLO[2.2.1]HEPTANE-2-CARBONITRILE, 5-CHLORO-6-[[[(METHYLAMINO)CABONYL]OXY]IMINO]-, [1S-(1ALPHA,2BETA,4ALPHA,5ALPHA,6E)]-	(BLOB)	15271-41-7	Solid. Used experimentally for residual control of mobile forms of spider mites, including several phosphate resistant strains. Has not been registered. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1887.0	202.0	650.0	354.0	201.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4136	BIS(2-CHLOROISOPROPYL) ETHER	BIS (2-CHLORO-1-METHYLETHYL) ETHER|BIS(2-CHLOROISOPROPYL) ETHER|BIS(2-CHLOROISOPROPYL)ETHER|DICHLORODIISOPROPYL ETHER|2,2'-DICHLOROISOPROPYL ETHER|NCI-C50044|2,2'-OXYBIS[2-CHLOROPROPANE]	39638-32-9	Colorless liquid. Insoluble in water. Combustible.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1887.0	202.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4131	BENZO(J)FLUORANTHENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Viton, Butyl rubber, Neoprene, PVA (NTP, 1992)	Highly flammable. Water soluble.	3-BROMO-1-PROPANOL may be sensitive to prolonged exposure to light. (NTP, 1992)	Highly Flammable						0		(NTP, 1992)		201																				
4132	BETA - ENDOSULFAN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Water soluble.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 230														(USCG, 1999)		106	
4133	BETA-CADINENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. (NTP, 1992). Insoluble in water.	1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		214														(NTP, 1992)			79 to 81
4134	BETA-DIOXYTHIOGUANOSINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and light. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to moisture. Insoluble in water.	Accelerated stability studies indicate that 1,2-DIHYDRO-2,2,4-TRIMETHYLQUINOLINE POLYMER is unstable when stored at 140Â° F for 2 weeks, protected from light. Acetone solutions are stable for 3 weeks in the dark at room temperature. Solutions in acetone stored for 3 hours open to air and light are also stable. This chemical is incompatible with concentrated nitric acid and strong oxidizers. (NTP, 1992)						0		(NTP, 1992)		400														(NTP, 1992)			162 to 201
4135	BICYCLO[2.2.1]HEPTANE-2-CARBONITRILE, 5-CHLORO-6-[[[(METHYLAMINO)CARBONYL]OXY]IMINO]-, [1S-(1ALPHA,2BETA,4ALPHA,5ALPHA,6E)]-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Water soluble.	3-ETHOXY-1-PROPANOL is an ethoxy-alcohol derivative. The ether is relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		130																		
4136	BIS(2-CHLOROISOPROPYL) ETHER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to prolonged exposure to air and light. Slightly soluble in water.	M-AMINOPHENOL may react with strong oxidizers and mineral acids or bases. (NTP, 1992)		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)			253 to 259

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4131	BENZO(J)FLUORANTHENE														(NTP, 1992)		1.5374		68		(NTP, 1992)			293 to 298	760		(NTP, 1992)		139						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C3H7BrO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4132	BETA - ENDOSULFAN														(USCG, 1999)		1.26				(USCG, 1999)		392		760		(USCG, 1999)		108.53											CLP	Corrosive	C3H5ClO2		0.0	0.0	0.0	0.0	0.0
4133	BETA-CADINENE														(NTP, 1992)		1.03		77		(NTP, 1992)			491 to 500	743		(NTP, 1992)		173.26						(NTP, 1992)	at 66Â° F		less than 0.1	mg/mL			C12H15N	Mineral-Based & Clay-Based Absorbents(Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4134	BETA-DIOXYTHIOGUANOSINE	(NTP, 1992)		73.5		122		mm Hg							(NTP, 1992)		1.09				(NTP, 1992)			greater than 599	760										(NTP, 1992)	at 73Â° F		less than 1	mg/mL			(C12H15N)x	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4135	BICYCLO[2.2.1]HEPTANE-2-CARBONITRILE, 5-CHLORO-6-[[[(METHYLAMINO)CABONYL]OXY]IMINO]-, [1S-(1ALPHA,2BETA,4ALPHA,5ALPHA,6E)]-	(NTP, 1992)		8.2		77		mm Hg							(NTP, 1992)		0.904		68		(NTP, 1992)			320 to 322	760		(NTP, 1992)		104.16						(NTP, 1992)	at 64Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C5H12O2	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4136	BIS(2-CHLOROISOPROPYL) ETHER																				(NTP, 1992)			327		11	(NTP, 1992)		109.14						(NTP, 1992)	at 75Â° F		1 to 10	mg/mL		Poison	C6H7NO		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4137	BIS(2-ETHYLHEXYL) ISOPHTHALATE	BIS(2-ETHYLHEXYL) ISOPHTHALATE|DI-2-ETHYLHEXYL ISOPHTHALATE|DIOCTYL ISOPHTHALATE|DOP|ISOPHTHALIC ACID, BIS(2-ETHYLHEXYL) ESTER|ISOPHTHALIC ACID, BIS(2-ETHYLHEXYL)ESTER|ISOPHTHALIC ACID, DI-(2-ETHYLHEXYL)ESTER	137-89-3	PHYSICAL DESCRIPTION: Clear light yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1888.0	203.0	650.0	354.0	201.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
4138	BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL AMMONIUM METHYL SULFATES	ACCOSOFT 748C|BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL AMMONIUM METHYL SULFATES|BIS(HYDROGENATED TALLOW ALKYL)DIMETHYLAMMONIUM ME SULFATES|BIS(HYDROGENATED TALLOW ALKYL)DIMETHYLAMMONIUM METHYL SULFATES|CAROSOFT V-100|DIMETHYL DIHYDROGENATED TALLOW AMMONIUM METHYL SULFATE|METHYL SULFATES|QUATERNARY AMMONIUM COMPDS., BIS(HYDROGENATED TALLOW ALKYL)DIMETHYL, ME SULFATES|QUATERNARY AMMONIUM COMPOUNDS, BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL,|QUATERNIUM-18	61789-81-9	PHYSICAL DESCRIPTION: Pale yellow chunky solid or a light yellow viscous liquid (at 150.1Â°F). Isopropyl alcohol-like odor. A quaternary ammonium salt of formula (R2(CH3)2N).O2SOCH3 where R represents saturated long-chain alkyl groups derived from fatty acids (groups such as C16H33 or C18H37).	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1889.0	203.0	650.0	354.0	201.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4139	BIS(PERFLUORISOPROPYL) KETONE	BIS(PERFLUORISOPROPYL) KETONE|PERFLUOROBIS(ISOPROPYL) KETONE|PERFLUORODIISOPROPYL KETONE|PERFLUOROISOPROPYL KETONE	813-44-5	Liquid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1890.0	203.0	650.0	354.0	201.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4140	BISULFITES, AQUEOUS SOLUTION, N.O.S.	BISULFITE|BISULFITE, [AQUEOUS SOLUTION]|BISULFITES, AQUEOUS SOLUTION, N.O.S.|BISULFITES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.|BISULPHITE|BISULPHITES, AQUEOUS SOLUTION, N.O.S.|BISULPHITES, INORGANIC, AQUEOUS SOLUTIONS, N.O.S.|HYDROGEN SULFITE|HYDROGEN SULFITE(1-)|HYDROSULFITE ANION|SULFITE (HSO3-)|SULFITE (HSO31-)|SULFUROUS ACID, ION(1-)	15181-46-1	Bisulphites, aqueous solutions are light colored liquids. They can cause severe burns to skin, eyes and mucous membranes. The material is noncombustible. If available, obtain the technical name of the material from the shipping papers and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1890.0	203.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4141	BROMACIL LITHIUM SALT	BROMACIL LITHIUM SALT|BROMACIL, LITHIUM SALT|5-BROMO-6-METHYL-3-SEC-BUTYL-2,4-(1H,3H)-PYRIMIDINEDIONE, LITHIUM SALT|2,4-(1H,3H)-PYRIMIDINEDIONE,	53404-19-6	Crystalline solid. Used as an herbicide to replace 2,4,5,-T in certain applications.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1890.0	203.0	650.0	354.0	201.0			
4142	BROMATES, INORGANIC, N.O.S.	BROMATE|BROMATE (BRO3(1-))|BROMATE (BRO3-)|BROMATE (BRO3)1-)|BROMATE ION|BROMATE ION (BRO3-)|BROMATE ION (BRO31-)|BROMATE(1-)|BROMATES, INORGANIC, N.O.S.|BROMIC ACID, ION(1-)	15541-45-4	Colorless to light colored solid. Slightly soluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1890.0	203.0	650.0	354.0	201.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Acrid smoke and fumes (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4137	BIS(2-ETHYLHEXYL) ISOPHTHALATE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Manganese dust (finely divided) has been known to be pyrophoric. During a fire in an industrial bag filter, a mixture of aluminum and manganese dusts was released and an explosion resulted [Occ. Haz. 28:185-7. 1946-47].	Manganese dust(finely divided) has been known to be pyrophoric. Powdered manganese ignites in chlorine and burns brilliantly; with fluorine the reaction takes place with incandescence [Mellor 12:185, 344. 1946-47]. Concentrated nitric acid reacts with manganese with incandescence and a feeble explosion [Mellor 12:188. 1946-47]. Manganese or potassium ignites in nitrogen dioxide [Ann. Chim. et Phys.(2) 2:317]. Manganese burns with a brilliant flame when heated in sulfur dioxide vapor [Mellor 12:187. 1946-47]. Contact with conc. hydrogen peroxide causes violent decomposition and/or ignition.	Pyrophoric	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		2271	
4138	BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL AMMONIUM METHYL SULFATES	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Hydrolyzed in water with formation of mono. di, and triethyl orthophosphates, water solutions attack metal surfaces. Reacts slowly with water to form phosphoric acid	Organophosphates, such as TETRAETHYL PYROPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4139	BIS(PERFLUORISOPROPYL) KETONE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Soluble in water.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979, p. 108-109]. The anhydrous nitrate salt with urea explodes upon heating, [Chem Abs., 1975, 82, 48151].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4140	BISULFITES, AQUEOUS SOLUTION, N.O.S.	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Hygroscopic.	MANGANESE(II) SULFATE MONOHYDRATE is incompatible with aluminum and magnesium. (NTP, 1992)		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4141	BROMACIL LITHIUM SALT			Decomposes in water to yield fumigant vapor. Acidic solution yields carbon disulfide, formaldehyde, and methyl amine.	A thiadiazine.	Water-Reactive							0																							
4142	BROMATES, INORGANIC, N.O.S.	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Soluble in water.	Ketones, such as 3-METHYLBUTAN-2-ONE, are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		43																				(USCG, 1999)		-134	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4137	BIS(2-ETHYLHEXYL) ISOPHTHALATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(metal)	7.2				(NIOSH, 2003)		3564		760		(NIOSH, 2003)		54.9		(NIOSH, 2003)	(as Mn)	500	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	Mn		0.0	0.0	0.0	0.0	0.0
4138	BIS(HYDROGENATED TALLOW ALKYL) DIMETHYL AMMONIUM METHYL SULFATES																														(NIOSH, 2003)	(as TEPP)	5	mg/m3							Poison	C8H20O7P2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4139	BIS(PERFLUORISOPROPYL) KETONE																														(NIOSH, 2003)	(as Mn)	500	mg/m3							Oxidizer	HNO3.1|2Mn	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4140	BISULFITES, AQUEOUS SOLUTION, N.O.S.														(NTP, 1992)		2.95										(NTP, 1992)		169.01		(NIOSH, 2003)	(as Mn)	500	mg/m3	(NTP, 1992)	at 70Â° F		50 to 100	mg/mL		Class 9	MnSO4.H2O		0.0	0.0	0.0	0.0	0.0
4141	BROMACIL LITHIUM SALT																																								C5H10N2S2.Na	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4142	BROMATES, INORGANIC, N.O.S.	(USCG, 1999)		67.21				mm Hg							(USCG, 1999)		0.8051		68		(USCG, 1999)		201		760		(USCG, 1999)		86.15						(NIOSH, 2003)	Very slight				MBO	Flammable Liquid	C5H10O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4143	BROMINE CHLORIDE	BROMINE CHLORIDE|BROMINE MONOCHLORIDE|BROMOCHLORIDE	13863-41-7	A reddish-yellow mobile liquid with an irritating odor. Toxic by ingestion or inhalation, and an irritant to skin, eyes and mucous membranes. Prolonged exposure of the containers to intense heat may result in their violent rupturing and rocketing. Used as an industrial disinfectant.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1891.0	203.0	650.0	354.0	201.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4144	BUTYL ACID PHOSPHATE	BUTYL ACID PHOSPHATE|N-BUTYL ACID PHOSPHATE|N-BUTYL PHOSPHORIC ACID|PHOSPHORIC ACID, MONOBUTYL ESTER, MIXT. CONTAINING	52933-01-4	A colorless liquid. Insoluble in water. Corrosive to metals and tissues.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1891.0	203.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4145	BUTYL CYCLOHEXYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID, BUTYL CYCLOHEXYL ESTER|BUTYL CYCLOHEXYL PHTHALATE|CYCLOHEXYL BUTYL PHTHALATE|LASTEX 50B|PHTHALIC ACID, BUTYL CYCLOHEXYL ESTER	84-64-0	PHYSICAL DESCRIPTION: Clear brown slightly viscous liquid with a very mild odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1891.0	203.0	650.0	354.0	201.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen and sulfur oxides. (EPA, 1998)	This compound is a solid carbamate insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. This compound is a carbamate insecticide. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4146	BUTYLPHENOLS, SOLID	BUTYL PHENOL, [SOLID]|BUTYLPHENOLS, SOLID|P-TERT-BUTYLPHENOL	28805-86-9	Butyl phenol (para-tert) is a white crystalline solid. It is insoluble in water. It may burn though it may require some effort to ignite. It is corrosive to metals and tissue. It is used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1891.0	203.0	650.0	354.0	201.0			
4147	BUTYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)	ACETIC ACID, 2,2',2''-((BUTYLSTANNYLIDYNE)TRIS(THIO))TRIS-,TRIISOOCTYL ESTER|ACETIC ACID, MERCAPTO-, ISOOCTYL ESTER, BUTYLSTANNYLIDYNE DERIV.|ACETIC ACID, [(BUTYLSTANNYLIDYNE)TRITHIO]TRI-, TRIISOOCTYL ESTER|BUTYLSTANNANE TRIS(ISOOCTYL MERCAPTOACETATE)|BUTYLTIN TRIS(ISOOCTYL MERCAPTOACETATE)|BUTYLTIN TRIS(ISOOCTYL THIOGLYCOLATE)|BUTYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)|BUTYLTRIS(2-ETHYLHEXYLOXYCARBONYLMETHYLTHIO)STANNANE|BUTYLTRIS(ISOOCTYLOXYCARBONYLMETHYLTHIO)STANNANE|BUTYLTRIS(ISOOCTYLOXYCARBONYLMETHYLTHIO)TIN|ISOOCTYL ALCOHOL	25852-70-4	PHYSICAL DESCRIPTION: Clear yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1892.0	204.0	650.0	354.0	201.0	(BLOB)	When heated to decomposition (932F) it decomposes into mercury and oxygen. Fumes from fire may contain poisonous mercury vapor; oxygen may increase intensity of fire. Explosion of mercuric oxide may occur with friction or application of heat. Avoid reducing agents. Avoid light; may decompose into mercury and oxygen. Hazardous polymerization may not occur. (EPA, 1998)	Wear full body protective clothing and self-contained breathing apparatus. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
4148	BUTYLTOLUENES	BUTYL TOLUENE|BUTYLMETHYLBENZENE|BUTYLTOLUENE|BUTYLTOLUENES|1-METHYL-4-TERT-BUTYLBENZENE|P-METHYL-TERT-BUTYLBENZENE|P-TERT-BUTYLTOLUENE|TBT|4-TERT-BUTYLTOLUENE|TOLUENE, BUTYL-|TOLUENE, P-TERT-BUTYL	27458-20-4	A colorless liquid consisting of a mixture of isomers. Insoluble in water and less dense than water. Hence floats on water. May be moderately toxic by ingestion, inhalation and skin absorption. May irritate skin and eyes. Flash point exceeds 100Â°F. Used as a solvent and to make plastics.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	650.0	354.0	201.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4143	BROMINE CHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	M-CHLOROBENZOIC ACID is incompatible with strong oxidizing agents. (NTP, 1992)				0																								(NTP, 1992)		316	
4144	BUTYL ACID PHOSPHATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to prolonged exposure to air and light. Insoluble in water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.	Known Catalytic Activity						0																								(NTP, 1992)		405 to 408	
4145	BUTYL CYCLOHEXYL PHTHALATE	Avoid inhalation of material. This compound is a solid carbamate insecticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: With clean shovel, place material into clean, dry container and cover; move containers from spill area. Large spills: Dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	MERCAPTODIMETHUR is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		243	
4146	BUTYLPHENOLS, SOLID			No rapid reaction with air. No rapid reaction with water.	DDE arises by dehydrochlorination of DDT. Incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, and azo/diazo compounds, with alkali metals, and with epoxides.								0																								
4147	BUTYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)	Caution : Extreme temperatures (in excess of 932 degrees F) may decompose mercuric oxide into mercury and oxygen. Avoid sources of extreme heat. Isolate hazard area. Stay upwind; keep out of low areas. Do not touch spilled material. Take up small spills with sand or other non-combustible absorbent material and place into containers for later disposal. For small, dry spills, use clean shovel to place material into clean dry containers. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	MERCURIC OXIDE is light sensitive. When hydrazine hydrate is dropped on mercuric oxide, an explosion occurs [Mellor 8:318. 1946-47]. Hypophosphorous acid reduces mercuric oxide explosively to the metal [Mellor 4:778. 1946-47]. When heated to decomposition (932 F) it decomposes into mercury and oxygen. Fumes from fire may contain poisonous mercury vapor; oxygen may increase intensity of fire. Explosion of mercuric oxide may occur with friction or application of heat. Avoid reducing agents. Avoid light; may decompose into mercury and oxygen.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0								(EPA, 1998)	Not flammable.				(EPA, 1998)	Not flammable.									(EPA, 1998)	Decomposes at 932Â° F		
4148	BUTYLTOLUENES	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Moderately soluble in water	MERCURIC OXYCYANIDE detonates on heating [Hawley]. Several instances have been reported where explosions occurred in handling this substance. Friction is a frequent cause of the explosion [Chem. Abst. 16:2010. 1972]. Decomposes on contact with acid to give off hydrogen cyanide, a flammable poisonous gas. Desensitized by mixing 67% mercuric cyanide to create commercial product.	Explosive	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																												

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4143	BROMINE CHLORIDE														(NTP, 1992)		1.496		77		(NTP, 1992)	Sublimes					(NTP, 1992)		156.57						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C7H5ClO2		0.0	0.0	0.0	0.0	0.0
4144	BUTYL ACID PHOSPHATE																									(NTP, 1992)		386.58						(NTP, 1992)	at 73Â° F		less than 1	mg/mL			C24H34O4	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4145	BUTYL CYCLOHEXYL PHTHALATE	(EPA, 1998)		0.0001				mm Hg							(USCG, 1999)			greater than 1			(USCG, 1999)	Very high.					(EPA, 1998)		225.3											MCD	Poison	C11H15NO2S		0.0	0.0	0.0	0.0	0.0
4146	BUTYLPHENOLS, SOLID																																								C14H8Cl4		0.0	0.0	0.0	0.0	0.0
4147	BUTYLTIN-TRIS(ISOOCTYLMERCAPTOACETATE)														(EPA, 1998)		11.1		39								(EPA, 1998)		216.61		(NIOSH, 2003)	(as Hg)	10	mg/m3						MOX	Poison	HgO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4148	BUTYLTOLUENES																															(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	Hg(CN)2.HgO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4149	C.I. DIRECT BLUE 10	BENZO NEW BLUE GS|C.I. 24340|C.I. DIRECT BLUE 10|CHLORAZOL BLUE G|CHLORAZOL BLUE GS|DIANIL BLUE G|DIRECT BLUE 10|DIRECT BRILLIANT BLUE G|DIRECT NEUTRAL BLUE G|HISPAMIN BLUE DG|PONTAMINE BRILLIANT BLUE G|TERTRODIRECT BLUE DG|VONDACEL BLUE G	4198-19-0	PHYSICAL DESCRIPTION: Blue solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	650.0	354.0	201.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4150	C.I. DIRECT VIOLET 32	4-AMINO-3-((4'-((1-HYDROXY-4-SULFO-2-NAPHTHALENYL)AZO)-3,3'-DIMETHOXY(1,1'-BIPHENYL)-4-YL)AZO)-1-NAPHTHALENESULFONIC ACID DISODIUM SALT|AZO VIOLET|C.I. 24105|C.I. DIRECT VIOLET 32|C.I. DIRECT VIOLET 32 DISODIUM SALT|C.I. DIRECT VIOLET 32, DISODIUM SALT|DIAPHTAMINE VIOLET NW|DIRECT VIOLET 32	6428-94-0	PHYSICAL DESCRIPTION: Black solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	650.0	354.0	201.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4151	CADINENE	CADINENE|NAPHTHALENE, DECAHYDRO-1,6-DIMETHYL-4-(1-METHYLETHYL)-, [1S-(1ALPHA,4ALPHA,4AALPHA,6ALPHA,8A.BETA])-, DIDEHYDRO DERIV.|[1S-(1-ALPHA,4-ALPHA,4A-ALPHA,6-ALPHA,8-ALPHA-BETA)]-DECAHYDRO-1,6-DIMETHYL-|SESQUITERPENE	29350-73-0	PHYSICAL DESCRIPTION: Clear yellow to lime green oily liquid with a characteristic odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	650.0	354.0	201.0	INHALATION: remove victim to fresh air; get medical attention. INGESTION: give egg whites, milk, or activated charcoal; induce vomiting; consult physician. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Smoke from fire may contain toxic mercury vapor and oxides of nitrogen. Behavior in Fire: May increase intensity of fire (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4152	CALCIUM ARSENITE, SOLID	ARSENOUS ACID, CALCIUM SALT|CALCIUM ARSENITE|CALCIUM ARSENITE (CAHASO3)|CALCIUM ARSENITE SOLID|CALCIUM ARSENITE, SOLID|CALCIUM ARSENITE, [SOLID]	52740-16-6	A white granular powder. Insoluble in water. Contact may cause irritation to skin, eyes, and mucous membranes. Poisonous by ingestion and inhalation.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	650.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4153	CALCIUM CHLORATE	CALCIUM CHLORATE|CALCIUM CHLORATE (CA(CLO3)2)	10137-74-3	A white crystalline solid. It forms a very flammable mixture with combustible materials and this mixture may be explosive if the combustible material is finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to fire or heat can result in an explosion. It is used in photography, in pyrotechnics, and as a herbicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1893.0	204.0	651.0	354.0	201.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4149	C.I. DIRECT BLUE 10	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	3-SULFOLENE is a sulfone. May be sensitive to elevated temperatures. May react with strong reducing agents to generate toxic and flammable hydrogen sulfide. [[Details on specifics of reactivity not yet available.]]								0		(NTP, 1992)		235															(NTP, 1992)			147 to 149
4150	C.I. DIRECT VIOLET 32	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4'-(CHLOROACETYL)ACETANILIDE reacts with oxidizers. (NTP, 1992)								0		(NTP, 1992)		230															(NTP, 1992)			410.7 to 414.3
4151	CADINENE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Slightly soluble in water and decomposes to a white insoluble precipitate.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick 1979. p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
4152	CALCIUM ARSENITE, SOLID	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to oxidation upon prolonged exposure to air. Insoluble in water.	4-AMINO-2-NITROPHENOL may react with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(NTP, 1992)		261	
4153	CALCIUM CHLORATE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	Deuterium, like hydrogen, is a reducing agent; reacts readily with oxidizing agents.	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	4	0	4																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4149	C.I. DIRECT BLUE 10														(NTP, 1992)		1.3		59		(NTP, 1992)	Decomposes					(NTP, 1992)		118.15						(NTP, 1992)	at 61Â° F		50 to 100	mg/mL			C4H6O2S	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4150	C.I. DIRECT VIOLET 32	(NTP, 1992)			less than 0.011	68		mm Hg							(NTP, 1992)		1.348				(NTP, 1992)	Decomposes					(NTP, 1992)		211.66						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C10H10ClNO2		0.0	0.0	0.0	0.0	0.0
4151	CADINENE														(USCG, 1999)		4.78		68								(USCG, 1999)		280.6		(NIOSH, 2003)	(as Hg)	10	mg/m3						MRN	Poison	HgNO3|HgNO3.2H2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4152	CALCIUM ARSENITE, SOLID														(NTP, 1992)		154.13										(NTP, 1992)		154.13						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C6H6N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4153	CALCIUM CHLORATE																																								Flammable Gas	D2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4154	CALCIUM CHLORATE, AQUEOUS SOLUTION	CALCIUM CHLORATE|CALCIUM CHLORATE (CA(CLO3)2)|CALCIUM CHLORATE SOLUTION|CALCIUM CHLORATE, AQUEOUS SOLUTION|CALCIUM CHLORATE, SOLUTION	10137-74-3	A white to yellow colored liquid. It is soluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. Moderately toxic by ingestion. Can accelerate the burning of combustible materials. Prolonged exposure to heat or flames may result in an explosion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1894.0	204.0	651.0	354.0	201.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4155	CALCIUM CHLORITE	CALCIUM CHLORITE	14674-72-7	White granular solid. Prolonged exposure to fire or heat may result in an explosion and the rupturing of the containers.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1894.0	204.0	651.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be extinguished using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4156	CALCIUM CHROMATE DIHYDRATE	C.I. 77223|C.I. PIGMENT YELLOW 33|CALCIUM CHROMATE DIHYDRATE|CALCIUM CHROMATE(VI)|CALCIUM CHROME YELLOW|CHROMIC ACID, CALCIUM SALT(1:1), DIHYDRATE|GELBIN YELLOW ULTRAMARINE|PIGMENT YELLOW 33|STEINBUHL YELLOW	8012-75-7	PHYSICAL DESCRIPTION: Bright yellow powder. Loses water at 392Â°F (200Â°C).	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1894.0	204.0	651.0	354.0	201.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
4157	CALCIUM DITHIONITE	CALCIUM DITHIONITE|CALCIUM HYDROSULFITE|CALCIUM HYDROSULPHITE	15512-36-4	A colorless or slightly yellow colored liquid with a strong sulfur odor. It is corrosive to skin and eyes and may be toxic by ingestion or inhalation.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1894.0	205.0	651.0	354.0	201.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Behavior in Fire: Not flammable (USCG, 1999)	Excerpt from GUIDE 172 [Gallium and Mercury]: Use extinguishing agent suitable for type of surrounding fire. Do not direct water at the heated metal. (ERG, 2012)
4158	CALCIUM HYDROGEN SULFITE, SOLUTION	CALCIUM HYDROGEN SULFITE SOLUTION|CALCIUM HYDROGEN SULFITE, SOLUTION|CALCIUM HYDROGEN SULPHITE, SOLUTION	15512-36-4	A colorless to yellow aqueous solution with an odor of sulfur dioxide. Corrosive to metals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1894.0	205.0	651.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4159	CALCIUM PERMANGANATE	ACERDOL|CALCIUM PERMANGANATE|CALCIUM PERMANGANATE (CA(MNO4)2)	10118-76-0	Purple crystalline solid. It is used as a disinfectant and deodorizer, in water purification, and for many other uses.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1894.0	205.0	651.0	354.0	201.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4154	CALCIUM CHLORATE, AQUEOUS SOLUTION	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	MERCUROUS SULFATE is incompatible with the following: Acetylene, ammonia, chlorine dioxide, azides, calcium (amalgam formation), sodium carbide, lithium, rubidium, copper (NIOSH, 1997).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4155	CALCIUM CHLORITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from mineral acids and bases. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	4-AMINOBENZENE SULFONIC ACID is an amino acid. Reacts weakly with both acids and bases.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)	Decomposes without melting at 550Â° F		
4156	CALCIUM CHROMATE DIHYDRATE		RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	(BLOB)						0																						(NTP, 1992)		473.9	
4157	CALCIUM DITHIONITE	Excerpt from GUIDE 172 [Gallium and Mercury]: Do not touch or walk through spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Do not use steel or aluminum tools or equipment. Cover with earth, sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. For mercury, use a mercury spill kit. Mercury spill areas may be subsequently treated with calcium sulphide/calcium sulfide or with sodium thiosulphate/sodium thiosulfate wash to neutralize any residual mercury. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	MERCURY forms an explosive acelylide when mixed with acetylene. Can form explosive compounds with ammonia (a residue resulting from such a reaction exploded when an attempt was made to clean it off a steel rod [Chem. Eng. News 25:2138. 1947]. Chlorine dioxide (also other oxidants, such as: chlorine, bromine, nitric acid, performic acid), and mercury explode when mixed [Mellor 2, Supp. 1:381. 1956]. Methyl azide in the presence of mercury is potentially explosive [Can. J. Chem. 41:1048. 1963]. Ground mixtures of sodium carbide and mercury can react vigorously [Mellor 5:848. 1946-47]. Ammonia forms explosive compounds with gold, mercury, or silver. (Eggeman, Tim. "Ammonia". Kirk-Othmer Encyclopedia of Chemical Technology. John Wiley & Sons, Inc. 2001.).		Excerpt from GUIDE 172 [Gallium and Mercury]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: When any large container is involved in a fire, consider initial evacuation for 500 meters (1/3 mile) in all directions. (ERG, 2012)						0																								(USCG, 1999)	Not flammable			(USCG, 1999)		-38	
4158	CALCIUM HYDROGEN SULFITE, SOLUTION	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical oxidizes in air. It decomposes in acid solutions. Insoluble in water.	1,2-DIPHENYLHYDRAZINE is a mild reducing agent. Incompatible with strong oxidizing agents, strong acids, acid chlorides and acid anhydrides. Interaction with perchloryl fluoride in the presence of a diluent below 32Â°F has caused separation of explosive solids. Is readily oxidized by nitric acid, silver nitrate or permanganate. Is reduced under alkaline conditions (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		268	
4159	CALCIUM PERMANGANATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g. dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979]. Very temperature and shock sensitive.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4154	CALCIUM CHLORATE, AQUEOUS SOLUTION																													(NIOSH, 2003)	(as Hg)	10	mg/m3							Poison	Hg2SO4		0.0	0.0	0.0	0.0	0.0
4155	CALCIUM CHLORITE														(NTP, 1992)		1.485		77								(NTP, 1992)		173.19						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Corrosive	C6H7NO3S.H2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4156	CALCIUM CHROMATE DIHYDRATE																										(NTP, 1992)		201.03													C7H5BrO2		0.0	0.0	0.0	0.0	0.0
4157	CALCIUM DITHIONITE	(NIOSH, 2003)		0.0012				mm Hg							(USCG, 1999)		13.55		68		(USCG, 1999)		675		760		(USCG, 1999)		200.59		(NIOSH, 2003)	(as Hg)	10	mg/m3	(NIOSH, 2003)	Insoluble				MCR	Corrosive|Poison	Hg		0.0	0.0	0.0	0.0	0.0
4158	CALCIUM HYDROGEN SULFITE, SOLUTION														(NTP, 1992)		1.158		61		(NTP, 1992)	Decomposes					(NTP, 1992)		184.24						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL		Poison	C12H12N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4159	CALCIUM PERMANGANATE																																								Organic Peroxide	C12H22O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4160	CALCIUM SILICIDE	CALCIUM SILICIDE	12737-18-7	An off-white solid. Density 2.5 g / cm3.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1894.0	205.0	651.0	354.0	201.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4161	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS|CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC|CARBAMATE PESTICIDE, [LIQUID, FLAMMABLE LIQUID LABEL]	NONE	A liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. Toxic by inhalation, skin absorption and/or ingestion. Obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1894.0	205.0	651.0	354.0	201.0	INGESTION: if large amounts are swallowed, induce vomiting; treat symptomatically. EYES: flush with water; get medical attention if ill effects develop. SKIN: wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
4162	CARBAMATE PESTICIDE, LIQUID, POISONOUS	CARBAMATE PESTICIDE, LIQUID, POISONOUS|CARBAMATE PESTICIDE, LIQUID, TOXIC|CARBAMATE PESTICIDE, [LIQUID, POISON B LABEL]	NONE	Carbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. If available, obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1895.0	205.0	651.0	354.0	201.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
4163	CARBAMIC ACID, METHYL-, O-(((2,4-DIMETHYL-1, 3-DITHIOLAN-2-YL)METHYLENE)AMINO)-	CARBAMIC ACID, METHYL-,|CARBAMIC ACID, METHYL-, O-(((2,4-DIMETHYL-1, 3-DITHIOLAN-2-YL)METHYLENE)AMINO)-|CARBAMIC ACID, METHYL-, O-[[(2,4-DIMETHYL-1,3-DITHIOLAN-2-YL)METHYLENE]AMINO] DERIV.|2,4-DIMETHYL- 1,3-DITHIOLANE-2-CARBOXALDEHYDE O-(METHYLCARBAMOYL)OXIME|2,4-DIMETHYL- 2-FORMYL-1,3-DITHIOLANE OXIME METHYLCARBAMATE|1,3-DITHIOLANE- 2-CARBOXALDEHYDE, 2,4-DIMETHYL-, O-(METHYLCARBAMOYL)OXIME|1,3-DITHIOLANE-2-CARBOXALDEHYDE, 2,4-DIMETHYL-, O-((METHYLAMINO)CARBONYL)OXIME|1,3-DITHIOLANE-2-CARBOXALDEHYDE, 2,4-DIMETHYL-, O-(METHYLCARBAMOYL)OXI	26419-73-8	A solid. Used as a nematocide. Manufacture discontinued. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1896.0	205.0	651.0	354.0	201.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4164	CHLORATE, N.O.S., WET	CHLORATE, N.O.S., WET|CHLORATE, [WET]	14866-68-3	A moist solid or slurry.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1897.0	205.0	652.0	354.0	201.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4160	CALCIUM SILICIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	4-CHLORO-O-PHENYLENEDIAMINE is incompatible with strong oxidizers. It reacts with alpha-ketoacids to form quinoxalones. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)		153 to 158
4161	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS		Goggles or face shield and rubber gloves. (USCG, 1999)	Water soluble.	TETRAETHYLENE GLYCOL is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. May attack some forms of plastics (USCG, 1999).			(NFPA, 2010)		1	1	0	1		(USCG, 1999)		360													(USCG, 1999)		24.8	
4162	CARBAMATE PESTICIDE, LIQUID, POISONOUS	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		less than 65																
4163	CARBAMIC ACID, METHYL-, O-((2,4-DIMETHYL-1, 3-DITHIOLAN-2-YL)METHYLENE)AMINO)-	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	This chemical may be sensitive to prolonged exposure to air and light. Water soluble.	Incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)	(decomposes)		198 to 201
4164	CHLORATE, N.O.S., WET	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		141																

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4160	CALCIUM SILICIDE																									(NTP, 1992)		142.59						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C6H7ClN2		0.0	0.0	0.0	0.0	0.0
4161	CARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS														(USCG, 1999)		1.12		68		(USCG, 1999)		621		760		(USCG, 1999)		194.23											TTG		C8H18O5	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4162	CARBAMATE PESTICIDE, LIQUID, POISONOUS																									(NTP, 1992)		302.32						(NTP, 1992)	Insoluble (<1 mg/ml)					Corrosive	C14H22O7	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4163	CARBAMIC ACID, METHYL-, O-(((2,4-DIMETHYL-1, 3-DITHIOLAN-2-YL)METHYLENE)AMINO)-																									(NTP, 1992)		178.07						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL		Poison	C7H8ClN.ClH		0.0	0.0	0.0	0.0	0.0
4164	CHLORATE, N.O.S., WET																				(NTP, 1992)		297 to 325	760		(NTP, 1992)		130.21						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C7H14O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4165	CHLORATES, INORGANIC, N.O.S.	CHLORATE|CHLORATE ION|CHLORATE ION (CLO3-)|CHLORATE(1-)|CHLORATES, INORGANIC, N.O.S.|CHLORIC ACID, ION(1-)|CHLORINE OXIDE (CLO31-)	14866-68-3	Chlorate, inorganic, n.o.s. is a white crystalline. It is soluble in water. The material itself is noncombustible, but it can form a very flammable mixture with combustible materials, and this mixture may be explosive if the combustible material is very finely divided. The mixture can be ignited by friction. Contact with strong sulfuric acid can cause fires or explosions. When mixed with ammonium salts, spontaneous decomposition and ignition may result. Prolonged exposure of the material to heat or fire can result in an explosion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1897.0	205.0	652.0	354.0	201.0	INHALATION: remove to fresh air. EYES: flush with water for at least 15 min.; get medical attention. SKIN: flush with water; wash well with soap and water. INGESTION: do NOT induce vomiting; give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride fumes may be formed. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4166	CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)	CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)|OCTACHLORO-4,7-METHANOINDENE (AND RELATED COMPOUNDS)	12789-03-6	PHYSICAL DESCRIPTION: Brown or amber very viscous liquid. Insoluble in water.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1898.0	205.0	652.0	354.0	201.0	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
4167	CHLORIC ACID	CHLORIC ACID|CHLORIC ACID (HCLO3)|CHLORIC ACID, AQUEOUS SOLUTION, WITH NOT MORE THAN 10% CHLORIC ACID	7790-93-4	Chloric acid is a colorless liquid. It will accelerate the burning of combustible materials and can ignite most on contact. It is corrosive to metals and tissue. It is used as a reagent in chemical analysis and to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1899.0	205.0	652.0	354.0	201.0	(BLOB)	When heated to decomposition, it emits acrid smoke and irritating fumes. (EPA, 1998)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4168	CHLORINATED DIPHENYL OXIDE	CHLORINATED DIPHENYL ETHER|CHLORINATED DIPHENYL OXIDE|HEXACHLORODIPHENYL OXIDE	31242-93-0	209 chlorinated diphenyl oxides existed when all possible isomers are counted. The chemical formulas of these substances range from C12H9OCl to C12OCl10. The compounds are generally waxy solids or liquids, but appearance, odor and other properties vary. The compound hexachlorodiphenyl oxide C12H4OCl6 is taken to represent this group by OHSA (http://www.osha.gov/dts/chemicalsampling/data/CH_226400.html) Used in the manufacture of flame-inhibiting polymers, as corrosion inhibitors, dry-cleaning detergents, thermal lubricants, additives for soaps and lotions, and in the manufacture of hydraulic fluids, pesticides, wood preservatives, and electric insulators.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1900.0	205.0	652.0	354.0	201.0	(BLOB)	Special Hazards of Combustion Products: Ammonia and toxic oxides of nitrogen may form in fires. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4169	CHLORINE MONOXIDE ion	CHLORINE MONOXIDE|CHLORINE OXIDE	12301-79-0	Red-yellow gas. Very reactive and unstable. Unusually stored as hydrate in frozen form. Used as a wood bleach, biocide and swimming pool treatment.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1900.0	205.0	652.0	354.0	201.0	(BLOB)	The flash point of this material has not been determined. It is, however, probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. A water spray can also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4165	CHLORATES, INORGANIC, N.O.S.	(BLOB)	Goggles and face shield; plastic gloves; protective clothing. (USCG, 1999)	Fumes in air. Reacts exothermically with water (including moisture in air or soil) to form hydrochloric acid and insoluble anisic acid [Merck 11th ed. 1989].	ANISOYL CHLORIDE reacts exothermically with bases, including amines. Incompatible with water, strong oxidizing agents, alcohols. Sealed containers held at room temperature may explode, due to slow decomposition that builds up pressure. This situation is more dangerous with heat. May react vigorously or explosively with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		72	
4166	CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	May ignite spontaneously in air. Insoluble in water.	NICKEL CATALYST tends to react with oxidizing agents. If exposed to air may react rapidly enough to ignite. Can generate hydrogen gas with fire and explosion hazards during storage [Handling Chemicals Safely 1980. p. 807]. Reacts violently with acids forming gaseous hydrogen. May react with azo/diazo compounds to form explosive products. Can catalyze polymerization reactions in several classes of organic compounds; these polymerizations sometimes proceed rapidly or even explosively. May form explosive products with halogenated hydrocarbons.	Strong Reducing Agent; Known Catalytic Activity; Pyrophoric	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5																							
4167	CHLORIC ACID	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	METHACROLEIN DIACETATE reacts exothermically with acids. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated with basic solutions. Flammable hydrogen may be generated by mixing with alkali metals and hydrides. Reacts readily with mercaptans. Acidic conditions favor breakdown to methacrolein, which is subject to possibly vigorous polymerization.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4168	CHLORINATED DIPHENYL OXIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Air-supplied respirator; rubber gloves; complete eye protection; impervious apron (USCG, 1999)	Soluble in water. Hygroscopic.	TETRAETHYLENEPENTAMINE is hygroscopic. This compound can react with oxidizing materials and strong acids. It may attack some forms of plastics. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(NTP, 1992)		325	(NTP, 1992)		0.8		%	(NTP, 1992)		4.6		%	(USCG, 1999)		610		(NTP, 1992)		-40	
4169	CHLORINE MONOXIDE ion	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																			(NTP, 1992)			482 to 493

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4165	CHLORATES, INORGANIC, N.O.S.														(USCG, 1999)		1.26		68		(USCG, 1999)		504		760		(USCG, 1999)		171.6											ASC	Corrosive	C8H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4166	CHLORDANE (TECHNICAL MIXTURE AND METABOLITES)																													(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3							Spontaneously Combustible	Ni		0.0	0.0	0.0	0.0	0.0
4167	CHLORIC ACID																				(EPA, 1998)		375.8		760		(EPA, 1998)		172.2												Poison	C8H12O4	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4168	CHLORINATED DIPHENYL OXIDE	(NTP, 1992)			less than 0.01	68		mm Hg	(NTP, 1992)		6.53				(USCG, 1999)		0.998		68		(NTP, 1992)		644		760		(NTP, 1992)		189.31						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	TTP	Corrosive	C8H23N5	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4169	CHLORINE MONOXIDE ion																										(NTP, 1992)		315.59						(NTP, 1992)	at 79Â° F		less than 1	mg/mL			C13H9Cl3N2O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4170	CHLORITES, INORGANIC, N.O.S.	CHLORINE DIOXIDE ION(1-)|CHLORITE (CLO2-)|CHLORITE (MINERAL CLASS)|CHLORITE GROUP MINERALS|CHLORITE ION|CHLORITE(1-)|CHLORITE, [INORGANIC]|CHLORITE-TYPE MINERALS|CHLORITES, INORGANIC, N.O.S.|CHLOROUS ACID, ION(1-)|GREENITE|HYDROCHLORITE|MINERALS, CHLORITE-GROUP|SIERRALITE|ZINCIAN CHLORITE	14998-27-7	Crystalline solids or aqueous solutions of these solids. Solids are likely to be water soluble and are denser than water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1901.0	205.0	652.0	354.0	201.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4171	CHLORMEPHOS	CHLORMEPHOS|CHLORMEPHOS-ETHYL|CHLORMETHYLFOS|DOTAN|MC 2188|O,O-DIETHYL S-(CHLOROMETHYL) DITHIOPHOSPHATE|PHOSPHORODITHIOIC ACID, S-(CHLOROMETHYL) O,O-DIMETHYL ESTER|S-(CHLOROMETHYL) O,O-DIETHYL PHOSPHORODITHIOATE|S-CHLOROMETHYL O,O-DIETHYL PHOSPHOROTHIOLOTHIONATE	24934-91-6	Colorless liquid. Used as a soil insecticide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1902.0	205.0	653.0	354.0	201.0	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4172	CHLORNAPHAZINE	ALEUKON|BETA-NAPHTHYL BIS-(BETA-CHLOROETHYL)AMINE|BETA-NAPHTHYL-DI-(2-CHLOROETHYL)AMINE|BETA-NAPHTHYLBIS(BETA-CHLOROETHYL)AMINE|BETA-NAPHTHYLDI(2-CHLOROETHYL)AMINE|BIS(2-CHLOROETHYL)-BETA-NAPHTHYLAMINE2-BIS(2-CHLOROETHYL)AMINONAPHTHALENE|CB 1048|CHLORNAFTINA|CHLORNAPHAZINE|CHLORNAPHTHAZINE|CHLORNAPHTHIN|CHLORONAFTINA|CHLORONAPHTHINA|CHLORONAPHTHINE|CLORONAFTINA|DI(2-CHLOROETHYL)-BETA-NAPHTHYLAMINE|DICHLOROETHYL-BETA-NAPHTHYLAMINE|ERYSAN|N,N-BIS(2-CHLOROETHYL)-2-NAPHTHYLAMINE|NAFTICLORINA|NAPHTHYLAMINE MUSTARD|2-NAPHTHYLAMINE	494-03-1	PHYSICAL DESCRIPTION: Colorless plates or brown solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1903.0	205.0	653.0	354.0	201.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4173	CHLOROANILINES, LIQUID	ANILINE, CHLORO-|CHLOROANILINE|CHLOROANILINE, [LIQUID]|CHLOROANILINES, LIQUID	27134-26-5	Chloroanilines, liquid is the yellowish to tan colored crystalline solid dissolved in a liquid. The solvent may be flammable. It is toxic by inhalation and ingestion. It is used to make dyes and pharmaceuticals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1904.0	205.0	653.0	354.0	201.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
4174	CHLORODIFLUOROETHANES	CHLORODIFLUOROETHANE|CHLORODIFLUOROETHANES|DIFLUOROCHLOROETHANE|DIFLUOROCHLOROETHANES|DIFLUOROMONOCHLOROETHANE|MONOCHLORODIFLUOROETHANE|R 142	25497-29-4	Colorless odorless gases. Insoluble in water. Used as refrigerant, synthesis, solvents.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1904.0	205.0	653.0	354.0	201.0	(BLOB)		A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4170	CHLORITES, INORGANIC, N.O.S.	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Thio and dithiocarbamates slowly decompose in aqueous solution to form carbon disulfide and methylamine or other amines. Such decompositions are accelerated by acids.	DIALLATE is a thiocarbamate ester. Flammable gases are generated by the combination of thiocarbamates and dithiocarbamates with aldehydes, nitrides, and hydrides. Thiocarbamates and dithiocarbamates are incompatible with acids, peroxides, and acid halides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4171	CHLORMEPHOS	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	METHACRYLALDEHYDE is an aldehyde. Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5		(NFPA, 2010)		35																				
4172	CHLORNAPHAZINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4173	CHLOROANILINES, LIQUID	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Pyrophoric in dust form [Bretherick 1979, p. 104]. Titanium is water-reactive at 700C, releasing hydrogen, which may cause an explosion [Subref: Mellor, 1941, vol. 7, 19].	TITANIUM reacts violently with cupric oxide and lead oxide when heated. When titanium is heated with potassium chlorate, potassium nitrate, or potassium permanganate, an explosion occurs [Mellor 7:20. 1946-47]. The residue from the reaction of titanium with red fuming nitric acid exploded violently when the flask was touched [Allison 1969]. Liquid oxygen gives a detonable mixture when combined with powdered titanium, [Kirchenbaum 1956].	Strong Reducing Agent; Known Catalytic Activity; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4174	CHLORODIFLUOROETHANES	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as TRICOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.							0																							(NTP, 1992)		117.7	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4170	CHLORITES, INORGANIC, N.O.S.																																								Poison	C10H17Cl2NOS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4171	CHLORMEPHOS																																								Flammable Liquid|Poison	C4H6O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4172	CHLORNAPHAZINE																																								Corrosive	C9H10O3		0.0	0.0	0.0	0.0	0.0
4173	CHLOROANILINES, LIQUID																																								Spontaneously Combustible	Ti		0.0	0.0	0.0	0.0	0.0
4174	CHLORODIFLUOROETHANES															(NTP, 1992)		0.7969		68		(NTP, 1992)		716.4		760		(NTP, 1992)		184.37												C23H48		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4175	CHLORODINITROBENZENES	CHLORODINITROBENZENE|CHLORODINITROBENZENES|DINITROCHLOROBENZENE	25567-67-3	A colorless to yellow crystalline solid with an almond-like odor. Insoluble in water. Combustible but may be difficult to ignite. Toxic by skin absorption or inhalation (dust, etc.). May spontaneously decompose and explode under prolonged exposure to fire or heat. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1905.0	205.0	653.0	354.0	201.0	(BLOB)	Flash point data are not available for this compound, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4176	CHLORONITROANILINES	CHLORONITROANILINE|CHLORONITROANILINES	41587-36-4	Chloronitroanilines are yellowish to tan colored crystalline. The solvent may be flammable. They are insoluble in water. They are toxic by inhalation and ingestion. They are used to make dyes and pharmaceuticals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1905.0	205.0	653.0	354.0	201.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4177	CHLORONITROBENZENES	3-CHLORO-1-NITROBENZENE|4-CHLORO-1-NITROBENZENE|1-CHLORO-3-NITROBENZENE|1-CHLORO-4-NITROBENZENE|3-CHLORONITROBENZENE|4-CHLORONITROBENZENE|CHLORONITROBENZENES|CHLORONITROBENZENES, LIQUID|CHLORONITROBENZENES, SOLID|M-CHLORONITROBENZENE|M-NITROCHLOROBENZENE|4-NITRO-1-CHLOROBENZENE|1-NITRO-4-CHLOROBENZENE|NITROCHLOROBENZENE|NITROCHLOROBENZENE [M- OR P-, SOLID]|3-NITROCHLOROBENZENE|4-NITROCHLOROBENZENE|NITROCHLOROBENZENES, LIQUID|NITROCHLOROBENZENES, SOLID|P-CHLORONITROBENZENE|P-NITROCHLOROBENZENE|P-NITROPHENYL	25167-93-5	Either a clear yellow liquid or solid. Burns, but difficult to ignite. Denser than water and insoluble in water. Toxic by inhalation and skin absorption. Produces toxic oxides of nitrogen during combustion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1906.0	205.0	654.0	354.0	202.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4178	CHLORONITROTOLUENES	CHLORONITROTOLUENE|CHLORONITROTOLUENES|CHLORONITROTOLUENES, LIQUID|CHLORONITROTOLUENES, SOLID|TOLUENE, CHLORONITRO-	25567-68-4	A colorless solid. Melts from 45 to 104Â°F depending on the mixture of isomers. Denser than water and insoluble in water. Toxic by ingestion, inhalation or skin contact. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1906.0	205.0	654.0	354.0	202.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Separate the eyelids with the fingers and flush with plenty of water. SKIN: Immediately wash with soap and copious amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Vapors may travel considerable distance to source of ignition and flashback. Container explosion may occur under fire conditions. Forms explosive mixtures in air. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
4179	CHLOROPENTANE, [FLAMMABLE LIQUID]	CHLOROPENTANE|CHLOROPENTANE, [FLAMMABLE LIQUID]	29656-63-1	Clear colorless to pale yellow liquids. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1906.0	205.0	654.0	354.0	202.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases may be generated in fires. (USCG, 1999)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4175	CHLORODINITROBENZENES	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DIAMINOMALEONITRILE is sensitive to prolonged exposure to air. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		352 to 365
4176	CHLORONITROANILINES	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Highly flammable.	4-METHYL PYRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		134														(NTP, 1992)		38.5	
4177	CHLORONITROBENZENES	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	TETRAETHYLTHIURAM DISULFIDE is sensitive to light. This compound is incompatible with strong acids, strong oxidizers and nitrosating agents (e.g. N-Nitrosodiphenylamine). (NTP, 1992).						0														(NTP, 1992)		158	
4178	CHLORONITROTOLUENES	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained breathing apparatus, rubber boots, heavy rubber gloves and eye protection. (USCG, 1999)	Highly flammable. Water insoluble.	The unsaturated aliphatic hydrocarbons, such as 4-METHYL-1-PENTENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	1	4		(USCG, 1999)		-25														(USCG, 1999)		1.2	%
4179	CHLOROPENTANE, [FLAMMABLE LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator away from oxidizing and reducing agents. (NTP, 1992)	Protective clothing to prevent contact with skin; chemical goggles. (USCG, 1999)	Water soluble.	METHANEARSONIC ACID, [SODIUM SALT] is decomposed by strong oxidizers and reducers. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0														(USCG, 1999)	Not flammable			(NTP, 1992)		235 to 241

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4175	CHLORODINITROBENZENES																										(NTP, 1992)		108.1						(NTP, 1992)	at 63Â° F		less than 1	mg/mL		Poison	C4H4N4	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4176	CHLORONITROANILINES														(NTP, 1992)		0.9548		68		(NTP, 1992)		292.8		760		(NTP, 1992)		93.13												Flammable Liquid	C6H7N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4177	CHLORONITROBENZENES	(NTP, 1992)	approximately	0		68		mm Hg							(NTP, 1992)		1.27		68		(NTP, 1992)		243		17		(NTP, 1992)		296.54						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL			C10H20N2S4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4178	CHLORONITROTOLUENES	(USCG, 1999)		438.93				mm Hg							(USCG, 1999)		0.665				(USCG, 1999)		127.4 to 129.2	760			(USCG, 1999)		84.16										MTN	Combustible Liquid	C6H12	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4179	CHLOROPENTANE, [FLAMMABLE LIQUID]														(USCG, 1999)	(DSMA) 1.0 at 68.0Â° F (MSMA solutions) 1.4-1.6 at 20Â°C (liquid)					(NTP, 1992)	Decomposes					(NTP, 1992)		161.96						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	MSA	Poison	CH5AsO3.Na		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4180	CHLOROPHENYLTRICHLOROSILANE	CHLOROPHENYLTRICHLOROSILANE|TRICHLORO(CHLOROPHENYL)SILANE	26571-79-9	Chlorophenyltrichlorosilane is a colorless to pale yellow liquid with a pungent odor. The material will burn though it may take some effort to ignite. It is decomposed by moisture or water to hydrochloric acid with evolution of heat. It is corrosive to metals and tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1906.0	205.0	654.0	354.0	202.0	(BLOB)	Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4181	CHLOROPICRIN AND METHYL BROMIDE MIXTURE	AGEL TG 37|AGEL TG 67|BROZONE|CHLOROPICRIN AND METHYL BROMIDE MIXTURE|CHLOROPICRIN-METHYL BROMIDE MIXT.|CYLON|DOWFUME MC 2|DOWFUME MC 33|MBC|MBC 33|METHANE, BROMO-, MIXT. CONTAINING|METHYL BROMIDE AND > 2% CHLOROPICRIN MIXTURE, [LIQUID]|METHYL BROMIDE AND CHLOROPICRIN MIXTURE|METHYL BROMIDE AND MORE THAN 2% CHLOROPICRIN MIXTURE, LIQUID|METHYL BROMIDE-CHLOROPICRIN MIXT.|METILFUM|TERR-O-GAS|TERR-O-GEL|VERTAFUME	8004-09-9	A colorless gas with an intense, penetrating odor. Shipped as a liquefied gas under own vapor pressure. Methyl bromide is nonflammable, and chloropicrin is noncombustible. The mixture may separate with the chloropicrin settling into low areas. Chloropicrin is very irritating to skin and eyes. Inhalation may result in adverse health effects. Under prolonged exposure to fire or intense heat the container may violently rupture and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1907.0	205.0	654.0	354.0	202.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4182	CHLOROPROPIONIC ACID	CHLOROPROPANOIC ACID|CHLOROPROPIONIC ACID|MONOCHLOROPROPIONIC ACID|PROPIONIC ACID, CHLORO-	28554-00-9	A colorless to white colored crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1907.0	205.0	654.0	354.0	202.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4183	CHLOROTETRAFLUOROETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 8.8% ETHYLENE OXIDE	CHLOROTETRAFLUOROETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 8.8% ETHYLENE OXIDE|ETHYLENE OXIDE AND CHLOROTETRAFLUOROETHANE MIXTURE, WITH NOT MORE THAN 8.8% ETHYLENE OXIDE	63938-10-3	A nonflammable gas. Heavier than air. May asphyxiate by the displacement of air especially in confined places. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1908.0	205.0	654.0	354.0	202.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush eyes with copious amounts of water for at least 15 minutes. SKIN: Wash with soap and copious amounts of water. (USCG, 1999)		Fire Extinguishing Agents: Water spray, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
4184	CHLOROTHEN	2-((5-CHLORO-2-THENYL)(2-DIMETHYLAMINO)ETHYL)AMINO)PYRIDINE|2-((5-CHLORO-2-THENYL)(2-DIMETHYLAMINOETHYL)AMINO)PYRIDINE|5-CHLORO-N-(2-(DIMETHYLAMINO)ETHYL)-N-2-PYRIDYL-2-THENYLAMINE|CHLOROMETHAPYRILENE|CHLOROPYRILENE|CHLOROTHEN|CHLOROTHENYLPYRAMINE|CHLOROTHENYLPYRAMINE|HISTACHLORYLENE|N,N-DIMETHYL-N'-(2-PYRIDYL)-N'-(5-CHLORO-2-THENYL)ETHYLENEDIAMINE|N,N-DIMETHYL-N'-(ALPHA-PYRIDYL)-N'-(2-METHYL-5-CHLOROTHIENYL)ETHYLENEDIAMINE|N,N-DIMETHYL-N'-2-PYRIDYL-N-(5-CHLORO-2-THENYL)-N'-ETHYLENEDIAMINE|N-((5-CHLORO-2-THIENYL)METHYL)-N',N'-DIMETHYL-N-2-PYRIDINYL-1,2-ETHANEDIAMINE|N-5-CHLORO-2-THENYL-N',N'-DIMETHYL-N-2-PYRIDINYL-1,2-ETHANEDIAMINE	148-65-2	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1908.0	205.0	654.0	354.0	202.0			
4185	CHLOROTHIOFORMIC ACID	CARBONOCHLORIDOTHIOIC ACID|CHLOROTHIOCARBONIC ACID|CHLOROTHIOFORMIC ACID|FORMIC ACID, CHLOROTHIO-	16890-85-0		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1908.0	205.0	654.0	354.0	202.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4180	CHLOROPHENYLTRICHLOROSILANE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Approved canister mask for high vapor concentrations; safety goggles; rubber gloves. (USCG, 1999)	Highly flammable. Soluble in water in all proportions.	METHANOL reacts violently with acetyl bromide [Merck 11th ed. 1989]. Mixtures with concentrated sulfuric acid and concentrated hydrogen peroxide can cause explosions. Reacts with hypochlorous acid either in water solution or mixed water/carbon tetrachloride solution to give methyl hypochlorite, which decomposes in the cold and may explode on exposure to sunlight or heat. Gives the same product with chlorine. Can react explosively with isocyanates under basic conditions. The presence of an inert solvent mitigates this reaction [Wischmeyer 1969]. A violent exothermic reaction occurred between methyl alcohol and bromine in a mixing cylinder [MCA Case History 1863. 1972]. A flask of anhydrous lead perchlorate dissolved in methanol exploded when it was disturbed [J. Am. Chem. Soc. 52:2391. 1930]. P4O6 reacts violently with methanol. (Thorpe, T. E. et al., J. Chem. Soc., 1890, 57, 569-573). Ethanol or methanol can ignite on contact with a platinum-black catalyst. (Urben 1794).	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		52		(NTP, 1992)		6		%	(NTP, 1992)		36.5		%	(USCG, 1999)		867		(NTP, 1992)		-144	
4181	CHLOROPICRIN AND METHYL BROMIDE MIXTURE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus, rubber boots, and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as TRIDECANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		175																(NTP, 1992)		22.1	
4182	CHLOROPROPIONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	DIARYLANILIDE YELLOW is incompatible with strong oxidizing agents. (NTP, 1992)	Explosive						0																		(NTP, 1992)	(decomposes)		593 to 608
4183	CHLOROTETRAFLUOROETHANE AND ETHYLENE OXIDE MIXTURE, WITH NOT MORE THAN 8.8% ETHYLENE OXIDE		Self-contained breathing apparatus, rubber boots, and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as TRIDECYLBENZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.						0		(USCG, 1999)		greater than 230																(USCG, 1999)		50	
4184	CHLOROTHEN			Very soluble in water.	METHOXONE SODIUM SALT is a salt of a chlorinated benzoic acid. [[Details on specifics of reactivity not yet available.]]								0																							
4185	CHLOROTHIOFORMIC ACID	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to exposure to moisture. Insoluble in water.	1,2-EPOXYOCTADECANE, an epoxide, is sensitive to exposure to moisture. This compound is incompatible with strong acids, caustics and peroxides. (NTP, 1992). Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable						0																				(NTP, 1992)		79	

id	name	vp_source	vp_note	vp_value	vp_range	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_range_tempDegF	sg_range_tempDegF	sg_value_tempDegF	sg_range	sg_value	sg_note	sg_source	sg_range_tempDegF	vd_range_tempDegF	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	hp_value	hp_note	hp_source	hp_range_tempDegF	bp_value_pressMMH G	bp_range	bp_note	molwgt_source	molwgt_note	molwgt_value	molwgt_range	tb_value	tb_note	tdlh_value	tdlh_unit	solbty_source	solbty_temp	solbty_note	solbty_value	solbty_range	solbty_unit	chris_cod es	solbty_units	doc_labels	formulas	incompatible_subs tombents	# of Rations Producing	Production Score	# of Dissolutions Sites	Distribution Score	Prob Score
4185	CHLOROTHIOFORMIC ACID		

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4186	CHLOROWAX 40	(BLOB)	108171-27-3	PHYSICAL DESCRIPTION: Clear to light amber or yellow viscous liquid with a slightly pungent odor. Compound flows only very slowly. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1909.0	205.0	654.0	354.0	202.0	(BLOB)	Special Hazards of Combustion Products: Irritating and toxic hydrogen chloride gas may be formed in fire. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4187	CHLOROWAX 500C	ALKANES, C10-12, CHLORO(CHLORINATED PARAFFINS (C12, 60% CHLORINE)CHLORO ALKANES, C10-12(CHLOROWAX 500C)PARAFFIN WAXES AND HYDROCARBON WAXES, CHLORINATED (C12, 60% CHLORINE)	108171-26-2	PHYSICAL DESCRIPTION: Clear, colorless to light amber viscous liquid. Slight odor or no odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1909.0	205.0	654.0	354.0	202.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4188	CHLOROXURON	C 1983|C1983|CHLOROXIFENIDIM|CHLOROXURON|CIBA 1983|N'-4-(4-CHLOROPHENOXY)PHENYL-N,N-DIMETHYLUREA|NOREX|3-(P-(P-CHLOROPHENOXY)PHENYL)-1,1-DIMETHYLUREA|3-[P-(P-CHLOROPHENOXY)PHENYL]-1,1-DIMETHYLUREA|TENORAN|UREA, 3-(P-(P-CHLOROPHENOXY)PHENYL)-1,1-DIMETHYL-|UREA, 3-[P-(P-CHLOROPHENOXY)PHENYL]-1,1-DIMETHYL-|UREA, N'-(4-(4-CHLOROPHENOXY)PHENYL)-N,N-DIMETHYL-	1982-47-4	Odorless colorless powder or white crystals. Used as a selective pre- and early post-emergence herbicide in soybeans, strawberries, various vegetable crops and ornamentals. Root- and foliage-absorbed herbicide selective in leek, celery, onion, carrot and strawberry. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1909.0	205.0	654.0	354.0	202.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt, If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4189	CHLORTHIOPHOS	CELA S 2957|CELAMERCK S 2957|CELAMERCK S-2957|CELATHION|CELATHION (PESTICIDE)|CHLORTHIOPHOS|CHLORTHIOPHOS I|CM S 2957|ENT 27635|O,O-DIETHYL O-2,4,5-DICHLORO-(METHYLTHIO)PHENYL THIONOPHOSPHATE|O-(DICHLORO(METHYLTHIO)PHENYL) O,O-DIETHYL PHOSPHOROTHIOATE|3 ISOMERS)|O-[2,5-DICHLORO-4-(METHYLTHIO)PHENYL] O,O-DIETHYL PHOSPHOROTHIOATE|OMS 1342|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-(2,5-DICHLORO-4-METHYLTHIO)PHENYL) ESTER|S 2957	21923-23-9	Yellow-brown liquid which tends to crystallize at less than 77F. Used as an insecticide and acaricide. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1909.0	205.0	654.0	354.0	202.0	(BLOB)	When heated to decomposition, it emits acrid smoke and fumes. (Non-Specific -- Organic Tin Compounds) Avoid strong oxidizers. (EPA, 1998)	This is a liquid organotin pesticide. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. This material may burn but does not ignite readily. Extinguish small fires with dry chemical, carbon dioxide, water spray or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
4190	CHROMIUM NITRATE	CHROMIC NITRATE|CHROMIC TRINITRATE|CHROMIUM DINITRATE|CHROMIUM NITRATE|CHROMIUM NITRATE (CR(NO3)2)|CHROMIUM NITRATE (CR(NO3)3)|CHROMIUM TRINITRATE|CHROMIUM(2+) NITRATE|CHROMIUM(3+) NITRATE|CHROMIUM(3+) TRINITRATE|CHROMIUM(II) NITRATE|CHROMIUM(III) NITRATE	10103-47-6	A purple-colored crystalline solid. Less dense than water. May ignite organic materials upon contact. Contact may irritate skin, eyes, and mucous membranes. Toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1909.0	205.0	654.0	354.0	202.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4191	CHROMIUM OXYCHLORIDE	CHLOROCHROMIC ANHYDRIDE|CHROMIC OXYCHLORIDE|CHROMIUM (VI) DIOXYCHLORIDE|CHROMIUM CHLORIDE OXIDE|CHROMIUM OXIDE CHLORIDE (CRCL2O2)|CHROMIUM CHLORIDE OXIDE (CRO2CL2)|CHROMIUM DICHLORIDE DIOXIDE|CHROMIUM DIOXIDE DICHLORIDE|CHROMIUM DIOXYCHLORIDE|CHROMIUM OXIDE CHLORIDE (CRO2CL2)|CHROMIUM OXYCHLORIDE|CHROMIUM OXYCHLORIDE (CRCL2O2)|CHROMIUM OXYCHLORIDE (CRO2CL2)|CHROMIUM, DICHLORODIOXO-|CHROMYL CHLORIDE|CHROMYL CHLORIDE (CRCL2O2)|CHROMYL CHLORIDE	14977-61-8	A dark red fuming liquid with a pungent odor. Corrosive to tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1910.0	206.0	654.0	354.0	203.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4186	CHLOROWAX 40	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	METHOXYCHLOR turns pink or tan on exposure to light. This chemical is incompatible with alkaline materials, especially in the presence of catalytically-active metals. It is slightly corrosive to iron and aluminum. It is decomposed by refluxing with sodium in isopropyl alcohol. It is also incompatible with strong oxidizers. It will attack some forms of plastics, rubber and coatings. (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		187 to 190
4187	CHLOROWAX 500C	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organometallics, such as METHOXYETHYL MERCURY CHLORIDE, are reactive with many other groups. Incompatible with acids and bases. Organometallics are good reducing agents and therefore incompatible with oxidizing agents. Often reactive with water to generate toxic or flammable gases. Organometallics containing halogens (fluorine, chlorine, bromine, iodine) bonded to the metal typically with generate gaseous hydrohalic acids (HF, HCl, HBr, HI) with water.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		149	
4188	CHLOROXURON	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	DIAZODINITROPHENOL is a diazo compound. Azo, diazo, azido compounds can detonate. The nitro groups would facilitate rapid decomposition. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																										
4189	CHLORTHIOPHOS	This is a liquid organotin pesticide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	It may ignite in air.	When heated to decomposition, TETRAETHYLTIN emits acrid smoke and fumes. (nonspecific -- Organic Tin Compounds) Avoid strong oxidizers. [EPA, 1998].	Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3384 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		-170	
4190	CHROMIUM NITRATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	DIBENZ[A,H]ANTHRACENE is incompatible with strong oxidizing agents. Is oxidized by chromic acid and by osmium tetraoxide (NTP, 1992).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		511 to 513
4191	CHROMIUM OXYCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material for prolonged exposure to light and store it under ambient temperatures. (NTP, 1992)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	METHOXYFLURANE may be sensitive to prolonged exposure to light. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		145	(NIOSH, 2003)	at 176Â° F	7		%									(NTP, 1992)		-31	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4186	CHLOROWAX 40	(NTP, 1992)	Very low						(NTP, 1992)		12				(USCG, 1999)		1.41		77		(NTP, 1992)	Decomposes					(NTP, 1992)		345.66		(NIOSH, 2003)	: A potential human carcinogen.	5000	mg/m3	(NTP, 1992)	at 73Â° F		less than 1	mg/mL	MOC	Class 9	C16H15Cl3O2		0.0	0.0	0.0	0.0	0.0
4187	CHLOROWAX 500C																									(NTP, 1992)		295.14		(NIOSH, 2003)	(as Hg)	2	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C3H7OHgCl		0.0	0.0	0.0	0.0	0.0
4188	CHLOROXURON																																								Explosive 1.1A	C6H2N4O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4189	CHLORTHIOPHOS														(EPA, 1998)		1.187		73.4		(EPA, 1998)		358		760		(EPA, 1998)		234.97		(NIOSH, 2003)	(as Sn)	25	mg/m3							Poison Inhalation Hazard|Flammable Liquid	C8H20Sn		0.0	0.0	0.0	0.0	0.0
4190	CHROMIUM NITRATE	(NTP, 1992)	(estimated)	1.00E-10		68		mm Hg							(NTP, 1992)		1.282				(NTP, 1992)		975		760		(NTP, 1992)		278.35						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Class 9	C22H14		0.0	0.0	0.0	0.0	0.0
4191	CHROMIUM OXYCHLORIDE	(NTP, 1992)	: 22.5 mm Hg at 68Â° F	20		63.9		mm Hg							(NTP, 1992)		1.426		68		(NTP, 1992)		220.3		760		(NTP, 1992)		164.97						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Combustible Liquid	C3H4Cl2F2O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4192	CIS-1,4-DICHLORO-2,3-EPOXYBUTANE	BUTANE, 1,4-DICHLORO-2,3-EPOXY-|CIS-1,4-DICHLORO-2,3-EPOXYBUTANE|1,4-DICHLORO-2,3-EPOXYBUTANE|1,4-DICHLOROBUTENE,2,3-EPOXIDE|2,3-EPOXY-1,4-DICHLOROBUTANE	50703-46-3	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4193	CIS-2-METHYL-2-BUTENENITRILE	ANGELIC ACID NITRILE|ANGELICONITRILE|ANGELONITRILE|2-BUTENENITRILE, 2-METHYL-, (Z)-|CIS-2-METHYL-2-BUTENENITRILE|CIS-2-METHYL-2-BUTENONITRILE|CROTONONITRILE, 2-METHYL-, (Z)-|2-METHYL-CIS-2-BUTENENITRILE	20068-02-4		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4194	COAL TAR PITCH	COAL TAR PITCH	65996-92-1	Black viscous liquid with an odor of aromatic solvent. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors are generated in fires. Behavior in Fire: May polymerize. Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4195	COBALT HYDROCARBONYL	COBALT HYDROCARBONYL|COBALT HYDROCARBONYL [COH(CO)4]|COBALT TETRACARBONYL HYDRIDE|HYDRIDOCOBALT TETRACARBONYL|HYDRIDO TETRACARBONYLCOBALT|HYDROCOBALT TETRACARBONYL|TETRACARBONYLHYDRIDOCOBALT|TETRACARBONYLHYDROCOBALT	16842-03-8	Gas with an offensive odor. Mp: -26Â°C	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	Special Hazards of Combustion Products: Poisonous gases, such as NOx, may be produced (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Alcohol foam, dry chemical, or carbon dioxide (USCG, 1999)
4196	COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-FLUOROPHENOLATO))(2-)-N,N',O,O')-,(SP-4-2)	BIS(3-FLUOROSALICYLAL)ETHYLENEDIAMINECOBALT(II)|COBALT(II), N,N'-ETHYLENEBIS(3-FLUOROSALICYLIDENEIMINATO)-|COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDENE))|COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-FLUOROPHENOLATO))(2-)-N,N',O,O')-,(SP-4-2)|COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-FLUOROPHENYLATO))(2-)-N,N',O,O')-|COBALT, BIS(3-FLUOROSALICYLALDEHYDE)ETHYLENEDIIMINE-|COBALT, [(2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS[6-FLUOROPHENOLATO]](2-)-N,N',O,O')-, (SP-4-2)-|COBALT,((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-	62207-76-5	Solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4197	COLLIDINE	COLLIDINE|COLLIDINE (COMBUSTIBLE LIQUID, N.O.S.)|COLLIDINE (FLAMMABLE LIQUIDS, N.O.S.)|TRIMETHYLPYRIDINE	29611-84-5	A clear colorless liquid. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air. Produces toxic oxides of nitrogen during combustion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	Special Hazards of Combustion Products: None (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4192	CIS-1,4-DICHLORO-2,3-EPOXYBUTANE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	METHYL CHLOROPROPIONATE is a halogenated ester. Reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Reacts exothermically with bases. Flammable hydrogen is generated with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4193	CIS-2-METHYL-2-BUTENENITRILE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical is sensitive to exposure to moisture. Insoluble in water.	1,2-EPOXYTETRADECANE, an epoxide, is incompatible with strong acids, caustics, and peroxides. (NTP, 1992). Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Highly Flammable; Polymerizable				0		(NTP, 1992)		greater than 235														(NTP, 1992)				less than 68
4194	COAL TAR PITCH	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Forms peroxides when exposed to air that may initiate spontaneous, exothermic polymerization. Peroxide formation usually proceeds slowly. Slightly soluble in water.	METHYL ACRYLATE ignites readily when exposed to heat, flame or sparks. Offers a dangerous fire and explosion hazard. Reacts vigorously with strong oxidizing materials. Forms peroxides when exposed to air that may initiate spontaneous exothermic polymerization. Peroxide formation usually proceeds slowly. Added inhibitor retards polymerization. If the inhibitor is consumed during long storage, explosive polymerization may occur [MCA Case History No. 2033]. Also subject to strongly exothermic polymerization if heated for prolonged periods or contaminated.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5		(NTP, 1992)		44		(NTP, 1992)		2.8		%	(NTP, 1992)		25		%	(NTP, 1992)		875		(NTP, 1992)		-105.7	
4195	COBALT HYDROCARBONYL	Neutralizing Agents for Acids and Caustics: Dilute with water (USCG, 1999)	Goggles or face shield; rubber gloves and boots. (USCG, 1999)	Water soluble.	TRIETHANOLAMINE is an aminoalcohol. Neutralize acids to form salts plus water in exothermic reactions. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides. Reacts violently with strong oxidants. [Handling Chemicals Safely 1980. p. 928].			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		365												(NTP, 1992)		70.9	
4196	COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-FLUOROPHENOLATO))(2-)-N,N',O,O')-,(SP-4-2)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated aromatic amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																				(NTP, 1992)			347 to 356
4197	COLLIDINE		Approved respirator, chemical safety goggles, chemical-resistant gloves. (USCG, 1999)	Slightly soluble in water. Hydrolyzes slowly in contact with water (NTP, 1992).	METHYL BENZOATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound reacts with strong oxidizing agents and strong bases and hydrolyzes slowly in contact with water. (NTP, 1992).			(NFPA, 2010)		1	2	0	2		(NTP, 1992)		181												(NTP, 1992)		10	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4192	CIS-1,4-DICHLORO-2,3-EPOXYBUTANE																																								Flammable Liquid	C4H7ClO2		0.0	0.0	0.0	0.0	0.0
4193	CIS-2-METHYL-2-BUTENENITRILE														(NTP, 1992)		0.847				(NTP, 1992)			203 to 205	0.4		(NTP, 1992)		212.38						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C14H28O	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4194	COAL TAR PITCH	(NTP, 1992)	; 760 mm Hg at 176.4Â° F	40		48.6		mm Hg	(NTP, 1992)		3				(USCG, 1999)		0.956		68		(NTP, 1992)		176.9		760		(NTP, 1992)		86.09		(NIOSH, 2003)		250	ppm	(NTP, 1992)	at 72Â° F		10 to 50	mg/mL	MAM	Flammable Liquid	C4H6O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4195	COBALT HYDROCARBONYL	(NTP, 1992)	; 10 mm Hg at 401Â° F		less than 0.01	68		mm Hg	(NTP, 1992)		5.14				(USCG, 1999)		1.13		68		(NTP, 1992)	(Decomposes)	635.7		760		(NTP, 1992)		149.19						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	TEA		C6H15NO3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4196	COBALT, ((2,2'-(1,2-ETHANEDIYLBIS(NITRILOMETHYLIDYNE))BIS(6-FLUOROPHENOLATO))(2-)-N,N',O,O')-,(SP-4-2)																											(NTP, 1992)		219.09						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C7H4Cl2N2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4197	COLLIDINE	(NTP, 1992)	; 20 mm Hg at 197.2Â° F; 760 mm Hg at 391.1Â° F	1		102		mm Hg	(NTP, 1992)		4.69				(USCG, 1999)		1.0888		68		(NTP, 1992)			388 to 390	760		(NTP, 1992)		136.15						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL	MBZ		C8H8O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4198	COPPER ACETOARSENITE	(ACETATO) TRIMETAARSENITODI(COPPER(ACETATO-O)(TRIMETAARSENITO)DICOPPER|BASLE GREEN|BIS(ACETATO)HEXAMETAARSENITOTETRACOPPER|C.I. 77410|C.I. PIGMENT GREEN 21|CI 77410|CI PIGMENT GREEN 21|COPPER ACETATE ARSENITE|COPPER ACETO-ARSENITE|COPPER ACETOARSENITE|COPPER(II) ACETATE META-ARSENITE|COPPER, BIS(ACETATO)HEXAMETAARSENITOTETRA-|CUPRIC ACETOARSENITE|CUPRIC ACETOARSENITE, [SOLID]|EMERALD GREEN|ENT 884|FRENCH GREEN|GENUINE PARIS GREEN|IMPERIAL GREEN|KING'S GREEN|MEADOW GREEN|MINERAL GREEN|MITIS GREEN|MOSS GREEN|MOUNTAIN	12002-03-8	An emerald-green powder. Usually contains some water. Insoluble in water. Toxic by inhalation and by ingestion. Used as a wood preservative, insecticide, and pigment.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1911.0	206.0	655.0	354.0	203.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4199	COPPER AND LEAD SULFIDE CONTAINING (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	COPPER AND LEAD SULFIDE CONTAINING (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	11115-78-9	Contains copper and lead sulfide in copper concentrates. Insoluble in water and denser than water. Primary hazard is to the environment. Immediate steps should be taken to limit spread to the environment. Chemical intermediate byproduct of the manufacturing processes. Chemical and physical properties vary depending on the components present.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1912.0	206.0	655.0	354.0	204.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, car bon dioxide or Halon extinguisher. (NTP, 1992)
4200	COPPER ARSENITE	AIR-FLO GREEN|ARSENIOUS ACID (H3ASO3), COPPER(2+) SALT (1:1)|COPPER ARSENITE|COPPER ARSENITE (CUH4ASO3)|COPPER ARSENITE, [SOLID]|COPPER ORTHOARSENITE|CUPRIC ARSENITE|CUPRIC GREEN|SCHEELE'S GREEN|SWEDISH GREEN	10290-12-7	Copper arsenite is a fine, light-green powder. It is insoluble in water. It is very toxic by ingestion. It is used as an insecticide and fungicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1912.0	206.0	655.0	354.0	204.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4201	COPPER CHLORATE	COPPER CHLORATE	26506-47-8	A blue to green crystalline solid. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. It is used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1912.0	206.0	655.0	354.0	204.0	(BLOB)	Data is not available for this chemical, but it is probably combustible. (NTP, 1992)	Fire involving this compound should be controlled with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
4202	COPPER SUBACETATE	BASIC COPPER ACETATE|BLUE VERDIGRIS|COMMON VERDIGRIS|COPPER SUBACETATE|CUPRIC ACETATE, BASIC|FRENCH VERDIGRIS|GREEN VERDIGRIS	52503-64-7	Blue to green crystals or powder. Very slightly soluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4203	CRAGÂ® HERBICIDE	CRAG HERBICIDE 1|CRAG SESONE|CRAGÂ® HERBICIDE|CRAGÂ® HERBICIDE NO. 1|2,4-DES SODIUM|2-(2,4-DICHLOROPHENOXY)ETHYL SODIUM SULFATE|DISUL-SODIUM|EXPERIMENTAL HERBICIDE 1|SES|SES (HERBICIDE)|SES-T|SESON|SESONE|SESONE (CRAGÂ® HERBICIDE)|SODIUM 2,4-DICHLOROPHENOXYETHYL SULPHATE|SODIUM 2-(2,4-DICHLOROPHENOXY)ETHYL SULFATE	136-78-7	Colorless to white crystalline, odorless solid. Mp: 245Â°C (with decomposition). Manufacture discontinued in 1994 by Rhone-Poulenc Ag Co.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	EYES: flush with water for at least 15 min. SKIN: wipe off, wash well with soap and water. INGESTION: induce vomiting; get medical attention. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4198	COPPER ACETOARSENITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture. Water insoluble.	5-AMINOSALICYLIC ACID is incompatible with acids, acid chlorides, acid anhydrides, chloroformates and strong oxidizers. (NTP, 1992)							0																			(NTP, 1992)	(decomposes)	536	
4199	COPPER AND LEAD SULFIDE CONTAINING (ENVIRONMENTALLY HAZARDOUS SUBSTANCES, SOLID, N.O.S.)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, protect it from light, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water [Hawley]. Melting point 219 F. Flash point 277 F. Toxic by skin absorption, inhalation or ingestion. Even as a solid will spot downwind area brown/purple (Roger Patrick, DuPont Engineer).	1,2-PHENYLENEDIAMINE a weak aromatic amine base neutralizes acids in exothermic reactions to form salts. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Darkens on exposure to air (Roger Patrick, DuPont Engineer).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1	(NFPA, 2010)		313																(NTP, 1992)		216 to 219
4200	COPPER ARSENITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Probably light and air sensitive. Water soluble. Decomposes in aqueous solution at a rate that depends on pH: at pH 7 the drug is more stable than at pH 9, but is less stable than at pH 6. At pH 7 and 99Â°F, approximately 7% conversion occurs in 1 hour (NTP, 1992).	5-AZA-2'-DEOXYCYTIDINE is an organic compound with both amine and alcohol substituents. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.							0																						
4201	COPPER CHLORATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.							0																						
4202	COPPER SUBACETATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	DIBUTYL PHOSPHATE Is non-flammable, but combustible (flash point 188Â°C). Auto-ignition temperature is 420Â°C. Emits irritating or toxic fumes in a fire. Is a moderately strong acid obtained by the partial esterification of phosphoric acid. Reacts exothermically and vigorously with bases. Incompatible with strong oxidizing agents, alkali metals, heat, or plastic. Reacts with many metals liberating flammable/explosive hydrogen gas.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																						
4203	CRAGÂ® HERBICIDE		Goggles or face shield; rubber gloves. (USCG, 1999)	Insoluble in water.	Phenols, such as DIBUTYLPHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompatible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.							0	(USCG, 1999)		greater than 200															(USCG, 1999)		97	

| id | name | vp_source | vp_note | vp_value | vp_range | vp_range_tempDegF | vp_range_tempDegF | vp_unit | vd_source | vd_note | vd_value | vd_range | vd_range_tempDegF | vd_range_tempDegF | vd_range_tempDegF | vd_value | sl_range | sl_value | sl_note | sl_source | sl_range_tempDegF | sl_range_tempDegF | tempDegF | bp_value_pressMMH G | bp_range_pressMMH G | bp_value | bp_note | bp_source | bp_range_tempDegF | sl_value_tempDegF | sl_range_tempDegF | sl_range | sl_value | sl_note | sl_source | sl_range_tempDegF | vd_range_tempDegF | vd_value | vd_range | vd_value | vd_note | vd_source | vp_unit | vp_range_tempDegF | vp_value_tempDegF | vp_range | vp_value | vp_note | vp_source | molwgt_source | molwgt_note | molwgt_value | molwgt_range | molwgt_value | solblty_source | solblty_temp | solblty_value | solblty_unit | tdln_value | tdln_note | tdln_source | tdln_value | tdln_unit | solblty_source | solblty_temp | solblty_value | solblty_unit | chris_codes | doe_Labels | formulas | incompatible_substances | # of Nations Producing | Production Score | # of Distributions Sites | Distribution Score | Prob Score |
|---|---|---

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4204	CRESOLS	AR-TOLUENOL|BACILLOL|COMPONENT 1 (60%): M-CRESOL|COMPONENT 2 (40%): P-CRESOL|CRESOL|CRESOL (MIXED ISOMERS)|3-CRESOL|4-CRESOL|CRESOLS|CRESYLIC ACID|CRESYLIC ACIDS|1-HYDROXY-4-METHYLBENZENE|HYDROXYTOLUENE|4-HYDROXYTOLUENE|HYDROXYTOLUENES|1-METHYL-4-HYDROXYBENZENE|METHYLPHENOIS|METHYLPHENOL|3-METHYLPHENOL|4-METHYLPHENOL|OXYTOLUENES|P-CRESYLIC ACID|P-HYDROXYTOLUENE|P-KRESOL|P-METHYLHYDROXYBENZENE|P-METHYLPHENOL|P-OXYTOLUENE|P-TOLUOL|P-TOLYL ALCOHOL|PARA-CRESOL|PARAMETHYL PHENOL|TAR ACIDS|TEKRESOL|TRICRESO	1319-77-3	Colorless to yellow liquids with a tarry odor. Flash point 178Â°F. Insoluble in water. Density 8.7 lb / gal. Poisonous by ingestion and skin absorption and corrosive to skin.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4205	CRIMIDINE	CASTRIX|2-CHLORO-4-DIMETHYLAMINO-6-METHYL-PYRIMIDINE|2-CHLORO-4-(DIMETHYLAMINO)-6-METHYLPYRIMIDINE|2-CHLORO-4-METHYL-6-(DIMETHYLAMINO)PYRIMIDINE|2-CHLORO-4-METHYL-6-DIMETHYLAMINOPYRIMIDINE|2-CHLORO-N,N,6-TRIMETHYL-4-PYRIMIDINAMINE|CRIMIDINE|CRIMITOX|4-PYRIMIDINAMINE, 2-CHLORO-N,N,6- TRIMETHYL-|PYRIMIDINE, 2-CHLORO-4-(DIMETHYLAMINO)-6-METHYL-|W 491	535-89-7	Brown waxy solid or colorless crystals. Used as a rodenticide. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4206	CUPRIC OXALATE	COPPER OXALATE|CUPRIC OXALATE|CUPRIC OXALATE HEMIHYDRATE	55671-32-4	Odorless bluish-white solid. Denser than water and insoluble in water. Hence sinks in water. Used as a catalysts for organic reactions.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4207	CUPRIC SULFATE, AMMONIATED	AMMONIATED CUPRIC SULFATE MONOHYDRATE|AMMONIUM CUPRIC SULFATE|COPPER AMMONIUM SULFATE|COPPER SULFATE, AMMONIATED|COPPER TETRAAMMINE SULFATE MONOHYDRATE|CUPRAMMONIUM SULFATE|CUPRIC AMMINE SULFATE|CUPRIC SULFATE, AMMONIATED|CUPRIC SULFATE, [AMMONIATED]|CUPRIC SULPHATE, AMMONIATED|TETRAAMMINE COPPER SULFATE|TETRAAMMINECOPPER SULFATE MONOHYDRATE|TETRAAMMINECOPPER SULFATE, HYDRATE|TETRAAMMINECOPPER(2+) SULFATE (1:1) MONOHYDRATE|TETRAAMMINECOPPER(2+) SULFATE MONOHYDRATE|TETRAAMMINECOPPER(II) SULFATE MONOHYDRATE	10380-29-7	A dark blue crystalline solid with a faint odor of ammonia. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Used as a pesticide, to print fabrics, and to make other copper compounds.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
4208	CYANOGEN IODIDE	CYANOGEN IODIDE|CYANOGEN MONOIODIDE|IODINE CYANIDE|IODINE MONOCYANIDE|IODINE MONOCYANIDE (ICN)|IODOCYANIDE (ICN)|IODCYAN	506-78-5	White needles with a very pungent odor. Used in taxidermists' preservatives and generally for destroying all lower forms of life. Toxic by inhalation or ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1913.0	206.0	655.0	354.0	204.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4204	CRESOLS	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Insoluble in water.	METHYL CAPROATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound reacts with strong oxidizing agents and strong bases. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		163																(NTP, 1992)		-96	
4205	CRIMIDINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Organophosphates, such as DIBUTYLPHENYL PHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.					0		(NTP, 1992)		greater than 200																				
4206	CUPRIC OXALATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air. Water soluble	5-DIETHYLAMINO-2-NITROSOPHENOL HYDROCHLORIDE may react with strong oxidizing agents, strong bases, acid chlorides and acid anhydrides. In aqueous solution behaves as an acid.					0																						
4207	CUPRIC SULFATE, AMMONIATED	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DICETYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â° C, owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
4208	CYANOGEN IODIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Aromatic nitro compounds, such as 1,3,5-TRINITRONAPHTHALENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4204	CRESOLS	(NTP, 1992)	; 5 mm Hg at 86Â° F; 100 mm Hg at 196.5Â° F	1		41		mm Hg							(NTP, 1992)		0.8846		68		(NTP, 1992)		302		760		(NTP, 1992)		130.21						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Combustible Liquid	C7H14O2		0.0	0.0	0.0	0.0	0.0
4205	CRIMIDINE																										(NTP, 1992)		286.31						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL			C14H23O4P		0.0	0.0	0.0	0.0	0.0
4206	CUPRIC OXALATE																										(NTP, 1992)		230.69						(NTP, 1992)	at 70Â° F		50 to 100	mg/mL			C10H14N2O2.ClH	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4207	CUPRIC SULFATE, AMMONIATED																																								Organic Peroxide	C34H66O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4208	CYANOGEN IODIDE																																								Explosive 1.1D	C10H5N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4209	CYANOPHOS	BAY 3472?|BAYER 3472?|CIAFOS|CYANOFOS|CYANOPHOS|CYANOX|CYAP|ENT 25,675|O,O-DIMETHYL O-(4-CYANOPHENYL) PHOSPHOROTHIOATE|O,O-DIMETHYL O-(P-CYANOPHENYL) PHOSPHOROTHIOATE|O,O-DIMETHYL O-4-CYANOPHENYL PHOSPHOROTHIOATE|O,O-DIMETHYL O-4-CYANOPHENYL THIOPHOSPHATE|O,O-DIMETHYL-O-P-CYANOPHENYL PHOSPHOROTHIOATE|O-P-CYANOPHENYL O,O-DIMETHYL PHOSPHOROTHIOATE|PHOSPHOROTHIOIC ACID O-(4-CYANOPHENYL) O,O-DIMETHYL ESTER|PHOSPHOROTHIOIC ACID, O,O-DIMETHYL ESTER, O-ESTER WITH P-HYDROXYBENZONITRILE|PHOSPHOROTHIOIC ACID, O-	2636-26-2	Yellow to reddish-yellow transparent liquid. Used as an insecticide against rice stem borers and house flies. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1914.0	206.0	656.0	354.0	204.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4210	CYCLOATE	CYCLOATE	1134-23-2	Colorless liquid with an aromatic odor. Used as a selective systemic herbicide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1914.0	206.0	656.0	354.0	204.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4211	CYCLOBUTANE	CYCLOBUTANE|TETRAMETHYLENE	287-23-0	Gas that condenses to a liquid at 55Â°F. Insoluble in water. Soluble in alcohol, acetone and ether. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1915.0	206.0	656.0	354.0	204.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4212	CYCLOBUTYL CHLOROFORMATE	CYCLOBUTYL CHLOROFORMATE|CYCLOBUTYLCHLOROFORMATE	81228-87-7	A clear liquid. Denser than water. Fire risk. Toxic and corrosive. Contact may severely irritate skin, eyes and mucous membranes. Toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1915.0	206.0	657.0	354.0	204.0	(BLOB)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4213	CYCLOHEXENYLTRICHLOROSILANE	CYCLOHEXENYL TRICHLOROSILANE|CYCLOHEXENYLTRICHLOROSILANE|3-CYCLOHEXENYLTRICHLOROSILANE|SENTRY	10137-69-6	A colorless liquid with a pungent odor. Flash point of 199Â°F. Corrosive to metals and tissue. Used to make various silicon containing compounds.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0	(BLOB)	Special Hazards of Combustion Products: Toxic and irritating gases are generated when exposed to fire or heat. Behavior in Fire: Containers may explode (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4209	CYANOPHOS	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Slightly water soluble. Hydrolyzed by alkali (NTP, 1992).	Organothiophosphates, such as METHYL DEMETON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4210	CYCLOATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very hygroscopic. Slightly water soluble. May be sensitive to prolonged exposure to air and light. The stability of aqueous solutions is markedly dependent on pH, oxygen and the amount of initial reactant. Aqueous solutions are stable for up to 50 hours in acid and neutral pH (6.2). At pH 8.0, decomposition products are formed in 3 to 5 hours. Solutions develop a red tint that becomes progressively darker (eventually forming a black precipitate).	METHYL DOPA undergoes catalytic oxygenation in the presence of magnesium, cupric, cobalt, nickel and ferric ions (NTP, 1992). A weakly acidic amino acid.					0																						(NTP, 1992)	approximately (decomposes)	572	
4211	CYCLOBUTANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very soluble in water.	VANADYL SULFATE has weak oxidizing or reducing powers. Redox reactions can however still occur.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4212	CYCLOBUTYL CHLOROFORMATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Soluble in water.	METHYL ETHYL KETONE is explosive in the form of vapor when exposed to heat, flame or sparks. Ignition on contact with potassium tert-butoxide. Reactive with strong oxidizing materials, and will dissolve or soften some plastics. Mixture with 2-propanol will form explosive peroxides during storage. Vigorous reaction with chloroform in the presence of alkali (sodium hydroxide, potassium hydroxide), chlorosulfonic acid, fuming sulfuric acid (oleum) [Lewis, 3rd ed., 1993, p. 855]. Reaction with hydrogen peroxide in the presence of nitric acid forms heat- and shock-sensitive explosive acetone peroxides. [Bjorklund, G. H. et al., Trans. R. Soc. Can, 1950, 44, p. 25].	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(NTP, 1992)		26	(NTP, 1992)		1.8		%	(NTP, 1992)		10		%	(USCG, 1999)		961		(NTP, 1992)		-123.3	
4213	CYCLOHEXENYLTRICHLOROSILANE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water. Sinks and slowly decomposes in water forming poisonous vapor cloud of HI.	Halogenated aliphatic compounds, such as METHYL IODIDE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Low molecular weight haloalkanes are highly flammable and can react with some metals to form dangerous products. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, alkylphosphines, nitrides, azo/diazo compounds, alkali metals (sodium), and epoxides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2644 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0				(USCG, 1999)		10		%	(USCG, 1999)		15		%					(NTP, 1992)		-87.6	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbty_source	solbty_note	solbty_value	solbty_range	solbty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4209	CYANOPHOS	(NIOSH, 2003)		0.0004				mm Hg							(NTP, 1992)		1.2		68		(NIOSH, 2003)	Decomposes					(NTP, 1992)		230.3						(NTP, 1992)		Slightly soluble					Poison	C8H15O3PS2		0.0	0.0	0.0	0.0
4210	CYCLOATE																																	(NTP, 1992)	at 73Â° F	1 to 10	mg/mL				C10H13NO4	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4211	CYCLOBUTANE																																	(NTP, 1992)	at 73Â° F	greater than or equal to 100	mg/mL			Poison	VOS(SO4)2 5H2O		0.0	0.0	0.0	0.0
4212	CYCLOBUTYL CHLOROFORMATE	(NTP, 1992)	: 100 mm Hg at 77.0Â° F	77.5	68			mm Hg	(NTP, 1992)		2.42				(USGG, 1999)		0.806		68		(NTP, 1992)		175.3	760			(NTP, 1992)		72.11		(NIOSH, 2003)		3000	ppm	(NTP, 1992)	at 66Â° F	greater than or equal to 100	mg/mL	MEK	Flammable Liquid	C4H8O		0.0	0.0	0.0	0.0
4213	CYCLOHEXENYLTRICHLOROSILANE	(USGG, 1999)		661.76				mm Hg	(NTP, 1992)		2.279		68		(USGG, 1999)		0.806		68		(NTP, 1992)		108.3	760			(NTP, 1992)		141.94		(NIOSH, 2003)	: A potential human carcinogen.	100	ppm	(NTP, 1992)	at 64Â° F	10 to 50	mg/mL	MIO	Poison Inhalation Hazard	CH3I		0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4214	CYCLOOCTADIENES	CYCLOOCTADIENE|CYCLOOCTADIENES	29965-97-7	A liquid. May irritate skin and eyes. Less dense than water and insoluble in water. Used to make rubber.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0	(BLOB)	(Non-Specific -- Pesticide, Solid, n.o.s.) This material may burn, but does not ignite readily. Fire may produce irritating or poisonous gases. When heated it emits very dangerous cyanides and sulfur compounds. Do not store below -4F or at elevated temperatures. Keep away from sparks. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) Move container from area if you can do so without risk. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
4215	CYCLOPENTAPHENANTHRENE	BENZO[DEF]FLUORENE|CYCLOPENTAPHENANTHRENE|4H-CYCLOPENTA[DEF]PHENANTHRENE|METHYLENEPHENANTHRENE|4,5-METHYLENEPHENANTHRENE|PHENANTHRINDENE|4,5-PHENANTHRYLENEMETHANE	80455-52-3	PHYSICAL DESCRIPTION: Crystals (in ethanol) or shiny white flakes. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0			
4216	CYCLO-SARIN	CYCLO-SARIN|GF	329-99-7	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4217	CYTEMBENA	ACRYLIC ACID, 3-P-ANISOYL-3-BROMO-, SODIUM SALT, (E)-|2-BUTENOIC ACID, 3-BROMO-4-(4-METHOXYPHENYL)-4-OXO, SODIUM SALT, (E)-|2-BUTENOIC ACID, 3-BROMO-4-(4-METHOXYPHENYL)-4-OXO-, SODIUM SALT, (E)-|CYTEMBENA|(E)-3-BROMO-4-(4-METHOXYPHENYL)-4-OXO-2-BUTENOIC ACID SODIUM SALT|(E)-3-P-ANISOYL-3-BROMOACRYLIC ACID SODIUM SALT|MBBA|NCI-C50737|NSC 104801|NSC-104801	21739-91-3	PHYSICAL DESCRIPTION: White to off-white powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4218	CYTOXAL ALCOHOL	2-(BIS(2-CHLOROETHYL)AMINO)TETRAHYDROOXAZAPHOSPHORINE CYCLOHEXYLAMINE SALT|CYTOXAL ALCOHOL|CYTOXAN ALCOHOL|CYTOXYL ALCOHOL|N,N-BIS(2-CHLOROETHYL)-N'(3-HYDROXYPROPYL)PHOSPHORODIAMIDIC ACID CYCLOHEXYLAMINE SALT|N,N-BIS(2-CHLOROETHYL)-N'-(3-HYDROXYPROPYL)PHOSPHORODIAMIDATE, CYCLOHEXYLAMMONIUM SALT|NCI-C04922|PHOSPHORODIAMIDIC ACID, N,N-BIS(2-CHLOROETHYL)-N'(3-HYDROXYPROPYL)CYCLOHEXYL AMINE SALT	14504-75-7	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1916.0	206.0	657.0	356.0	204.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4219	D&C ORANGE 5 ZIRCONIUM LAKE	D&C ORANGE 5 ZIRCONIUM LAKE|31-5205 DAWN ORANGE|31-5305 FLAME ORANGE|6805 PALE ORANGE|31-7236 PETITE ORANGE|6905 SUNRISE ORANGE|31-3455 SUNSET ORANGE	1719-05-7	PHYSICAL DESCRIPTION: Orange powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1917.0	206.0	657.0	356.0	204.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4214	CYCLOOCTADIENES	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Methyl isothiocyanate reacts with water to form carbon dioxide and methylamine gases.	Isocyanates and thioisocyanates, such as METHYL ISOTHIOCYANATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Polyurethanes are formed by the condensation reaction of diisocyanates with, for example, ethyl glycol.	Highly Flammable; Water-Reactive	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2477 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)			95 to 97
4215	CYCLOPENTAPHENANTHRENE			Dust/air mixture may ignite and explode. Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 5-METHYLCHRYSENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.						0																								
4216	CYCLO-SARIN	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and away from oxidizers. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	METHYL METHANESULFONATE is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		220																			(NTP, 1992)		68	
4217	CYTEMBENA	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. DO NOT touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air.	The triazoles are a group of highly explosive materials that are sensitive to heat, friction, and impact. Sensitivity varies with the type substitution to the triazole ring. Metal chelated and halogen substitution of the triazol ring make for a particularly heat sensitive material. Azido and nitro derivatives have been employed as high explosives. No matter the derivative these materials should be treated as explosives.	Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
4218	CYTOXAL ALCOHOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water. This compound is sensitive to moisture, light, or prolonged exposure to air.	5-NITRO-O-TOLUIDINE is incompatible with strong oxidizing agents, acids, acid chlorides, acid anhydrides and chloroformates. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		219 to 225
4219	D&C ORANGE 5 ZIRCONIUM LAKE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact.	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4214	CYCLOOCTADIENES	(USCG, 1999)		39.29				mm Hg							(EPA, 1998)		1.069		98.6		(EPA, 1998)		246		760		(EPA, 1998)		73.12											MIT	Poison Inhalation Hazard|Flammable Liquid	C2H3NS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4215	CYCLOPENTAPHENANTHRENE																																									C19H15		0.0	0.0	0.0	0.0	0.0
4216	CYCLO-SARIN														(NTP, 1992)		1.2943		68		(NTP, 1992)			396 to 397	760		(NTP, 1992)		110.13						(NTP, 1992)	at 73Â° F		greater than or equal to 100	mg/mL		Corrosive|Poison	C2H6O3S		0.0	0.0	0.0	0.0	0.0
4217	CYTEMBENA																																									Explosive 1.1D	C6H4N4O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4218	CYTOXAL ALCOHOL																											(NTP, 1992)		152.17						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4219	D&C ORANGE 5 ZIRCONIUM LAKE																																									Flammable Solid	C12H15N3O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4220	D,L-SARCOLYSIN	ALANINE, 3-[P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]-, DL-;4-(BIS(2-CHLOROETHYL)AMINO)-DL-PHENYLALANINE|CB-3307|D,L-SARCOLYSIN|DL-3-(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ALANINE|DL-PHENYLALANINE MUSTARD|DL-PHENYLALANINE, 4-[BIS(2-CHLOROETHYL)AMINO]-|DL-SARCOLYSIN|DL-SARCOLYSINE|MERFALAN|MERPHALAN|NCI-C04944|NSC-14210|O-MERPHALAN|3-(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ALANINE|P-DI(2-CHLOROETHYL)AMINO-DL-PHENYLALANINE|SARCOCLORIN|SARCOLYSIN|SARCOLYSINE	531-76-0	PHYSICAL DESCRIPTION: Tiny needles (from methanol). (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1917.0	206.0	657.0	356.0	204.0	(BLOB)	Flash point data for this compound are not available, but it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4221	DAZOMET SODIUM SALT	DAZOMET SODIUM SALT|DAZOMET, SODIUM SALT|TETRAHYDRO-3,5-DIMETHYL-2H-1,3,5-THIADIAZINE-2-THIONE, ION(1-), SODIUM	53404-60-7	Colorless crystals. Used as a soil fumigant to control weeds and insects.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1918.0	206.0	657.0	356.0	204.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4222	DDE	DDE|DICHLOROD|PHENYLDICHLOROETHYLENE	6547-04-4	A metabolite and environmental degradation product of the insecticide DDT.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1918.0	207.0	657.0	356.0	205.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4223	DECENE (FLAMMABLE LIQUIDS, N.O.S.)	DECENE (FLAMMABLE LIQUIDS, N.O.S.)|N-DECENE	25339-53-1	A clear colorless liquid. Less dense than water. Insoluble in water. Used to make pharmaceuticals and other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	657.0	356.0	205.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4224	DECYL METHACRYLATE	DECYL METHACRYLATE|METHACRYLIC ACID, DECYL ESTER|N-DECYL METHACRYLATE	3179-47-3	PHYSICAL DESCRIPTION: Clear light tan liquid. Insoluble in water. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	657.0	356.0	205.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Cylinder may explode in heat of fire. Heat may cause decomposition and evolution of highly toxic fumes of phosphorus oxides and chlorides. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4220	D,L-SARCOLYSIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An organo-isocyanate. Isocyanates and thioisocyanates are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide.						0																								
4221	DAZOMET SODIUM SALT	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then dampen the solid spill material with 60-70% methanol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with methanol to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is sensitive to light and oxidation. Insoluble in water.	6-MERCAPTOPURINE MONOHYDRATE reacts with strong oxidizing agents, strong bases and strong acids. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)	(decomposes)	586	
4222	DDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face ocirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	1,3-BIS(2-CHLOROETHYL)-1-NITROSOUREA decomposes rapidly in acid and in solutions above pH 7; most stable in petroleum ether or aqueous solution at pH 4. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			86 to 90
4223	DECENE (FLAMMABLE LIQUIDS, N.O.S.)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very slightly soluble.	Half decomposed in 8 days at 40Â°C. When a sample was heated in a small test tube it decomposed in a few minutes, the residue exploded (Food Chem. 4(1):42. 1956).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
4224	DECYL METHACRYLATE	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organophosphates, such as METHYL PHENKAPTON, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4220	D,L-SARCOLYSIN																										(NTP, 1992)		261.24						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C9H15N3O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4221	DAZOMET SODIUM SALT																										(NTP, 1992)		170.19						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C5H4N4S.H2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4222	DDE																										(NTP, 1992)		214.07						(NTP, 1992)	at 64Â° F		less than 1	mg/mL		Poison	C5H9Cl2N3O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4223	DECENE (FLAMMABLE LIQUIDS, N.O.S.)																																								Poison	C8H10NO5PS	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4224	DECYL METHACRYLATE																										(EPA, 1998)		349.25													C9H11Cl2O2PS3		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4225	DED-WEED LV-4T 64 PERCENT 2,4,5-T ISOOCTYL ESTER	AANETOS L|ACETIC ACID, 2,4,5-TRICHLOROPHENOXY-, ISOOCTYL ESTER|DED-WEED LV-4T|DED-WEED LV-4T 64 PERCENT 2,4,5-T ISOOCTYL ESTER|ISOOCTYL 2,4,5-TRICHLOROPHENOXYACETATE|ISOOCTYL ALCOHOL, (2,4,5-TRICHLOROPHENOXY)ACETATE|ORGA-T|2,4,5-T ESTERS|2,4,5-T ISOOCTYL ESTER|2,4,5-TRICHLOROPHENOXY ACETIC ACID ISOOCTYL ESTER|(2,4,5-TRICHLOROPHENOXY)ACETIC ACID ISOOCTYL ESTER|U 46T	25168-15-4	PHYSICAL DESCRIPTION: White crystals in commerce, a brown or dark brown liquid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	657.0	356.0	205.0	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Do not get water inside containers. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4226	DED-WEED LV-69 67 PERCENT 2,4-D ISOOCTYL ESTER	AGRO-D-ESTER|AGROXONE 5|2,4-D ESTER|2,4-D ESTERS|2,4-D ISOOCTYL ESTER|DED-WEED LV-69|DED-WEED LV-69 67 PERCENT 2,4-D ISOOCTYL ESTER|2,4-DICHLOROPHENOXYACETIC ACID ISOOCTYL ESTER|ISOOCTYL 2,4-DICHLOROPHENOXYACETATE|ISOOCTYL ALCOHOL (2,4-DICHLOROPHENOXY)ACETATE|ISOOCTYL ESTER OF 2,4-DICHLOROPHENOXYACETIC ACID|REED LV 2,4-D|REED LV 400 2,4-D|REED LV 600 2,4-D|SILVAPRON D|WEEDTRINE-II	25168-26-7	PHYSICAL DESCRIPTION: White crystals in commerce, a brown or dark brown liquid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	658.0	356.0	205.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapor is generated when heated. Behavior in Fire: May explode. Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4227	DEMETON	BAY 10756|BAYER 8169|BETAETHYLMERCAPTOETHYL DIETHYL THIONOPHOSPHATE|DEMATON|DEMETON|DEMETON-O AND DEMETON-S|DEMOX|DIETHOXYTHIOPHOSPHORIC ACID ESTER OF 2-ETHYLMERCAPTOETHANOL|E 1059|ENT 17,295|ETHYL SYSTOX|ISOSYSTOX|MERCAPTOFOS|MERCAPTOPHOS|O,O-DIETHYL O(AND S)-2-(ETHYLTHIO)ETHYL PHOSPHOROTHIOATE MIXTURE|O,O-DIETHYL-2-ETHYLMERCAPTOETHYL THIOPHOSPHATE|O,O-DIETHYL-O-[2-(ETHYLMERCAPTO)ETHYL] THIONOPHOSPHATE|O,O[DIETHYL-O(AND 5)-]2-(ETHYLTHIO)ETHYL[PHOSPHOROTHIOATES|O-O-DIETHYL-O(AND S)-2-(ETHYLTHIO)ETHYL PHOSPHOROTHIOATE MIXTURE|PHOSPHOROTHIOIC ACID, O,O-DIETHYL O-(2-	8065-48-3	Oily liquid with an amber color and an odor of sulfur. Used as an agricultural insecticide. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	658.0	356.0	205.0	(BLOB)	This material may burn but does not ignite readily. May ignite other combustible materials (wood, paper, oil, etc.). Reacts violently with water. Flammable poisonous gases may accumulate in tanks and hopper cars. Runoff to sewer may create fire or explosion hazard. Contact causes severe burns to skin and eyes. Runoff from fire control or dilution water may cause pollution. Violent reaction with water. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Do not get water inside container. Small fires: dry chemical or carbon dioxide. Large fires: flood fire area with water from a distance. Do not get solid stream of water on spilled material. Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. (EPA, 1998)
4228	DI-(2-METHYLBENZOYL)PEROXIDE	DI(2-METHYLBENZOYL) PEROXIDE|DI-(2-METHYLBENZOYL)PEROXIDE	1712-87-4	This solid peroxide is particularly sensitive to temperature rises. Decomposes violently above a certain control temperature.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1919.0	207.0	658.0	356.0	205.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4229	DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3)PEROXIDE	DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3)PEROXIDE, [<= 50% AS A PASTE, WITH PHLEGMATIZER]	4507-98-6	White wet solid. May float or sink in water. This solid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1920.0	207.0	658.0	356.0	205.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4225	DED-WEED LV-4T 64 PERCENT 2,4,5-T ISOOCTYL ESTER	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TETRAFLUOROHYDRAZINE is an oxidizing agent. Explodes or ignites on contact with reducing agents at normal temperatures, including alcohols, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979 p.174]. Can explode at high temperatures. Can explode with shock or blast when under pressure. Emits highly toxic fumes of fluorine and oxides of nitrogen when heated to decomposition. Several grams of a crude mixture containing tetrafluorohydrazine and nitrogen trifluoride had been allowed to collect in a stainless steel cylinder. During opening of valves to check the pressure, the cylinder exploded, killing one man and injuring another [MCA Case History 683 1966].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 123 [Gases - Toxic and/or Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1955 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4226	DED-WEED LV-69 67 PERCENT 2,4-D ISOOCTYL ESTER	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. Soluble in water.	TETRAHYDROFURAN reacts violently with oxidizing agents leading to fires and explosions [Handling Chemicals Safely 1980. p. 891]. Subject to peroxidation in the air. Peroxides or their products react exothermically with lithium aluminum hydride [MCA Guide for Safety 1973]. Thus, use as a solvent for lithium aluminum hydride has led to fires. Using potassium hydroxide or sodium hydroxide to dry impure tetrahydrofuran that contains peroxides has resulted in explosions. A violent explosion occurred during the preparation of sodium aluminum hydride from sodium and aluminum in a medium of tetrahydrofuran [Chem. Eng. News 39(40):57. 1961]. THF forms explosive products with 2-aminophenol [Lewis 3227].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NTP, 1992)		6		(NTP, 1992)		1.8		%	(NTP, 1992)		11.8		%	(USCG, 1999)		610		(NTP, 1992)		-163.3	
4227	DEMETON	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Fumes in moist air to form hydrogen chloride. Reacts with water to form hydrochloric acid, reaction may be violent.	METHYL PHOSPHONIC DICHLORIDE is incompatible with water, strong oxidizing agents, alcohols, bases (including amines).. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 9206 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4228	DI-(2-METHYLBENZOYL)PEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	6-THIOGUANINE is incompatible with strong oxidizing agents. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									(NTP, 1992)		greater than 680	
4229	DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3)PEROXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	7,12-DIMETHYLBENZ[A]ANTHRACENE is incompatible with strong oxidizing agents (NTP, 1992).					0		(NTP, 1992)		187																(NTP, 1992)		252 to 253	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4225	DED-WEED LV-4T 64 PERCENT 2,4,5-T ISOOCTYL ESTER																																								Poison Gas	F4N2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4226	DED-WEED LV-69 67 PERCENT 2,4-D ISOOCTYL ESTER	(NTP, 1992)	; 145 mm Hg at 68Â° F	114		59		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		0.888		68		(NTP, 1992)		151		760		(NTP, 1992)		72.11		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	2000	ppm	(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	THF	Flammable Liquid	C4H8O		0.0	0.0	0.0	0.0	0.0
4227	DEMETON																											(EPA, 1998)		132.91												Poison Inhalation Hazard|Corrosive	CH3Cl2OP	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4228	DI-(2-METHYLBENZOYL)PEROXIDE																											(NTP, 1992)		167.19						(NTP, 1992)	at 73Â° F		less than 1	mg/mL		Poison	C5H5N5S	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4229	DI-(3,5,5-TRIMETHYL-1,2-DIOXOLANYL-3)PEROXIDE																											(NTP, 1992)		256.35						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C20H16		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4230	DI-(TERT-BUTYLPEROXY)PHTHALATE, [<= 55% AS A PASTE]	DI-(TERT-BUTYLPEROXY)PHTHALATE|DI-(TERT-BUTYLPEROXY)PHTHALATE, [<= 55% AS A PASTE]	2155-71-7	Crystalline solid mixed with water. Water lessens the explosion hazard.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1920.0	207.0	659.0	356.0	205.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
4231	DI-(TERT-BUTYLPEROXY)PHTHALATE, [TECHNICALLY PURE]	DI-(TERT-BUTYLPEROXY)PHTHALATE|DI-(TERT-BUTYLPEROXY)PHTHALATE, [TECHNICALLY PURE]	2155-71-7	Crystalline solid. Particularly heat and contamination sensitive.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1920.0	207.0	660.0	356.0	205.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
4232	DIACETONE ALCOHOL PEROXIDES	DIACETONE ALCOHOL PEROXIDE|DIACETONE ALCOHOL PEROXIDES	54693-46-8	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a solvent slurry, water alcohol, etc.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1920.0	207.0	660.0	356.0	205.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4233	DIALLATE	CARBAMOTHIOIC ACID,|DIALLATE	2303-16-4	Used as an herbicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1920.0	207.0	660.0	356.0	205.0	(BLOB)	When heated to decomposition, it emits highly toxic fumes of chlorides. This material may burn but does not ignite readily. Container may explode in heat of fire. (EPA, 1998)	Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. If water pollution occurs, notify appropriate authorities. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
4234	DIAZODINITROPHENOL	BENZENEDIAZONIUM, 2-HYDROXY-3,5-DINITRO-, HYDROXIDE, INNER SALT|DDNP|6-DIAZO-2,4-DINITROPHENOLATE|DIAZO DINITROPHENOL|DINOL	4682-03-5	A yellow crystalline solid that darkens on exposure to sunlight. Must be shipped wet with at least 40% water or water and denatured alcohol mixture. May explode due to shock, heat, flame, or friction if dry. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1921.0	207.0	660.0	356.0	205.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Special Hazards of Combustion Products: Toxic fumes of chlorine and fluorine may be produced in fire. (USCG, 1999)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4230	DI-(TERT-BUTYLPEROXY)PHTHALATE, [<= 55% AS A PASTE]	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	(BLOB)	Polymerizable	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4231	DI-(TERT-BUTYLPEROXY)PHTHALATE, [TECHNICALLY PURE]	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The reaction of aluminum with various halogenated hydrocarbons produces a self-sustaining reaction with sufficient heat to melt aluminum pieces, examples of other halogenated hydrocarbons are fluorotrichloromethane, dichlorodifluoromethane, chlorodifluoromethane, tetrafluoromethane. The vigor of the reaction appears to be dependent on the combined degree of fluorination and the vapor pressure, [Chem. Eng. News 39(27):44(1961)].		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4232	DIACETONE ALCOHOL PEROXIDES	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	METHYL STEARATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		307																	(NTP, 1992)		100	
4233	DIALLATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	A halogenated ketone. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4234	DIAZODINITROPHENOL	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Slightly soluble in water.	DICHLOROFLUOROMETHANE is incompatible with the following: Chemically-active metals such as sodium, potassium, calcium, powdered aluminum, zinc & magnesium; acid; acid fumes (NIOSH, 1997).		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4230	DI-(TERT-BUTYLPEROXY)PHTHALATE, [<= 55% AS A PASTE]																																								Non-Flammable Gas	CCl2F2 (dichlorodifluoromethane)C2H4O (ethylene oxide)	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4231	DI-(TERT-BUTYLPEROXY)PHTHALATE, [TECHNICALLY PURE]																																								Non-Flammable Gas	CCl2F2 (dichlorodifluoromethane)|C2Cl3F3 (trichlorotrifluoroethane)		0.0	0.0	0.0	0.0	0.0
4232	DIACETONE ALCOHOL PEROXIDES														(NTP, 1992)		0.8498		104		(NTP, 1992)			828 to 829	747		(NTP, 1992)		298.51						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C19H38O2		0.0	0.0	0.0	0.0	0.0
4233	DIALLATE								(EPA, 1998)		4.38				(EPA, 1998)		1.3826		114.8		(EPA, 1998)			343	760		(EPA, 1998)		126.97												Poison	C3H4Cl2O		0.0	0.0	0.0	0.0	0.0
4234	DIAZODINITROPHENOL	(USCG, 1999)		2217.93				mm Hg							(USCG, 1999)		1.48		68		(USCG, 1999)			48	760		(USCG, 1999)		102.92		(NIOSH, 2003)		5000	ppm	(NIOSH, 2003)	at 86Â° F	0.7		%	DFM	Non-Flammable Gas	CHCl2F		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4235	DIAZODINITROPHENOL, WETTED > = 40 % WATER OR MIXTURE OF ALCOHOL AND WATER	2-DIAZO-4,6-DINITROBENZENE-1-OXIDE|DIAZODINITROPHENOL, WETTED > = 40 % WATER OR MIXTURE OF ALCOHOL AND WATER	87-31-0	A yellow crystalline solid that darkens on exposure to sunlight. Must be shipped wet with at least 40% water or water and denatured alcohol mixture. May explode due to shock, heat, flame, or friction if dried out.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1922.0	207.0	660.0	356.0	205.0	(BLOB)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4236	DIBENZ(B,F)(1,4)OXAZEPINE	CR|DIBENZ(B,F)(1,4)OXAZEPINE	257-07-8	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1923.0	207.0	660.0	356.0	205.0	(BLOB)	Vapors form flammable mixtures with air, and may travel a considerable distance to a source of ignition and flash back. Polymerization may take place in containers, possibly with violent rupture of containers. Upon exposure to heat or flame, it emits toxic and irritating fumes. Container may explode in heat of fire. Vapor explosion and poison hazard indoors, outdoors, or in sewers. Polymerizes on standing. Hazardous polymerization may occur. Avoid heat or sunlight. (EPA, 1998)	Use water to keep fire-exposed containers cool. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Use dry chemical, alcohol foam, or carbon dioxide. Water spray may be ineffective as an extinguishing agent. Small fires: dry chemical, carbon dioxide, and foam. Large fires: fog or foam. Move container from fire area if you can do so without risk. Dike fire control water for later disposal; do not scatter the material. Spray cooling water on containers that are exposed to flames until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. (EPA, 1998)
4237	DIBENZO(A,E)FLUORANTHENE	DIBENZO(A,E)FLUORANTHENE	5385-75-1	Yellow crystals. Water insoluble.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1923.0	207.0	660.0	356.0	205.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4238	DIBENZO(A,H)PYRENE	DIBENZO(A,H)PYRENE	189-64-0	Yellow odorless crystals or flakes. Water insoluble.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1923.0	207.0	660.0	356.0	205.0	(BLOB)	Flash point data for this chemical is not available, but it is probably combustible. (NTP, 1992)	Fires involving this chemical should be controlled with CO2, dry chemical, or Halon foam extinguishers. (NTP, 1992)
4239	DIBENZYL PEROXYDICARBONATE	DIBENZYL PEROXYDICARBONATE|DIBENZYL PEROXYDICARBONATE, [<= 87% WITH WATER]|PEROXYDICARBONIC ACID, DIBENZYL ESTER	2144-45-8	This solid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures. Its explosion hazard is also mitigated by mixing the peroxide in a water slurry.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1923.0	207.0	660.0	356.0	205.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4240	DIBROMODULCITOL	DBD|DBD(ALCOHOL)|DIBROMDULCIT|DIBROMDULCITOL|1,6-DIBROMO-1,6-DIDEOXY-D-DULCITOL|1,6-DIBROMO-1,6-DIDEOXY-GALACTITOL|1,6-DIBROMO-1,6-DIDEOXYDULCITOL|1,6-DIBROMO-1,6-DODEOXYGALACTITOL|1,6-DIBROMODIDEOXYDULCITOL|DIBROMODULCITOL|1,6-DIBROMODULCITOL|ELOBROMOL|GALACTITOL|MITOLACTOL|NCI-C04795|NSC 104800|NSC-104800	10318-26-0	PHYSICAL DESCRIPTION: White powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1924.0	207.0	660.0	356.0	205.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4235	DIAZODINITROPHENOL, WETTED > = 40 % WATER OR MIXTURE OF ALCOHOL AND WATER	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	It may vigorously react with small quantities of water releasing chlorine gas.	DICHLOROISOCYANURIC ACID is slightly hygroscopic and is unstable in the presence of DMSO. This is an oxidizing material; it may ignite organic compounds with which it comes in contact. (NTP, 1992)	Strong Oxidizing Agent; Water-Reactive	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for potassium dichloro-s-triazinetrione, CAS number 2244-21-5. This is a synonym for the official name of this record.	3	0	2	2	Oxidizer																		(NTP, 1992)		437	
4236	DIBENZ(B,F)(1,4)OXAZEPINE	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable. Miscible with water. Unstable in the presence of heat, light and air.	METHYL VINYL KETONE is incompatible with strong oxidizers and strong bases. It polymerizes spontaneously upon exposure to heat or sunlight. This polymerization may cause violent ruptures in containers. (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1251 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		20		(EPA, 1998)		2.1		%	(EPA, 1998)		15.6		%	(USCG, 1999)		915		(EPA, 1998)		20	
4237	DIBENZO(A,E)FLUORANTHENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under freezer conditions and protect it from moisture. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.					0		(NTP, 1992)		greater than 200																	
4238	DIBENZO(A,H)PYRENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: It is recommended that two different glove types be used for best protection. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. SUGGESTED GLOVES: Butyl rubber, Neoprene, PVC, Latex (NTP, 1992)	Insoluble in water.	9-AMINOACRIDINE HYDROCHLORIDE forms from treatment of 9-aminoacridine with hydrogen chloride. Is amphoteric (reacts both as a weak acid and as a weak base).					0																					
4239	DIBENZYL PEROXYDICARBONATE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Aromatic nitro compounds, such as 9-NITROANTHRACENE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups. This compound may be sensitive to prolonged exposure to light. (NTP, 1992)					0																				(NTP, 1992)		286 to 289
4240	DIBROMODULCITOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	A lactone. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4235	DIAZODINITROPHENOL, WETTED > = 40 % WATER OR MIXTURE OF ALCOHOL AND WATER																										(NTP, 1992)		197.97						(NTP, 1992)	Insoluble (<1 mg/ml at 81Â° F)					Oxidizer	C3HCl2N3O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4236	DIBENZ(B,F)(1,4)OXAZEPINE	(NTP, 1992)	; 276 mm Hg at 124Â° F; 661 mm Hg at 167Â° F	86		72		mm Hg	(EPA, 1998)		2.41				(EPA, 1998)			0.8407 to 0.8636		68 to 77	(EPA, 1998)		179		760	(EPA, 1998)		70.09						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	MVK	Poison Inhalation Hazard|Flammable Liquid|Corrosive	C4H6O	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4237	DIBENZO(A,E)FLUORANTHENE	(NTP, 1992)	; 6.6 mm Hg at 94.1Â° F	5.2		77		mm Hg							(NTP, 1992)		0.0894		77								(NTP, 1992)		410.76						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C26H50O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4238	DIBENZO(A,H)PYRENE																										(NTP, 1992)		230.71						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C13H10N2.HCl		0.0	0.0	0.0	0.0	0.0
4239	DIBENZYL PEROXYDICARBONATE																				(NTP, 1992)		527		17	(NTP, 1992)		223.23						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C14H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4240	DIBROMODULCITOL																																							Poison		Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4241	DIBUTYL PHOSPHITE	BUTYL ALCOHOL, HYDROGEN PHOSPHITE|BUTYL PHOSPHITE ((C4H9O)2(HO)P)|BUTYL PHOSPHONATE ((BUO)2HPO)|BUTYL PHOSPHONATE ((C4H9O)2HPO)|DBP 1|DI-N-BUTYL HYDROGEN PHOSPHITE|DI-N-BUTYL PHOSPHITE|DIBUTOXYPHOSPHINE OXIDE|DIBUTYL HYDROGEN PHOSPHITE|DIBUTYL PHOSPHITE|DIBUTYL PHOSPHONATE|PHOSPHOROUS ACID, DIBUTYL ESTER	109-47-7	A clear colorless liquid. Contact may severely irritate skin, eyes and mucous membranes.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1925.0	207.0	660.0	358.0	205.0	INHALATION: Remove victim to fresh air at once. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Get medical attention. EYES: Flush with water for at least 15 minutes. Physician should examine eyes if irritation or pain persists after 15 minutes. SKIN: Exposed area should be washed twice with soap and water. Physician should examine exposed area if pain or irritation persist after area is washed. INGESTION: Do not induce vomiting or perform gastric lavage. Do not attempt to neutralize. Dilute with water or milk in copious amounts. (USCG, 1999)	Special Hazards of Combustion Products: Toxic nitrogen oxides may be formed. Behavior in Fire: Vapors are heavier than air and may travel a considerable distance to a source of ignition and flashback. When heated to decomposition, it emits toxic fumes of NO X (USCG, 1999)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4242	DIBUTYLAMINE PYROPHOSPHATE, [FLAMMABLE LIQUID]	1-BUTANAMINE, N-BUTYL-, (DIPHOSPHATE) (4:1)|1-BUTANAMINE, N-BUTYL-, (DIPHOSPHATE)|DIBUTYLAMINE PYROPHOSPHATE|DIBUTYLAMINE PYROPHOSPHATE, [FLAMMABLE LIQUID]	57862-56-3	A clear colorless liquid. About the same density as water. May irritate or burn skin, eyes and mucous membranes on contact.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1925.0	207.0	661.0	358.0	205.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4243	DICHLORO-1,1,2-TRIFLUOROETHANE	DICHLORO-1,1,2-TRIFLUOROETHANE	90454-18-5	Colorless nonflammable gas. Nearly odorless.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1925.0	207.0	661.0	358.0	205.0	(BLOB)	When heated to decomposition, it emits acrid smoke and fumes. (EPA, 1998)	(Non-Specific -- Poisonous Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Poisonous Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
4244	DICHLOROACETYLENE	ACETYLENE, DICHLORO-|DCA|DICHLOROACETYLENE|DICHLOROETHYNE	7572-29-4	Volatile oil with a disagreeable, sweetish odor. Mp: -68 to -65Â°C; bp: 32-34Â°C. Density: 1.38 g cm-3. Is not produced commercially.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1926.0	207.0	661.0	358.0	205.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4245	DICHLOROANILINES	ANILINE, DICHLORO-|AR,AR-DICHLOROANILINE|DICHLOROANILINE|3,4-DICHLOROANILINE {DICHLOROANILINES}|DICHLOROANILINES|DICHLOROANILINES, LIQUID|DICHLOROANILINES, SOLID	27134-27-6	An amber to brown crystalline solid. Shipped as a solid or in a liquid carrier. Insoluble in water. It is toxic by skin absorption and by inhalation. Produces toxic oxides of nitrogen during combustion. Used in the manufacture of dyes and pesticides.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1926.0	207.0	662.0	358.0	205.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4241	DIBUTYL PHOSPHITE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained (positive pressure, if available) breathing apparatus and full protective clothing. No skin surface should be exposed. (USCG, 1999)	Water soluble.	A basic solution. Neutralizes acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. It initiates detonation of nitromethane.		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(USCG, 1999)		32		(USCG, 1999)		4.3		%	(USCG, 1999)		21		%	(USCG, 1999)		806		(USCG, 1999)		-134.5	
4242	DIBUTYLAMINE PYROPHOSPHATE, [FLAMMABLE LIQUID]	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	METHYLAMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound is incompatible with the following: Nitrates; strong oxidizers, alkalis & acids (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		113		(USCG, 1999)	(calc.)	0.9		%	(USCG, 1999)	(calc.)	5.7		%	(USCG, 1999)		510		(USCG, 1999)		-82.8	
4243	DICHLORO-1,1,2-TRIFLUOROETHANE	(Non-Specific -- Poisonous Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	May become pyrophoric, by generation of silane	TRIETHOXYSILANE has been involved in cases where it has disproportionated, generating silane (SiH4) which has a history of being pyrophoric.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3384 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4244	DICHLOROACETYLENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Denser than water and slightly soluble in water.	A halogenated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4245	DICHLOROANILINES	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Titanium Tetrachloride dissolves readily in water with the evolution of heat and production of corrosive HCl.	Compounds that act as inorganic acids, such as titanium tetrachloride, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions. TITANIUM TETRACHLORIDE acts as an acid in aqueous solution. During the reduction of TITANIUM TETRACHLORIDE to titanium metal with potassium, an explosion occurred. The system had been heated to 90Â° C (Walter and Mandell 1967).	Water-Reactive	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4241	DIBUTYL PHOSPHITE																				(USCG, 1999)		20.66		760		(USCG, 1999)		31.06		(NIOSH, 2003)		100	ppm						MSZ	Flammable Liquid[Corrosive	CH5N (aqueous)	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4242	DIBUTYLAMINE PYROPHOSPHATE, [FLAMMABLE LIQUID]	(USCG, 1999)		10.86				mm Hg							(USCG, 1999)		0.86		68		(USCG, 1999)		295.2		760		(USCG, 1999)		144.22		(NIOSH, 2003)		500	ppm	(NIOSH, 2003)		0.08		%	MAC	Flammable Liquid	C8H16O2		0.0	0.0	0.0	0.0	0.0
4243	DICHLORO-1,1,2-TRIFLUOROETHANE														(EPA, 1998)		0.8745		68		(EPA, 1998)			270 to 275	760		(EPA, 1998)		164.31												Poison Inhalation Hazard[Flammable Liquid	C6H16O3Si		0.0	0.0	0.0	0.0	0.0
4244	DICHLOROACETYLENE																																								Poison	C3H6Cl2O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4245	DICHLOROANILINES																																								Corrosive Flammable Liquid	TiCl4 (titanium tetrachloride)MgCl2 (magnesium chloride)C5H12 (isopentane)		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4246	DICHLORODIFLUOROETHYLENE	DICHLORODIFLUOROETHYLENE|ETHYLENE, DICHLORODIFLUORO-	27156-03-2	Dichlorodifluoroethylene is a liquid material, which may cause illness from inhalation. When heated to high temperatures it may decompose and emit toxic fumes. When in contact with water or steam it may produce additional fumes that can cause illness from inhalation. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. Since it is a liquid it can easily penetrate the soil and contaminate groundwater and nearby streams.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1927.0	207.0	662.0	358.0	205.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4247	DICHLORODIFLUOROMETHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 74% DICHLORODIFLUOROMETHANE	DICHLORODIFLUOROMETHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 74% DICHLORODIFLUOROMETHANE|DICHLORODIFLUOROMETHANE-DIFLUOROETHANE AZEOTROPIC MIXTURE|DIFLUOROETHANE AND DICHLORODIFLUOROMETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 74% DICHLORODIFLUOROMETHANE|REFRIGERANT GAS R-12 AND REFRIGERANT GAS R-152A AZEOTROPIC MIXTURE WITH 74% REFRIGERANT GAS R-12|REFRIGERANT GAS R-152A AND REFRIGERANT GAS R-12 AZEOTROPIC MIXTURE WITH 74% REFRIGERANT GAS R-12|REFRIGERANT GAS R-500 (AZEOTROPIC MIXTURE OF REFRIGERANT GAS R-12 AND REFRIGERANT GAS R-	26523-64-8	A colorless odorless mixture of gases. Shipped as a liquid confined under its own vapor pressure. Contact with the unconfined liquid can cause frostbite. Dichlorodifluoromethane is noncombustible; difluoroethane is flammable. Can asphyxiate by the displacement of air. Exposure of the closed container to prolonged heat or fire can cause it to rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1927.0	207.0	662.0	358.0	205.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4248	DICHLOROISOPROPYL ETHER	BIS (2-CHLOROISOPROPYL) ETHER|DICHLOROISOPROPYL ETHER|2,2'-DICHLOROISOPROPYL ETHER|ETHER, BIS(2-CHLORO-1-METHYLETHYL)	63283-80-7	Colorless liquid. Flash point of 185Â°F. Denser than water and insoluble in water. Hence sinks in water. Corrosive to metals and tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1927.0	207.0	662.0	358.0	205.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as nitrogen oxides and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
4249	DICHLOROMETHOTREXATE	AMETHOPTERIN, 3',5'-DICHLORO-|4-AMINO-10-METHYL-3',5'-DICHLOROPTEROYLGLUTAMIC ACID|3',5'-DICHLORO-4-AMINO-4-DEOXY-N(SUP 10)-METHYLPTEROGLUTAMIC ACID|3',5'-DICHLOROAMETHOPTERIN|DICHLOROMETHOTREXATE|3',5'-DICHLOROMETHOTREXATE|3,5-DICHLOROMETHOTREXATE|GLUTAMIC ACID, N-[3,5-DICHLORO-4-[[(2,4-DIAMINO-6-PTERIDINYL)METHYL]METHYLAMINO]BENZOYL]-|GLUTAMIC ACID, N-[3,5-DICHLORO-4-[[(2,4-DIAMINO-6-PTERIDINYL)METHYL]METHYLAMINO]BENZOYL]-, L-|METHOTREXATE, DICHLORO-|N-(3,5-DICHLORO-4-(((2,4-DIAMINO-6-PTERIDINYL)METHYL)MET	528-74-5	PHYSICAL DESCRIPTION: Light yellow or yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1928.0	207.0	662.0	358.0	205.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4250	DICHLOROPENTAFLUOROPROPANE	DICHLOROPENTAFLUOROPROPANE	127564-92-5	Colorless odorless liquid. Nonflammable.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1928.0	207.0	663.0	358.0	205.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4246	DICHLORODIFLUOROETHYLENE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes slowly in water to form a corrosive solution of HCl.	METHYLDICHLOROARSINE is a reducing agent. Reacts rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Can ignite on contact with alcohols. Incompatible with acids, alcohols, amines, and aldehydes. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. In one instance, reaction with chlorine rapidly produced gaseous chloromethane, which led to an over pressurization failure [J. Chem. Soc., Dalton Trans., 1976, 1479].	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1556 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4247	DICHLORODIFLUOROMETHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 74% DICHLORODIFLUOROMETHANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]						0																				(NTP, 1992)	(decomposes)		878 to 932
4248	DICHLOROISOPROPYL ETHER	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Very water soluble (NTP, 1992).	METHYLDIETHANOLAMINE is an aminoalcohol. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. This compound may react with oxidizing materials. (NTP, 1992)			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		260														(NTP, 1992)		-6	
4249	DICHLOROMETHOTREXATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	A thiophosphate ester. Organothiophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4250	DICHLOROPENTAFLUOROPROPANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Water soluble. Gives a blue solution in water.	METHYLENE BLUE TRIHYDRATE is incompatible with strong oxidizing agents, caustics, alkali metal iodides and reducing agents. Also incompatible with dichromates. It forms double salts with many inorganic salts. Is bleached reversibly by (zinc + hydrochloric acid) or sodium hydrosulfite. In aqueous solution, this chemical is decolorized by zinc dust and dilute sulfuric acid, but the color is restored upon exposure to air and more rapidly upon addition of ammonium hydroxide. (NTP, 1992)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4246	DICHLORODIFLUOROETHYLENE																											160.86														Poison Inhalation Hazard	CH3AsCl2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4247	DICHLORODIFLUOROMETHANE AND DIFLUOROETHANE AZEOTROPIC MIXTURE WITH APPROXIMATELY 74% DICHLORODIFLUOROMETHANE																										(NTP, 1992)		442.43						(NTP, 1992)		less than 1	mg/mL			C28H14N2O4	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4248	DICHLOROISOPROPYL ETHER	(NTP, 1992)			less than 0.01	68		mm Hg							(USCG, 1999)		1.0377		68		(NTP, 1992)		477		760		(NTP, 1992)		119.19						(NTP, 1992)	Very soluble				MDE		C5H13NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4249	DICHLOROMETHOTREXATE																																								Poison	C4H10NO3PS		0.0	0.0	0.0	0.0	0.0
4250	DICHLOROPENTAFLUOROPROPANE																										(NTP, 1992)		373.9						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C16H18N3S.Cl.3H2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4251	DICHLOROPENTANE	DICHLOROPENTANE|DICHLOROPENTANES	30586-10-8	Clear colorless to yellow liquid. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air. Used as a solvent for oil, greases, rubber resins, for degreasing metals and as an insecticide and soil fumigant.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1928.0	207.0	663.0	360.0	205.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4252	DICHLOROPHENYL ISOCYANATES	DICHLOROPHENYL ISOCYANATES|DICHLOROPHENYLISOCYANATE	594-72-9	Colorless to yellow crystalline solids with an irritating odor. A mixture of isomers. Highly irritating to skin, eyes and mucous membranes. Toxic if swallowed. Used as a chemical intermediate.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1929.0	207.0	664.0	360.0	205.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4253	DICHLOROPROPANE - DICHLOROPROPENE (MIXTURE)	D-D SOIL FUMIGANT|DICHLOROPROPANE - DICHLOROPROPENE (MIXTURE)|1,3-DICHLOROPROPENE AND 1,2 DICHLOROPROPANE|DICHLOROPROPENE, DICHLOROPROPANE MIXTURE|DOWFUMEN|FUMIGANT 93|TELONE|VIDDEN D	8003-19-8	Straw to amber liquid with a pungent, garlic-like odor. Sinks and slowly mixes with water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1929.0	208.0	665.0	362.0	205.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4254	DIDYMIUM NITRATE	DIDYMIUM NITRATE	134191-62-1	A solid. Partially soluble in water and denser than water. Promotes and supports combustion of organic materials. It is a mixture of praseodymium nitrate and neodymium nitrate.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1929.0	208.0	665.0	362.0	205.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
4255	DIETHYL DIBUTYLPHOSPHORAMIDATE	DIETHYL DIBUTYLPHOSPHORAMIDATE|DIETHYL N,N-DIBUTYLPHOSPHORAMIDATE|N,N-DIBUTYLPHOSPHORAMIDIC ACID DIETHYL ESTER|PHOSPHORAMIDIC ACID, DIBUTYL-, DIETHYL ESTER|PHOSPHORAMIDIC ACID, N,N-DIBUTYL-, DIETHYL ESTER	67828-17-5	PHYSICAL DESCRIPTION: Brown liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1930.0	208.0	666.0	362.0	205.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4251	DICHLOROPENTANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	May be sensitive to prolonged exposure to air. Decomposes in water (not vigorously) and more rapidly in boiling water.	METHYLENEBIS(THIOCYANATE) reacts vigorously with strong bases and strong oxidizing agents such as hydrogen peroxide. Hydrolyzes slowly with water at boiling temperatures and reacts slowly and exothermically with aqueous acids (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																					(NTP, 1992)			221 to 225
4252	DICHLOROPHENYL ISOCYANATES	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water	DICHLOROPROPANE is incompatible with strong oxidizers, strong acids, active metals (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NIOSH, 2003)		60		(NIOSH, 2003)		3.4		%	(NIOSH, 2003)		14.5		%					(NIOSH, 2003)		-149	
4253	DICHLOROPROPANE - DICHLOROPROPENE (MIXTURE)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Viton North F-091 0.41 mm 480 min Neoprene Edmont 29-870 0.51 mm 135 min Latex Ansell 5.109 0.18 mm 15 min (NTP, 1992)	Insoluble in water.	METHYLEUGENOL is incompatible with strong oxidizers (NTP, 1992). May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1		(NTP, 1992)		210														(NTP, 1992)		25	
4254	DIDYMIUM NITRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, dampen the solid spill material with 5% ammonium hydroxide, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% ammonium hydroxide to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% ammonium hydroxide followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A weak acid and a diazo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.					0																				(NTP, 1992)	(effervescence)		496 to 498
4255	DIETHYL DIBUTYLPHOSPHORAMIDATE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Partially soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164].	METHYL TETRAHYDROFURAN reacts violently with oxidants, causing fire and explosion hazards [Handling Chemicals Safely 1980. p. 891].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4251	DICHLOROPENTANE																										(NTP, 1992)		130.19						(NTP, 1992)	Decomposes					Poison	C3H2N2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4252	DICHLOROPHENYL ISOCYANATES	(NIOSH, 2003)		40				mm Hg							(NIOSH, 2003)		1.16				(NIOSH, 2003)		206		760		(NIOSH, 2003)		113		(NIOSH, 2003)	; A potential human carcinogen.	400	ppm	(NIOSH, 2003)		0.3		%		Flammable Liquid	C3H6Cl2		0.0	0.0	0.0	0.0	0.0
4253	DICHLOROPROPANE - DICHLOROPROPENE (MIXTURE)	(NTP, 1992)	; 1 mm Hg at 185.0Â° F	0.02		68		mm Hg	(NTP, 1992)			greater than 1.0			(NTP, 1992)		1.0396		68		(NTP, 1992)		490.5		760		(NTP, 1992)		178.23						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C11H14O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4254	DIDYMIUM NITRATE																				(NTP, 1992)		222.25												(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C4H6N4O3S2		0.0	0.0	0.0	0.0	0.0
4255	DIETHYL DIBUTYLPHOSPHORAMIDATE																																								Flammable Liquid	C5H10O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4256	DIETHYL PEROXYDICARBONATE	DIETHYL PEROXYDICARBONATE|DIETHYL PEROXYDICARBONATE, [<= 27% IN SOLUTION]|DIETHYL PEROXYDIFORMATE|ETHYL PEROXYCARBONATE	14666-78-5	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported in a solvent slurry, water, alcohol, etc.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1931.0	208.0	667.0	362.0	205.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4257	DIETHYLARSINE	DIETHYLARSINE	692-42-2	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1931.0	208.0	668.0	362.0	205.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4258	DIETHYLBUTYLAMINE	BUTYLAMINE, N,N-DIETHYL-|DIETHYL-N-BUTYLAMINE|DIETHYLBUTYLAMINE|ETHANAMINE, N-BUTYL-N-ETHYL-|N,N-DIETHYLBUTYLAMINE|N-BUTYL-N,N-DIETHYLAMINE	4444-68-2	PHYSICAL DESCRIPTION: Light yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1932.0	208.0	668.0	362.0	205.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4259	DIETHYLDIISOCYANATOBENZENE	DIETHYLDIISOCYANATOBENZENE	134190-37-7		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1932.0	208.0	668.0	362.0	205.0	(BLOB)	FLAMMABLE. POISONOUS GASES ARE PRODUCED IN FIRE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. Toxic and irritating gases may be generated. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4260	DIETHYLENE GLYCOL METHYL ETHER ACETATE	DIETHYLENE GLYCOL METHYL ETHER ACETATE|METHYL CARBITOL ACETATE	629-38-9	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1932.0	208.0	668.0	362.0	206.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4256	DIETHYL PEROXYDICARBONATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		187														(NTP, 1992)		-105	
4257	DIETHYLARSINE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	An aqueous solution. Dilution can generate heat.	(BLOB)		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NFPA, 2010)		103																		
4258	DIETHYLBUTYLAMINE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Water Miscible (NIOSH, 1997).	MEVINPHOS is stable under normal laboratory conditions. This chemical is extremely stable in neutral and aqueous acidic media but rapidly hydrolyzes in alkaline media. It is corrosive to cast iron and some stainless steel and brass; passes slowly through films of polythene; incompatible with strong oxidizers (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		347														(NIOSH, 2003)	(trans-), 70Â° F (cis-)	44	
4259	DIETHYLDIISOCYANATOBENZENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	1,3-DICHLOROPROPENE reacts vigorously with oxidizing materials. Reacts with aluminum, active metals, and halogenated compounds. Also reacts with acids and thiocyanates. Corrosive to magnesium, magnesium alloys and aluminum alloys. Incompatible with some metal salts (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		95	(NTP, 1992)		5.3		%	(NTP, 1992)		14.5		%					(NTP, 1992)		-119	
4260	DIETHYLENE GLYCOL METHYL ETHER ACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. You should protect this compound from exposure to light. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Thermal stability of this compound is reduced by various impurities. This compound may be sensitive to prolonged exposure to light. This compound may react explosively with ethylene oxide at 266Â° F. It is incompatible with acids (nitric, sulfuric), acid chlorides, acid anhydrides, chloroformates and strong oxidizing agents. (NTP, 1992). Unstable when heated.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for nitroanilines, CAS number 100-01-6.	3	1	2	3																		(NTP, 1992)		237	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4256	DIETHYL PEROXYDICARBONATE														(NTP, 1992)		0.8536		68		(NTP, 1992)		381		760		(NTP, 1992)		310.69						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Combustible Liquid	C10H30O3Si4		0.0	0.0	0.0	0.0	0.0
4257	DIETHYLARSINE																													(NIOSH, 2003)		50	ppm							Corrosive|Flammable Liquid	C2H4O2, aqueous		0.0	0.0	0.0	0.0	0.0
4258	DIETHYLBUTYLAMINE	(NIOSH, 2003)		0.003				mm Hg							(NIOSH, 2003)		1.25				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)		224.2		(NIOSH, 2003)		4	ppm	(NIOSH, 2003)	Miscible					Poison	C7H13O6P	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4259	DIETHYLDIISOCYANATOBENZENE	(NTP, 1992)	; 28 mm Hg at 77Â° F	27.9		68		mm Hg	(NTP, 1992)		3.83				(USCG, 1999)		1.2		68		(NTP, 1992)		219		760		(NTP, 1992)		110.97		(NIOSH, 2003)	A potential human carcinogen.			(NTP, 1992)	at 61.7Â° F		less than 0.1	mg/mL	DPU	Flammable Liquid	C3H4Cl2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4260	DIETHYLENE GLYCOL METHYL ETHER ACETATE	(NTP, 1992)	; 760 mm Hg at 582.3Â° F	1		246.7		mm Hg							(NTP, 1992)		0.9011		77		(NTP, 1992)	(decomposes)		581 to 585	760		(NTP, 1992)		138.13						(NTP, 1992)	at 72.5Â° F		less than 1	mg/mL		Poison	C6H6N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4261	DIETHYL-P-TERPHENYL-P,P'-CARBOXYLATE	DIETHYL P-TERPHENYL-4,4"-DICARBOXYLATE|DIETHYL-P-TERPHENYL-P,P'-CARBOXYLATE|(1,1':4',1"-TERPHENYL)-4,4"-DICARBOXYLIC ACID, DIETHYL ESTER	37527-56-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1932.0	208.0	668.0	362.0	206.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4262	DIETHYLSTILBESTROL DIPROPIONATE	(BLOB)	130-80-3	PHYSICAL DESCRIPTION: Colorless crystals or white crystalline fluffy powder. Odorless. Tasteless. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1933.0	208.0	668.0	362.0	206.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4263	DIETHYLTHIOPHOSPHORYL CHLORIDE, [LIQUID]	(CHLORODIETHOXY)PHOSPHINE SULFIDE|DIETHOXYTHIOPHOSPHORYL CHLORIDE|DIETHYL CHLOROTHIOPHOSPHATE|DIETHYL PHOSPHOROCHLORIDOTHIOATE|DIETHYL PHOSPHOROCHLOROTHIOATE|DIETHYL PHOSPHOROTHIOCHLORIDATE|DIETHYL PHOSPHOROTHIONOCHLORIDATE|DIETHYL THIOPHOSPHORYL CHLORIDE|DIETHYLTHIOPHOSPHORYL CHLORIDE|DIETHYLTHIOPHOSPHORYL CHLORIDE, [LIQUID]|ETHYL PHOSPHOROCHLORIDOTHIOATE ((ETO)2CLPS)|O,O-DIETHYL CHLORIDOPHOSPHOROTHIOATE|O,O-DIETHYL CHLORIDOTHIONOPHOSPHATE|O,O-DIETHYL CHLOROPHOSPHOROTHIOA	3711-51-1	A colorless to light amber liquid with a disagreeable odor. Insoluble in water but soluble in most organic solvents. May be highly toxic and irritating to the eyes and lungs. Used as an intermediate for pesticides, as an oil and gasoline additive, and as a flame retardant.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1933.0	208.0	668.0	362.0	206.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4264	DIHYDROUREA	DIHYDROUREA|DIHYDROXYUREA|1,3-DIHYDROXYUREA|N,N'-DIHYDROXYUREA|UREA, 1,3 DIHYDROXY-	686-68-0	PHYSICAL DESCRIPTION: Colorless prisms. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1933.0	208.0	668.0	362.0	206.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4265	DIISOTRIDECYL PEROXYDICARBONATE	DIISOTRIDECYL PEROXYDICARBONATE|DIISOTRIDECYL PEROXYDICARBONATE, [TECHNICALLY PURE]	82065-80-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1933.0	208.0	668.0	362.0	206.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4261	DIETHYL-P-TERPHENYL-P,P'-CARBOXYLATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under freezer conditions, and keep it away from all oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	Organosulfides, such as 1,3-DIMERCAPTOPROPANE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. This compound may react with oxidizers, bases, reducing agents and alkali metals. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		138																(NTP, 1992)		-110	
		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)																														
4262	DIETHYLSTILBESTROL DIPROPIONATE			Highly flammable. Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive; halogenated aliphatic compounds are moderately or very reactive. Both subgroups generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.	Highly Flammable	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4263	DIETHYLTHIOPHOSPHORYL CHLORIDE, [LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Very hygroscopic. Water soluble.	Sensitive to hydrolysis, oxidation and heat. Incompatible with strong oxidizing agents. (NTP, 1992). [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4264	DIHYDROUREA	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,3-DIMETHYL-2-NITROBENZENE is incompatible with strong oxidizers and strong bases.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		190																(NTP, 1992)		57 to 61	
4265	DIISOTRIDECYL PEROXYDICARBONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,3-DIMETHYL-4-NITROBENZENE is incompatible with strong oxidizing agents and strong bases (NTP, 1992).		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		225																(NTP, 1992)		36	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4261	DIETHYL-P-TERPHENYL-P,P'-CARBOXYLATE	(NTP, 1992)	: 22.8 mm Hg at 77Â° F; 34.6 mm Hg at 108Â° F	16.3		28		mm Hg							(NTP, 1992)		1.0722		68		(NTP, 1992)		336		760		(NTP, 1992)		108.23						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Liquid	C3H8S2		0.0	0.0	0.0	0.0	0.0
4262	DIETHYLSTILBESTROL DIPROPIONATE																																								Poison	C7H6Cl2		0.0	0.0	0.0	0.0	0.0
4263	DIETHYLTHIOPHOSPHORYL CHLORIDE, [LIQUID]																										(NTP, 1992)		923.06						(NTP, 1992)	at 75Â° F		greater than or equal to 10	mg/mL		Poison	C46H56N4O10.H2O4S	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4264	DIHYDROUREA	(NTP, 1992)		28.4		100		mm Hg							(NTP, 1992)		1.112		59		(NTP, 1992)		437		744		(NTP, 1992)		151.16						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4265	DIISOTRIDECYL PEROXYDICARBONATE	(NTP, 1992)	: 760 mm Hg at 471.2Â° F	1		150.1		mm Hg							(NTP, 1992)		1.135		59		(NTP, 1992)			459 to 462	760		(NTP, 1992)		151.16						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C8H9NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4266	DIMEFOX	BFP|BFPO|BIS(DIMETHYLAMIDO)FLUOROPHOSPHATE|BIS(DIMETHYLAMIDO)FLUOROPHOSPHINE OXIDE|BIS(DIMETHYLAMIDO)PHOSPHORYL FLUORIDE|BIS(DIMETHYLAMINO)FLUOROPHOSPHATE|BISDIMETHYLAMINOFLUOROPHOSPHINE OXIDE|CR 409|DIFO|DIMEFOX|DMF|FLUOPHOSPHORIC ACID DI(DIMETHYLAMIDE)|HANANE|N,N,N',N'-TETRAMETHYLPHOSPHORODIAMIDIC FLUORIDE|N,N,N',N'-TETRAMETHYLPHOSPHORODIAMIDIC FLUORIDE|PESTOX 14|PESTOX IV|PESTOX XIV|PHOSPHINE OXIDE, BIS(DIMETHYLAMINO)FLUORO-|PHOSPHORODIAMIDIC FLUORIDE, TETRAMETHYL-|S-14|T-2002|TERRA-SYTAM|TERRASYTUM|TETRAMETHYLDIAMIDOPHOSPHORIC	115-26-4	Colorless liquid with a fishy odor. Used as an insecticide; is neither produced nor used in the U.S. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1934.0	209.0	668.0	362.0	207.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4267	DIMETHIPIN	2,3,-DIHYDRO-5,6-DIMETHYL-1,4-DITHIIN 1,1,4,4-TETRAOXIDE|DIMETHIPIN	55290-64-7	Colorless crystals with a mild odor. Used as a defoliant.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1934.0	209.0	668.0	362.0	207.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4268	DIMETHYL ACID PYROPHOSPHATE	DIMETHYL ACID PYROPHOSPHATE	68155-93-1	A liquid. Noncombustible. May severely irritate skin, eyes and mucous membranes. Avoid contact.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1934.0	210.0	668.0	363.0	207.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4269	DIMETHYL DITALLOW AMMONIUM CHLORIDE	ADOGEN 470|ADOGEN 470 DE|ADOGEN 470DE|ARMOSOFT M|ARMOSOFT WA 101|ARQUAD 2T|ARQUAD 2T75|DIMETHYL DITALLOW AMMONIUM CHLORIDE|DIMETHYLDITALLOW ALKYLAMMONIUM CHLORIDES|DITALLOW DIMETHYL AMMONIUM CHLORIDE|NISSAN CATION 2ABT|PRAPAGEN S 3445|QUATERNARY AMMONIUM COMPOUNDS, DIMETHYLDITALLOW ALKYL CHLORIDES|QUATERNIUM 48|QUATERNIUM-48	68783-78-8	PHYSICAL DESCRIPTION: Viscous amber liquid with some cloudiness to off-white paste. Typical fatty odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1934.0	210.0	668.0	363.0	207.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4270	DIMETHYL HYDROGEN PHOSPHITE	DIMETHOXYPHOSPHINE OXIDE|DIMETHYL ACID PHOSPHITE|DIMETHYL HYDROGEN PHOSPHITE|DIMETHYL HYDROGEN PHOSPHONATE|DIMETHYL PHOSPHITE|DIMETHYL PHOSPHONATE|DIMETHYLHYDROGEN PHOSPHITE|DIMETHYLHYDROGENPHOSPHITE|DIMETHYL.PHOSPHONATE|HYDROGEN DIMETHYL PHOSPHITE|METHYL PHOSPHONATE ((MEO)2HPO)|NCI-C54773|PHOSPHONIC ACID, DIMETHYL ESTER	96-36-6	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1934.0	210.0	668.0	363.0	207.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4266	DIMEFOX	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	M-XYLENE-ALPHA,ALPHA'-DIAMINE is combustible (Flash point 139Â°C). Incompatible with acids, acid chlorides, acid anhydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NIOSH, 2003)		243													(NIOSH, 2003)		58	
4267	DIMETHIPIN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water insoluble.	Organic amides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx). Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		325													(NTP, 1992)		187	
4268	DIMETHYL ACID PYROPHOSPHATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material at ambient temperatures and protect from moisture. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound is an alkylating agent which hydrolyzes in water. (NTP, 1992).	MYLERAN is an alkylating agent which hydrolyzes in water. (NTP, 1992). Strong reducers may yield hydrogen sulfide.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																	(NTP, 1992)		237 to 244	
4269	DIMETHYL DITALLOW AMMONIUM CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated organosulfide and amide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																	(NTP, 1992)		549.5 to 562.1	
4270	DIMETHYL HYDROGEN PHOSPHITE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to air and heat. (NTP, 1992). Insoluble in water.	N,N,N',N'-TETRAMETHYL-P-PHENYLENEDIAMINE can burn in air to give toxic NOx gases (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		greater than 235													(NTP, 1992)		120 to 124	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4266	DIMEFOX	(NIOSH, 2003)		0.03		77		mm Hg							(NIOSH, 2003)		1.032				(NIOSH, 2003)		477		760		(NIOSH, 2003)		136.2						(NIOSH, 2003)	Miscible					Corrosive	C6H4(CH2NH2)2		0.0	0.0	0.0	0.0	0.0
4267	DIMETHIPIN	(NTP, 1992)		0.01		68		mm Hg							(NTP, 1992)		1.26		68		(NTP, 1992)	Decomposes					(NTP, 1992)		177.21						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C10H11NO2		0.0	0.0	0.0	0.0	0.0
4268	DIMETHYL ACID PYROPHOSPHATE																				(NTP, 1992)						(NTP, 1992)		246.32						(NTP, 1992)	Decomposes					Poison	C6H14O6S2		0.0	0.0	0.0	0.0	0.0
4269	DIMETHYL DITALLOW AMMONIUM CHLORIDE																										(NTP, 1992)		239.22						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C8H5N3O4S	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4270	DIMETHYL HYDROGEN PHOSPHITE																				(NTP, 1992)		500		760		(NTP, 1992)		164.25						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C10H16N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4271	DIMETHYL MORPHOLINOPHOSPHORAMIDATE	DIMETHYL 4-MORPHOLINYLPHOSPHONATE|DIMETHYL MORPHOLINOPHOSPHONATE|DIMETHYL MORPHOLINOPHOSPHORAMIDATE|DIMETHYLMORPHOLINOPHOSPHONATE|DMMPA|HC 1717|MORPHOLINOPHOSPHONIC ACID DIMETHYL ESTER|4-MORPHOLINYLPHOSPHONIC ACID DIMETHYL ESTER|NCI-C54740|PHOSPHONIC ACID, MORPHOLINO-, DIMETHYL ESTER	597-25-1	PHYSICAL DESCRIPTION: Clear colorless slightly viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1935.0	210.0	668.0	363.0	207.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4272	DIMETHYLAMINE DICAMBA	DIMETHYLAMINE DICAMBA	2300-66-5	Colorless to white crystalline powder. Mildly corrosive. Used as an herbicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1935.0	210.0	668.0	363.0	207.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Rapidly hydrolyzes in acid or alkali. Keep away from heat and open flame. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4273	DIMETHYLDIOXANES	DIMETHYL-1,4-DIOXANE|DIMETHYLDIOXANE|DIMETHYLDIOXANES|P-DIOXANE, DIMETHYL-	25136-55-4	A water-white liquid. Less dense than water. Vapors are heavier than air. May severely irritate skin and eyes.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1935.0	210.0	668.0	363.0	207.0	(BLOB)	Special Hazards of Combustion Products: Vapors are irritating (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4274	DIMETHYLVINYL CHLORIDE	ALPHA-CHLOROISOBUTYLENE|BETA,BETA-DIMETHYLVINYL CHLORIDE|1-CHLORO-2-METHYL-1-PROPENE|1-CHLORO-2-METHYLPROPENE|1-CHLOROISOBUTENE|DIMETHYLVINYL CHLORIDE|2,2-DIMETHYLVINYL CHLORIDE|ISOCROTYL CHLORIDE|2-METHYL-1-CHLOROPROPENE|2-METHYL-1-PROPENYL CHLORIDE|NCI-C54819|PROPENE, 1-CHLORO-2-METHYL-	513-37-1	PHYSICAL DESCRIPTION: Clear dark yellow to pale orange liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1936.0	210.0	668.0	363.0	207.0	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4275	DIMETILAN	CARBAMIC ACID, DIMETHYL-, 1-((DIMETHYLAMINO)CARBONYL)-5-METHYL-1H-PYRAZOL-3-YL ESTER|CARBAMIC ACID, DIMETHYL-, 1-DIMETHYLCARBAMOYL-5-METHYLPYRAZOL-3-YL ESTER|CARBAMIC ACID, DIMETHYL-, ESTER WITH 3-HYDROXY-N,N,5-TRIMETHYLPYRAZOLE-1-CARBOXAMIDE|CARBAMIC ACID, DIMETHYL-, ESTER WITH 3-HYDROXY-N,N,5-TRIMETHYLPYRAZOLE-1-CARBOXAMIDE|DIMETHYL 2-CARBAMYL-3-METHYLPYRAZOLYLDIMETHYLCARBAMATE|DIMETHYLCARBAMIC ACID 1-[(DIMETHYLAMINO)CARBONYL]-5-METHYL-1H-PYRAZOL-3-YL ESTER|DIMETHYLCARBAMIC ACID ESTER WITH 3-HYDROXY-N,N,5-TRIMETHYLPYRAZOLE-1-	644-64-4	Colorless solid. The technical product is a yellow to reddish-brown solid. Used as an insecticide for insect control on livestock, especially housefly control. It is no longer produced commercially in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1937.0	210.0	668.0	363.0	207.0	(BLOB)	Too dangerous to health to expose fire fighters; a few whiffs of vapor could cause death; vapor or liquid could be fatal on penetrating normal protective clothing. Vapor forms explosive mixture with air. Decomposes when heated to 248F or at lower temperature under alkaline conditions, emitting highly toxic hydrogen cyanide. May react violently with water. Contact with sulfuric acid may cause it to explode. (EPA, 1998)	Wear air-supplied mask with canister approved for use with acrylonitrile in less than 2 percent concentration, rubber or plastic gloves, cover goggles or face mask, rubber boots, slicker suit, safety helmet. Water may cause frothing if it gets below surface of liquid and turns to steam. Water fog gently applied to surface will cause frothing which will extinguish fire. Use water spray, dry chemical, alcohol foam, or carbon dioxide. Use water to keep fire-exposed containers cool, from a safe distance. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4271	DIMETHYL MORPHOLINOPHOSPHORAMIDATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	N,N-BUTYL IMIDAZOLE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4272	DIMETHYLAMINE DICAMBA	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. (EPA, 1998)	(BLOB)	Water soluble.	Organophosphates, such as DICROTOPHOS, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides. This compound is incompatible with the following: Metals [Note: Corrosive to cast iron, mild steel, brass & stainless steel.] (NIOSH, 1997).		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	Above 175F																						
4273	DIMETHYLDIOXANES	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Water soluble.	N,N-DIMETHYLFORMAMIDE may react violently with a broad range of chemicals, e.g.: alkaline metals (sodium, potassium), azides, hydrides (sodium borohydride, lithium aluminum hydride), bromine, chlorine, carbon tetrachloride, hexachlorocyclohexane, phosphorus pentaoxide, triethylaluminum, magnesium nitrate, organic nitrates. Forms explosive mixtures with lithium azide [Bretherick, 5th ed., 1995, p. 453]. Oxidation by chromium trioxide or potassium permanganate may lead to explosion [Pal B. C. et al., Chem. Eng. News, 1981, 59, p. 47].		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		153		(NTP, 1992)	at 212Â° F	2.2		%	(NTP, 1992)	at 212Â° F	15.2		%	(USCG, 1999)		833		(NTP, 1992)		-78	
4274	DIMETHYLVINYL CHLORIDE	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. May be ignited by heat, sparks or flames.	Highly Flammable	Excerpt from GUIDE 149 [Substances (Self-Reactive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4275	DIMETILAN	(BLOB)	(BLOB)	Soluble in water. May decompose on contact with water to form acetone and poisonous hydrogen cyanide. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Cyanide gas will be created in 12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DHS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ACETONE CYANOHYDRIN readily decomposes to acetone and poisonous hydrogen cyanide gas on contact with water, acids (sulfuric acid) or when exposed to heat. Should be kept cool and slightly acidic (pH 4-5) [Sax, 2nd ed., 1965, p. 388]. Slowly dissociates to acetone, a flammable liquid, and hydrogen cyanide, a flammable poisonous gas, under normal storage and transportation conditions. Rate of dissociation increased by contact with alkalis and/or heat.	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1541 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	2	4		(EPA, 1998)		165		(EPA, 1998)		2.2		%	(EPA, 1998)		12		%	(USCG, 1999)		1270		(EPA, 1998)		-2.2	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4271	DIMETHYL MORPHOLINOPHOSPHORAMIDATE																																								Poison	C7H12N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4272	DIMETHYLAMINE DICAMBA	(EPA, 1998)		1.00E-05		68		mm Hg							(EPA, 1998)		1.216		59		(EPA, 1998)		752		760		(EPA, 1998)		237.21						(NIOSH, 2003)	Miscible					Poison|Flammable Liquid	C8H16NO5P	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4273	DIMETHYLDIOXANES	(NTP, 1992)	; 2.7 mm Hg at 68Â° F	3.7		77		mm Hg	(NTP, 1992)		2.51				(USCG, 1999)		0.95		68		(NTP, 1992)			300 to 313	760		(NTP, 1992)		73.09		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL	DMF	Flammable Liquid	C3H7NO		0.0	0.0	0.0	0.0	0.0
4274	DIMETHYLVINYL CHLORIDE																																							Flammable Solid	C10H10N4O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4275	DIMETILAN	(EPA, 1998)		0.8		68		mm Hg	(EPA, 1998)		2.93				(EPA, 1998)		0.9267		77		(EPA, 1998)		180		23		(EPA, 1998)		85.1						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	ACY	Poison Inhalation Hazard	C4H7NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4276	DINITROANILINE	ANILINE, DINITRO-|DINITROANILINE|DINITROANILINES	26471-56-7	A yellow colored needle-like solid. Insoluble in water and denser than water. Toxic by ingestion and inhalation. May irritate skin and eyes. Used to make dyes and ink.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1937.0	210.0	668.0	363.0	207.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated Behavior in Fire: Vapor heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4277	DINITROGLYCOLURIL <OR> DINGU	DINITROGLYCOLURIL <OR> DINGU	55510-04-8	A solid or liquid substance. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1938.0	210.0	669.0	363.0	207.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4278	DINITROPHENOLATES, WETTED WITH NOT LESS THAN 15% WATER	DINITROPHENOLATE|DINITROPHENOLATE, [WET, WITH >= 15% WATER]|DINITROPHENOLATES, WETTED WITH NOT LESS THAN 15% WATER	74893-76-8	A white to light-colored crystalline solid. Insoluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1938.0	210.0	669.0	363.0	207.0	(BLOB)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4279	DINITRORESORCINOL, WETTED WITH NOT LESS THAN 15% WATER	2,4-DINITRORESORCIN|DINITRORESORCINOL|DINITRORESORCINOL, WETTED WITH NOT LESS THAN 15% WATER|DINITRORESORCINOL, [WET, WITH >= 15% WATER]|2,4-DINITRORESORCINOL|3-HYDROXY-2,4-DINITROPHENOL|RESORCINOL, 2,4-DINITRO-	35860-51-6	A white to light-colored crystalline solid. Denser than water and insoluble in water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1938.0	210.0	669.0	363.0	207.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. Vapor may explode if ignited in an enclosed area. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4280	DINITROSOBENZENE	DINITROSOBENZENE	25550-55-4	A yellow crystalline solid. Soluble in benzene. Toxic by inhalation and ingestion skin absorption. A strong irritant. Primary hazard is fire with a minor blast or projection hazard, but not a mass explosion hazard. May explode under prolonged exposure to heat or fire.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1938.0	210.0	669.0	363.0	207.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4276	DINITROANILINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	ACETONITRILE decomposes when heated to produce deadly toxic hydrogen cyanide gas and oxides of nitrogen. Strongly reactive [Hawley]. May react vigorously with strong oxidizing reagents, sulfuric acid, chlorosulfonic acid, sulfur trioxide, perchlorates, nitrating reagents, and nitric acid. [Sax, 9th ed., 1996, p. 20]. Potentially explosive in contact with nitrogen-fluorine compounds (e.g., tetrafluorourea) [Fraser, G. W. et al., Chem. Comm., 1966, p. 532].	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		42		(NTP, 1992)		4.4		%	(NTP, 1992)		16		%	(USCG, 1999)		975		(NTP, 1992)		-49	
4277	DINITROGLYCOLURIL <OR> DINGU	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	Organosulfides, such as TETRAHYDROTHIOPHENE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Slow addition of hydrogen peroxide to the thiophene resulted in explosions on three occasions, Chem. Eng. News, 1974, 52(39), 3.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4278	DINITROPHENOLATES, WETTED WITH NOT LESS THAN 15% WATER	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. This chemical may be sensitive to prolonged exposure to air. (NTP, 1992). Insoluble in water.	An oxidizing agent but can serve as a reducing agent. If mixed with reducing agents, including hydrides, sulfides and nitrides, may begin a vigorous reaction that culminates in a detonation.	Highly Flammable; Strong Oxidizing Agent	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4279	DINITRORESORCINOL, WETTED WITH NOT LESS THAN 15% WATER	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	DICYCLOPENTADIENE may react vigorously with oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. Can undergo exothermic polymierization reactions In the presence of various catalysts (such as acids) or initiators, if subjected to heat for prolonged periods, or if contaminated. Many undergo autoxidation upon exposure to the air to form explosive peroxides.	Highly Flammable; Polymerizable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	1	4		(NTP, 1992)		90		(USCG, 1999)		0.8		%	(USCG, 1999)		6.3		%	(USCG, 1999)		941		(NTP, 1992)		92.5	
4280	DINITROSOBENZENE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as DIDECANOYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4276	DINITROANILINE	(NTP, 1992)		73		68		mm Hg	(NTP, 1992)		1.42				(USCG, 1999)		0.787		68		(NTP, 1992)		178.9		760		(NTP, 1992)		41.05		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 72.5Â° F		greater than or equal to 100	mg/mL	ATN	Flammable Liquid	CH3CN		0.0	0.0	0.0	0.0	0.0
4277	DINITROGLYCOLURIL <OR> DINGU																																								Flammable Liquid	C4H8S		0.0	0.0	0.0	0.0	0.0
4278	DINITROPHENOLATES, WETTED WITH NOT LESS THAN 15% WATER																										(NTP, 1992)		244.33						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL		Flammable Solid	C12H24N.NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4279	DINITRORESORCINOL, WETTED WITH NOT LESS THAN 15% WATER	(NTP, 1992)		10		117.7		mm Hg	(NTP, 1992)		4.55				(USCG, 1999)		0.978		68		(NTP, 1992)		342		760		(NTP, 1992)		132.22						(NTP, 1992)	Insoluble				DPT	Flammable Liquid	C10H12	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4280	DINITROSOBENZENE																																								Organic Peroxide	C20H38O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4281	DINOTERB	2-(1,1-DIMETHYLETHYL)-4,6-DINITROPHENOL|4,6-DINITRO-2-TERT-BUTYLPHENOL|2,4-DINITRO-6-TERT-BUTYLPHENOL|DINOTERB|DINOTERBE|DNTBP|HERBOGIL|HERBOGIL FLUSSIG|PHENOL, 2-(1,1-DIMETHYLETHYL)-4,6-DINITRO-|PHENOL, 2-TERT-BUTYL-4,6-DINITRO-|PHENOL, O-T-BUTYL-4,6-DINITRO-|STIRPAN FORTE|2-TERT-BUTYL-4,6-DINITROPHENOL|VERALINE CREME	1420-07-1	Yellow solid. Used as a herbicide and a rodenticide. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1938.0	210.0	669.0	363.0	207.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4282	DI-N-PROPYL PEROXYDICARBONATE	DI-N-PROPYL PEROXYDICARBONATE|DI-N-PROPYL PEROXYDICARBONATE, [TECHNICALLY PURE]|DIPROPYL PEROXYDICARBONATE|LUPERSOL 221	16066-38-9	This liquid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1939.0	210.0	669.0	363.0	207.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4283	DIOCTYL ACID PYROPHOSPHATE	DIOCTYL ACID PYROPHOSPHATE	1506-38-3	A liquid. May severely irritate skin, eyes, and mucous membranes.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1940.0	210.0	670.0	363.0	207.0	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4284	DIPHENAMID	DIPHENAMID	957-51-7	Colorless to off-white crystals. Used as an herbicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1940.0	210.0	670.0	363.0	207.0	(BLOB)	Special Hazards of Combustion Products: When heated to decomposition, hydrogen chloride and phosgene, extremely poisonous gases, are evolved. Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4285	DIPHENYLAMINE CHLOROARSINE	ADAMSIT|ADAMSITE|ADAMSYTE|5-AZA-10-ARSENAANTHRACENE CHLORIDE|10-CHLORO-5,10-DIHYDROARSACRIDINE|10-CHLORO-5,10-DIHYDROPHENARSAZINE|5-CHLORO-5,10-DIHYDROPHENARSAZINE|DIPHENYLAMINE CHLOROARSINE|DIPHENYLAMINECHLORARSINE|DIPHENYLAMINECHLOROARSINE|DM|DM (ARSENIC COMPOUND)|PHENARSAZINE CHLORIDE	578-94-9	Diphenylamine chloroarsine is in the form of yellow crystals. The vapors are very irritating to the eyes and mucous membranes and are also nauseating.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1941.0	210.0	670.0	363.0	207.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4281	DINOTERB	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as ACETYL ACETONE PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
4282	DI-N-PROPYL PEROXYDICARBONATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	N-AMINOPROPYLMORPHOLINE behaves as an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1																								
4283	DIOCTYL ACID PYROPHOSPHATE	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Soluble in water.	AMYL BUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(NFPA, 2010)		135																		
4284	DIPHENAMID	(BLOB)	Safety goggles; rubber or plastic gloves; self-contained breathing apparatus. (USCG, 1999)	Highly flammable. Fumes in air. Reacts violently with water producing heat and acidic HCl [Merck 11th ed. 1989]. Acetyl chloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.11 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ACETYL CHLORIDE reacts violently with water, steam, methanol or ethanol to form hydrogen chloride and acetic acid. Reacts vigorously with bases, both organic and inorganic. Incompatible with oxidizing agents and alcohols. Produces highly toxic fumes of phosgene gas and chlorine when heated to decomposition [Sax, 9th ed., 1996, p. 35]. Reaction in a confined space with even a small amount of water may cause a violent eruption of gases [Bretherick, 5th ed., 1995, p. 281]. Vapor forms an explosive mixture with air [Kirk-Othmer, 3rd ed., Vol. 1, 1978, p. 162]. Polymerization reaction with dimethyl sulfoxide is particularly violent [Buckley, A., J. Chem. Ed., 1965, 42, p. 674]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1717 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(NTP, 1992)		40								(USCG, 1999)		5		%	(USCG, 1999)		734		(NTP, 1992)		-170	
4285	DIPHENYLAMINE CHLOROARSINE	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in air. Turns brown on exposure to air as it reacts exothermically with moisture in the air to give hydrogen Iodide (hydroiodic acid), a strong irritant. Decomposes in water to give acidic products. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Iodide gas will be created in 0.02 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ACETYL IODIDE decomposes exothermically in water or alcohol. Reacts vigorously and exothermically with bases. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1898 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4281	DINOTERB																																								Organic Peroxide	C10H14O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4282	DI-N-PROPYL PEROXYDICARBONATE																																								Corrosive	C7H16N2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4283	DIOCTYL ACID PYROPHOSPHATE																																								Flammable Liquid	C9H18O2		0.0	0.0	0.0	0.0	0.0
4284	DIPHENAMID	(NTP, 1992)		135		45.5		mm Hg	(NTP, 1992)	2.1 at 100Â° F	2.7				(USCG, 1999)		1.1039		69.8		(NTP, 1992)		123.6		760	(NTP, 1992)		78.5							(NTP, 1992)	Reaction				ACC	Flammable Liquid|Corrosive	C2H3ClO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4285	DIPHENYLAMINE CHLOROARSINE																																								Corrosive	C2H3IO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4286	DIPHENYLCHLOROARSINE	ARSINE, CHLORODIPHENYL- [CHLOROD[PHENYLARSINE] CLARK I|CLARK I|DA|DIPHENYLARSENIC CHLORIDE|DIPHENYLARSINOUS CHLORIDE|DIPHENYLCHLOROARSINE|DIPHENYLCHLOROARSINE, LIQUID|DIPHENYLCHLOROARSINE, SOLID	712-48-1	A colorless crystalline solid, or a dark-brown liquid. Strongly irritating to skin and eyes. Toxic by ingestion and inhalation. Used as a military poison gas.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1942.0	210.0	670.0	363.0	207.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
4287	DIPHENYLCYANOARSINE	DC|DIPHENYLCYANOARSINE	23525-22-6	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1943.0	210.0	670.0	363.0	207.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4288	DIPHENYLHYDRAZINE	DIPHENYLHYDRAZINE|1,1-DIPHENYLHYDRAZINE	530-50-7	Yellow crystals. Insoluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1944.0	210.0	671.0	363.0	207.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4289	DIPICRYL SULFIDE, WETTED WITH NOT LESS THAN 10% WATER	BIS(2,4,6-TRINITROPHENYL) SULFIDE|DIPICRYL SULFIDE|DIPICRYL SULFIDE, WETTED WITH NOT LESS THAN 10% WATER|DIPICRYL SULFIDE, [WET WITH >= 10% WATER]|DIPICRYL SULPHIDE, WETTED WITH NOT LESS THAN 10% WATER|2,2',4,4',6,6'-HEXANITRODIPHENYL SULFIDE|2,4,6,2',4',6'-HEXANITRODIPHENYL SULFIDE|PICRYL SULFIDE|2,4,6-TRINITROPHENYL SULFIDE	2217-06-3	A white to light colored solid. Insoluble in water and more dense than water. Can be explosive if allowed to dry out. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. If exposed to high temperatures or flames may ignite and burn with an intense flame.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1944.0	210.0	672.0	363.0	207.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH,	Behavior in Fire: May explode in fire (USCG, 1999)	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4290	DIPICRYL SULPHIDE, [DRY OR WETTED WITH < 10 % WATER]	DIPICRYL SULFIDE|DIPICRYL SULPHIDE, [DRY OR WETTED WITH < 10 % WATER]|HEXANITRODIPHENYL SULFIDE	28930-30-5	Golden-yellow leaflets. Melting point 234Â°C. Explosive when dry or wetted with less than 10% water. May explode under prolonged exposure to heat. The primary hazard is the blast effect of explosion and not flying projectiles and fragments. Slightly soluble in alcohol and ether and soluble in glacial acetic acid and acetone. Low toxicity.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1944.0	210.0	673.0	363.0	207.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4286	DIPHENYLCHLOROARSINE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. The severity of the pyrophoric reaction depends a great deal on zirconium particle size, with the finely divided material reacting with the most vigor. The initiation of the explosion has been spark and by electrostatic ignition. Zirconium dusts have been known to explode, [NFPA 482M, 1974], covers all aspects of storage and handling of zirconium, there are 43 abstracts of unusual zirconium fire and explosion incidents.	A mixture of powdered ZIRCONIUM and carbon tetrachloride exploded violently when heated, as did an immersion of zirconium sponge in the unheated carbon tetrachloride solvent, [491M, 1975, 446]. The consequences from the affinity of finely divided zirconium with oxygen containing compounds can be anticipated to be hazardous. Explosive reactions with potassium chlorate, potassium nitrate, copper(II) oxide, or lead oxide may be expected as is the case when zirconium is heated with alkali-metal hydroxides (lithium, sodium, potassium). Hydrated sodium borate reacts similarly to other alkali-metal oxosalts (chromates, dichromates, molybdates, sulfates, tungstates), [Mellor, 1941, Vol. 7, 116; Military and Civilian Pyrotechnics, Ellern, 1968, 249].	Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										(NIOSH, 2003)		3375	
4287	DIPHENYLCYANOARSINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	NAPHTHYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
4288	DIPHENYLHYDRAZINE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Slightly soluble in water.	ACETYL METHYL CARBINOL is a ketone and alcohol. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
4289	DIPICRYL SULFIDE, WETTED WITH NOT LESS THAN 10% WATER	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Slightly soluble in water. Reacts with water to form toxic ammonia fumes.	(BLOB)	Highly Flammable	Excerpt from GUIDE 116 [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	4	3	7					(USCG, 1999)		2.5		%	(USCG, 1999)		100		%	(USCG, 1999)		581		(NIOSH, 2003)	(Sublimes)	-119	
4290	DIPICRYL SULPHIDE, [DRY OR WETTED WITH < 10 % WATER]	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water. May be air sensitive.	1,3-DIMETHYLBUTYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		55															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	xylth_source	xylth_note	xylth_value	xylth_unit	xylthly_source	xylthly_note	xylthly_value	xylthly_range	xylthly_unit	chris_codes	doc_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4286	DIPHENYLCHLOROARSINE	(NIOSH, 2003)	(approx)	0				mm Hg								(Mead)	6.51				(NIOSH, 2003)		6471		760		(NIOSH, 2003)		91.2		(NIOSH, 2003)	(as Zn)	50	mg/m3	(NIOSH, 2003)	Insoluble							Spontaneously Combustible	Zn	C1H1ON2O	Cyclohexe-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4287	DIPHENYLCYANOARSINE																																																	
4288	DIPHENYLHYDRAZINE														(USCG, 1999)		0.613		-112		(USCG, 1999)		-119		760		(USCG, 1999)		26.04						2			%	ACE	Flammable Liquid	C4H8O2	Cyhalxoc-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4289	DIPICRYL SULFIDE, WETTED WITH NOT LESS THAN 10% WATER	(NIOSH, 2003)	44.2					atm							(USCG, 1999)		0.613		-112		(USCG, 1999)		-119		760		(USCG, 1999)		26.04						2			%	ACE	Flammable Gas	C2H2	Cyhalxoc-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4290	DIPICRYL SULFIDE, DRY OR WETTED WITH < 10 % WATER														(NTP, 1992)		0.75		68		(NTP, 1992)				760		(NTP, 1992)		101.2											Flammable Liquid/Corrosive	C6H15N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4291	DIPROPIONYL PEROXIDE	DIPROPIONYL PEROXIDE|PROPIONYL PEROXIDE	3248-28-0	Available only as a 25% solution. Pure material poses a severe explosion hazard. Used as an initiator in polymerization reactions.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1944.0	211.0	674.0	363.0	208.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide, or Halon fire extinguisher. (NTP, 1992)
4292	DIRECT RED 39	AIREDALE SCARLET 3BD|AMANIL FAST SCARLET 3B|ATLANTIC SCARLET 3B|BENZANIL SCARLET 3B|BENZANOL BRILLIANT SCARLET 3B|BENZO RED 3B|BENZYL SCARLET 3BS|C.I. 23630|C.I. DIRECT RED 39|C.I. DIRECT RED 39, DISODIUM SALT|CALCOMINE SCARLET 3B|CHLORAMINE RED 3B|CHROME LEATHER SCARLET 3BS|DIAMINE SCARLET 3B|A-CF|DIAPHTAMINE FAST SCARLET|DIAPHTAMINE FAST SCARLET 3B|DIAZOL SCARLET 3B|DIPHENYL RED 3BS|DIPHENYL SCARLET 3BS|DIRECT FAST SCARLET 3B|DIRECT RED 39|DIRECT SCARLET 3BS|ERIE SCARLET 3B|8-((4'-((4-ETHOXYPHENYL)AZO)-3,3'-DIMETHYL(1,1'-BIPHENYL)-4YL)AZO)-7-HYDROXY-1,3-NAPHTHALENEDISULFONIC ACID DISODIUM	6358-29-8	PHYSICAL DESCRIPTION: Dark red powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1945.0	211.0	675.0	363.0	208.0	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4293	DISTEARYL PEROXYDICARBONATE	DISTEARYL PEROXYDICARBONATE	52326-66-6	This solid peroxide is heat and contamination sensitive. It is mixed with stearyl alcohol to mitigate the explosion hazard in storage and transport.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1946.0	211.0	675.0	363.0	208.0	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4294	DISTILLATES, [STRAIGHT RUN]	DISTILLATES, [STRAIGHT RUN]|DISTILLATES: STRAIGHT RUN|PETROLEUM DISTILLATE|STRAIGHT RUN GASOLINE	68814-87-9	A watery colorless liquid with a gasoline-like odor. Product of petroleum distillation. Floats on water. Irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1947.0	211.0	676.0	363.0	208.0	(BLOB)	Special Hazards of Combustion Products: Forms highly toxic combustion products such as hydrogen chloride, phosgenic, and carbon monoxide. Behavior in Fire: Container may explode in fire. Gas is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4295	DISULFOTON	(BLOB)	298-04-4	Disulfoton is a dark, yellow, oily liquid with a characteristic sulfur odor. It is a water emulsifiable liquid. It is toxic by inhalation, skin absorption, and/or ingestion. Exposure to skin or eyes may cause burns. It is combustible but does not ignite easily. When exposed to high temperature this material may emit toxic fumes. It is used as a pesticide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1948.0	211.0	676.0	363.0	208.0	(BLOB)	Behavior in Fire: Containers may explode due to polymerization. (USCG, 1999)	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4291	DIPROPIONYL PEROXIDE	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,3-DINITRONAPHTHALENE may be sensitive to heat or shock. (NTP, 1992)	Explosive; Strong Oxidizing Agent							0																			(NTP, 1992)			295 to 298
4292	DIRECT RED 39	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Soluble in water.	Aldehydes are frequently involved in self-condensation or polymerization reactions. These reactions are exothermic; they are often catalyzed by acid. Aldehydes are readily oxidized to give carboxylic acids. Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Aldehydes can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.	Polymerizable	Excerpt from GUIDE 129P [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	1	3		(NFPA, 2010)		118																		
4293	DISTEARYL PEROXYDICARBONATE	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Very soluble in water	ACRYLAMIDE SOLUTION is weakly basic. Can polymerize vigorously if mixed with peroxides. May react with azo and diazo compounds to generate toxic gases. Flammable gases may form by reaction with strong reducing agents. Combustion generates mixed oxides of nitrogen (NOx).	Polymerizable	Excerpt from GUIDE 153P [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	2	4		(NIOSH, 2003)		280																		
4294	DISTILLATES, [STRAIGHT RUN]	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable. Forms polymeric peroxides that are explosive [Bretherick 1979. p. 164].	VINYL CHLORIDE is peroxidizable. Forms explosive polymeric peroxides in contact with air (in the presence of any of a variety of catalysts) [Bretherick 1979. p. 164]. Long storage in contact with air increases the concentration of the polyperoxides to hazardous levels [MCA Case History 1551. 1969]. The peroxides may initiate exothermic polymerization of the remaining material [Handling Chemicals Safely 1980.p. 958; Bretherick 1979. p. 160]. Light-sensitive. Many oxidizing agents apparently initiate polymerization (oxides of nitrogen, O2, etc.). May react with very hot water or steam to produce toxic fumes.	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	2	6		(NTP, 1992)		-110		(USCG, 1999)		3.6		%	(USCG, 1999)		33		%	(USCG, 1999)		882		(NTP, 1992)		-245	
4295	DISULFOTON	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Flammable. Sensitive to moisture. Insoluble in water.	N-BUTYL METHACRYLATE reacts exothermically with acids. Reacts with oxidizing agents. Strong oxidizing acids may cause a reaction that is sufficiently exothermic to ignite the reaction products. Heat is generated with caustic solutions. Generates flammable hydrogen with alkali metals and hydrides. Polymerizes easily (NTP, 1992).	Highly Flammable; Polymerizable	Excerpt from GUIDE 130P [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	2	4		(NTP, 1992)		126		(NTP, 1992)		2		%	(NTP, 1992)		8		%	(USCG, 1999)		562		(NTP, 1992)		less than -58	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4291	DIPROPIONYL PEROXIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		218.17						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4292	DIRECT RED 39																																									Flammable Liquid	C6H8O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4293	DISTEARYL PEROXYDICARBONATE														(NIOSH, 2003)		1.12																									Poison	C3H5NO (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4294	DISTILLATES, [STRAIGHT RUN]	(USCG, 1999)		3877.5				mm Hg							(USCG, 1999)		0.969		8.6		(NTP, 1992)		7		760		(NTP, 1992)		62.5		(NIOSH, 2003)	; A potential human carcinogen.			(NTP, 1992)	Slightly soluble				VCM	Flammable Gas	C2H3Cl	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4295	DISULFOTON	(NTP, 1992)		1.8		68		mm Hg	(NTP, 1992)		4.9				(USCG, 1999)		0.8975		68		(NTP, 1992)			326.3 to 338.9	760		(NTP, 1992)		142.2						(NTP, 1992)	Insoluble				BMN	Flammable Liquid	C8H14O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4296	DISULFOTON MIXTURE, [DRY]	BAY 19639|BAYER 19639|DI-SYSTON G|DISULFOTON|DISULFOTON MIXTURE, [DRY]|DITHIODEMETON|DITHIOSYSTOX|DUTION|EKATIN TD|ENT-23437|ETHYL THIOMETON|ETHYLTHIOMETON B|FRUMIN|FRUMIN AL|FRUMIN G|GLEBOFOS|M 74|M 74 (PESTICIDE)|O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] DITHIOPHOSPHATE|O,O-DIETHYL S-[2-(ETHYLTHIO)ETHYL] PHOSPHORODITHIOATE|SOLVIREX|THIODEMETON|VUAGT 1-4|VUAGT 1964	298-04-4	Disulfoton mixture, dry is a dark yellow oily liquid with a characteristic sulfur odor, absorbed on a dry carrier. It is toxic by inhalation, skin absorption and/or ingestion. It may burn but does not ignite easily. Exposure to skin or eyes may cause burns. It is used as a pesticide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1949.0	211.0	677.0	363.0	208.0	(BLOB)	Combustible. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4297	DITHIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS	CARBAMIC ACID, DITHIO-, ION(1-)|DITHIOCARBAMATE|DITHIOCARBAMATE ANION|DITHIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS|DITHIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, TOXIC|DITHIOCARBAMATE PESTICIDE, LIQUID, POISONOUS, FLAMMABLE|DITHIOCARBAMATE PESTICIDE, LIQUID, TOXIC, FLAMMABLE|DITHIOCARBAMATE PESTICIDE, [LIQUID, FLAMMABLE LIQUID LABEL]	4384-82-1	A liquid or solid dissolved or suspended in a liquid carrier. The carrier is water emulsifiable. Toxic by inhalation, skin absorption and/or ingestion. Obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1950.0	211.0	678.0	363.0	208.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4298	DITHIOCARBAMATE PESTICIDE, LIQUID, POISONOUS	DITHIOCARBAMATE PESTICIDE, LIQUID, POISONOUS|DITHIOCARBAMATE PESTICIDE, LIQUID, TOXIC|DITHIOCARBAMATE PESTICIDE, [LIQUID, POISON B LABEL]	4384-82-1	Dithiocarbamate pesticide is a liquid or solid dissolved in a liquid carrier. The carrier is water emulsifiable. The carrier may burn though it may require some effort to ignite. It is toxic by inhalation, skin absorption, and/or ingestion. If available, obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1950.0	211.0	678.0	363.0	208.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4299	DITHIOCARBAMATE PESTICIDE, SOLID, POISONOUS	DITHIOCARBAMATE PESTICIDE, SOLID, POISONOUS|DITHIOCARBAMATE PESTICIDE, SOLID, TOXIC|DITHIOCARBAMATE PESTICIDE, [SOLID]	4384-82-1	Dithiocarbamate pesticide is a solid or a liquid absorbed on a dry carrier. It is a wettable powder. It is toxic by inhalation, skin absorption, and/or ingestion. If available, obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1950.0	211.0	679.0	365.0	208.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel a considerable distance to a source of ignition and flash back. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4300	DODECYL DIPHENYL ETHER DISULFONATE SOLUTION	DODECYL DIPHENYL ETHER DISULFONATE SOLUTION|DODECYL DIPHENYL ETHER SULFONATE, DISODIUM SALT, AQUEOUS SOLUTION|DOWFAX 2A1	25167-32-2	An aqueous solution. Light yellow to light brown liquid with a disinfectant-like odor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1950.0	211.0	679.0	365.0	208.0	(BLOB)		To extinguish a fire involving this chemical you may use a dry chemical, carbon dioxide, foam or halon extinguisher; a water spray may also be used. (NTP, 1992)
4301	EM-12	3-(1,3-DIHYDRO-1-OXO-2H-ISOINDOL-2-YL)-2,6-DIOXOPIPERIDINE|3-(1,3-DIHYDRO-1-OXO-2H-ISOINDOL-2-YL)-2,6-PIPERIDINEDIONE|2-(2,6-DIOXOPIPERIDEN-3-YL)PHTHALIMIDINE|2-(2,6-DIOXOPIPERIDIN-3-YL)PHTHALIMIDINE|EM 12|EM-12|EM12|GLUTARIMIDE, 2-(1-OXO-2-ISOINDOLINYL)-|2-(1-OXO-2-ISOINDOLINYL)GLUTARIMIDE	26581-81-7	PHYSICAL DESCRIPTION: White crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1950.0	211.0	679.0	365.0	208.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors of unburned chemical may form in fire. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4296	DISULFOTON MIXTURE, [DRY]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	N-BUTYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Avoid contact with strong oxidizing agents and strong bases. Will not polymerize. (USCG, 1999). Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		315		(NTP, 1992)		0.5		%	(USCG, 1999)	Calculated	2.5		%	(USCG, 1999)		757		(NTP, 1992)		-31	
4297	DITHIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Fumes in air. Soluble in water. Decomposes rapidly in water to form flammable isopropyl alcohol.	TETRAISOPROPYL TITANATE is a metal alkoxide, a strong base.	Highly Flammable; Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
4298	DITHIOCARBAMATE PESTICIDE, LIQUID, POISONOUS	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, keep it away from oxidizing materials, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Hygroscopic. Water soluble.	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM CHLORIDE reacts vigorously with oxidizers and alkalis. Reacts with cellulose. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		greater than 200																		
4299	DITHIOCARBAMATE PESTICIDE, SOLID, POISONOUS	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	TOLUENE reacts vigorously with allyl chloride or other alkyl halides even at -70Â° C in the presence of ethyl aluminum dichloride or ethyl aluminum sesquichloride. Explosions have been reported [NFPA 491M 1991]. Incompatible with strong oxidizing agents. When added to a tank of sulfur dichloride, the tank over pressurized and ruptured in a reaction thought to be catalyzed by iron or iron(III) chloride [Chem. Eng. News, 1988, 66(32), 2].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NTP, 1992)		40		(NTP, 1992)		1.27		%	(NTP, 1992)		7.1		%	(USCG, 1999)		896		(NTP, 1992)		-139	
4300	DODECYL DIPHENYL ETHER DISULFONATE SOLUTION	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Saturated aliphatic hydrocarbons, such as N-DOCOSANE, may be incompatible with strong oxidizing agents like nitric acid. Charring of the hydrocarbon may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, aliphatic saturated hydrocarbons are mostly unreactive. They are not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, they burn exothermically to produce carbon dioxide and water.							0																						
4301	EM-12		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	DIETHYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].			(NFPA, 2010)		1	1	0	1		(NTP, 1992)		284		(NTP, 1992)	at 367Â° F	0.7		%	(USCG, 1999)	at 368Â°F	0.75		%	(USCG, 1999)		855		(NTP, 1992)		27	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4296	DISULFOTON MIXTURE, [DRY]	(NTP, 1992)	; 1.1 mm Hg at 302Â° F	1		297		mm Hg	(NTP, 1992)		9.58				(USCG, 1999)		1.049		68		(NTP, 1992)		644		760		(NTP, 1992)		278.35		(NIOSH, 2003)		4000	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	DPA	Class 9	C16H22O4		0.0	0.0	0.0	0.0	0.0
4297	DITHIOCARBAMATE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS																																							Flammable Liquid	C3H8O.Ti4Ti	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4298	DITHIOCARBAMATE PESTICIDE, LIQUID, POISONOUS	(NTP, 1992)	; 6.0 mm Hg at 84Â° F; 110.0 mm Hg at 124Â° F	1		77		mm Hg							(NTP, 1992)		1.322		64		(NTP, 1992)		244		760		(NTP, 1992)		190.58						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL		Poison	C4H12O4P.Cl		0.0	0.0	0.0	0.0	0.0
4299	DITHIOCARBAMATE PESTICIDE, SOLID, POISONOUS	(NTP, 1992)	; 20 mm Hg at 65.1Â° F; 40 mm Hg at 89.2Â° F	10		43.5		mm Hg	(NTP, 1992)		3.14				(USCG, 1999)		0.867		68		(NTP, 1992)		231.1		760		(NTP, 1992)		92.14		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 64Â° F		less than 1	mg/mL	TOL	Flammable Liquid	C7H8		0.0	0.0	0.0	0.0	0.0
4300	DODECYL DIPHENYL ETHER DISULFONATE SOLUTION														(NTP, 1992)		0.7944		68		(NTP, 1992)		695.5		760		(NTP, 1992)		310.61													C22H46		0.0	0.0	0.0	0.0	0.0
4301	EM-12	(NTP, 1992)	; 5 mm Hg at 285.3Â° F	1		227.8		mm Hg	(NTP, 1992)		7.66				(USCG, 1999)		1.12		68		(NTP, 1992)		568		760		(NTP, 1992)		222.24						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	DPH		C12H14O4		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4302	EMERY	ALUMINUM OXIDE|ALUMINUM TRIOXIDE|CORUNDUM|EMERY|IMPURE CORUNDUM|NATURAL ALUMINUM OXIDE	12415-34-8	Odorless, white, crystalline powder. Natural aluminum oxide. Very high melting and hard. Used for polishing, grinding, and abrasive operations. An inhalation hazard when present as a dust.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1951.0	211.0	679.0	365.0	208.0	INHHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Irrigate with running water for at least 15 min.; hold eyelids open if neccessary. Consult an ophthamologist immediately. Wash skin with soap and water. Speed in removing material from skin is of extreme importance. Remove contaminated clothing and shoes at the site. Keep victim quiet and maintain normal body temperature. Effects may be delayed; keep victim under observation. INGESTION: If victim is conscious, give victim two glasses of water and have victim induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Highly toxic fumes contaning sulfur oxides may be generated along with thermal decomposition products such as ethyl ether and ethylene. Sulfuric acid may be produced in the presence of moisture. Behavior in Fire: It burns to yield highly, toxic sulfur oxides. Above 100Â°C, it undergoes thermal decomposition to yield ethyl ether, ethylene and sulfur oxides which may cause an explosion in closed containers or confined spaces. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4303	ENDOSULFAN SULFATE	BENZOEPIN SULFATE|ENDOSULFAN CYCLIC SULFATE|ENDOSULFAN II|ENDOSULFAN SULFATE|5-NORBORNENE-2,3-DIMETHANOL, 1,4,5,6,7,7-HEXACHLORO-, CYCLIC SULFATE|THIODAN SULFATE	1031-07-8	Water solubility - <1 mg/L at 72Â°F.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1951.0	211.0	679.0	365.0	208.0	(BLOB)	Flash point data for this chemical are not available, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4304	ENDOTHION	AC-18737|ENDOCID|ENDOCIDE|ENDOTHION|ENT 24653|EXOTHION|FMC 5767|5-METHOXY-2-(DIMETHOXYPHOSPHINYLTHIOMETHYL) PYRONE-4|NIA 5767|NIAGARA 5767|O,O-DIMETHYL PHOSPHOROTHIOATE, S-ESTER WITH 2-(MERCAPTOMETHYL)-5-METHOXY-4H-PYRAN-4-ONE|O,O-DIMETHYL S-(5-METHOXY- 4-OXO-4H-PYRAN-2-YL) PHOSPHOROTHIOATE|O,O-DIMETHYL S-(5-METHOXYPYRONYL- 2-METHYL) THIOPHOSPHATE|PHOSPHATE 100|PHOSPHOPYRON|PHOSPHOPYRONE|PHOSPHOROTHIOIC ACID, O,O-DIMETHYL ESTER, S-ESTER WITH 2-(MERCAPTOMETHYL)-5-METHOXY-4H-PYRAN-4-ONE|PHOSPHOROTHIOIC	2778-04-3	White crystals with a slight odor. Used as an insecticide. Not sold in the USA or Canada. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1951.0	211.0	679.0	365.0	208.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical carbon dioxide, foam or Halon extinguisher. (NTP, 1992)
4305	ENDRIN	(BLOB)	72-20-8	Endrin is a white crystalline, odorless solid dissolved in a liquid carrier. It is water emulsifiable. It is toxic by inhalation, skin absorption, and/or ingestion. When heated or burned it may emit toxic hydrogen chloride and phosgene. It is used as a pesticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1951.0	211.0	679.0	365.0	208.0	EYES: wash thoroughly with copious amounts of water for at least 15 min.; call physician if irritation persists. SKIN: wash thoroughly with large amounts of water for at least 15 min. INGESTION: give large amount of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating oxides of sulfur may be formed. (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)
4306	ENDRIN ALDEHYDE	ENDRIN ALDEHYDE|1,2,4-METHENOCYCLOPENTA[CD]PENTALENE-5-CARBOXALDEHYDE, 2,2A,3,3,4,7-HEXACHLORODECAHYDRO-, (1ALPHA,2BETA,2ABETA,4BETA,4ABETA,5BETA,6ABETA,6BBETA,7S*)-|SD 7442	7421-93-4	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1951.0	211.0	679.0	365.0	208.0	(BLOB)	Flash point data for this compound are not available but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4307	ENDRIN AND METABOLITES	ENDRIN AND METABOLITES	72-20-8	An odorless white crystalline solid dissolved in a liquid water emulsifiable carrier. Toxic by inhalation, skin absorption or ingestion. May emit toxic hydrogen chloride and phosgene when heated or burned. Used as a pesticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1952.0	211.0	679.0	365.0	208.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4302	EMERY	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear positive pressure breathing apparatus and special protective clothing. (USCG, 1999)	Highly flammable. Slowly reacts with water to form ethyl alcohol, a flammable liquid, and ethyl sulfate, with eventual conversion to sulfuric acid.	The presence of moisture in a metal container of DIETHYL SULFATE caused the formation of sulfuric acid which reacts with the metal to release hydrogen which pressurized and exploded the container [Chem. Abst. 28:2908(1934)].	Water-Reactive	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	1	2		(USCG, 1999)		220		(USCG, 1999)		4.1		%						(USCG, 1999)		817		(USCG, 1999)		-12	
4303	ENDOSULFAN SULFATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	DIPHENYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																						(NTP, 1992)		460	
4304	ENDOTHION		MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble.	Amines, like adriamycin hydrochloride, are weak chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																						(NTP, 1992)	(Decomposes)		399 to 401
4305	ENDRIN	Neutralizing Agents for Acids and Caustics: Flush with water, rinse with dilute sodium bicarbonate or lime solution. (USCG, 1999)	Chemical goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for sulfuric acid, CAS number 7664-93-9.	3	1	2	3	No Water																	(USCG, 1999)		221	
4306	ENDRIN ALDEHYDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Hydrophobic. Insoluble in water.	A nitrated amide. Organic amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																										
4307	ENDRIN AND METABOLITES	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Freely soluble in water, possibly with generation of heat.	(BLOB)	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for p-toluenesulfonic acid, CAS number 104-15-4	3	1	0	1																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_range	fdfh_source	fdfh_note	fdfh_value	fdfh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4302	EMERY														(USCG, 1999)		1.1803		68		(USCG, 1999)		409		769		(USCG, 1999)	154.18												DSU	Poison	$C_6H_{10}O_4S$		0.0	0.0	0.0	0.0
4303	ENDOSULFAN SULFATE														(NTP, 1992)		1.239		68		(NTP, 1992)	(Decomposes)	504		769		(NTP, 1992)	212.25						(NTP, 1992)	at 64Â° F	less than 0.1	mg/mL				$C_{13}H_{12}N_2O$	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0
4304	ENDOTHION														(NTP, 1992)		Soluble				(NTP, 1992)						(NTP, 1992)	580.03						(NTP, 1992)	Soluble						$C_{27}H_{29}NO_{11}GH$		0.0	0.0	0.0	0.0
4305	ENDRIN														(USCG, 1999)		1.45		77		(USCG, 1999)						(USCG, 1999)	172.2	(toluenesulfonic acid)										TAP	Corrosive	$C_7H_7SO_3H$ (toluenesulfonic acid)H_2SO_4 (sulfuric acid)	Cellulose-Based Absorbents;Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0
4306	ENDRIN ALDEHYDE														(NTP, 1992)		at 70Â° F				(NTP, 1992)						(NTP, 1992)	248.21						(NTP, 1992)	at 70Â° F	less than 0.1	mg/mL				$C_{11}H_8N_2O_5$	Cellulose-Based Absorbents;Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0
4307	ENDRIN AND METABOLITES																																								$C_7H_7SO_3H$ (toluenesulfonic acid)H_2SO_4 (sulfuric acid)	Cellulose-Based Absorbents;Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4308	EPINEPHRINE HYDROCHLORIDE	ADRENALIN CHLORIDE|ADRENALIN HYDROCHLORIDE|ADRENALINE CHLORHYDRATE|ADRENALINE CHLORIDE|ADRENALINE HYDROCHLORIDE|(-)-ADRENALINE HYDROCHLORIDE|1,2-BENZENEDIOL, 4-[1-HYDROXY-2-(METHYLAMINO)ETHYL]-, HYDROCHLORIDE, (R)-|BENZYL ALCOHOL, 3,4-DIHYDROXY-ALPHA-[(METHYLAMINO)METHYL]-, HYDROCHLORIDE, (-)-|(-)-3,4-DIHYDROXY-ALPHA-((METHYLAMINO)METHYL) BENZYL ALCOHOL, HYDROCHLORIDE|DRENAMIST|EPINEPHRINE CHLORIDE|EPINEPHRINE HYDROCHLORIDE|(-)-EPINEPHRINE HYDROCHLORIDE|GELATIN-EPINEPHRINE|HYDROCHLORIDE EPINEPHRINE|4-(1-HYDROXY-2-	55-31-2	PHYSICAL DESCRIPTION: Crystals. Used medically as a cardiostimulant.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1952.0	211.0	679.0	365.0	208.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4309	EPN	(BLOB)	2104-64-5	Light yellow crystalline powder with an aromatic odor. Used as an insecticide for cotton and an acaricide. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	680.0	365.0	208.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4310	ESTRADIOL MUSTARD	ACETIC ACID, [P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]-, DIESTER WITH ESTRADIOL|BIS((4-(BIS(2-CHLOROETHYL)AMINO)BENZENE)ACETATE)ESTRA-1,3,5(10) TRIENE-3,17-DIOL(17BETA)|BIS((P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ACETATE)ESTRA-1,3,5(10)-TRIENE-3,17-BETA-DIOL|BIS((P-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ACETATE)OESTRADIOL|BIS((P-BIS(2-CHLOROETHYL)AMINO)PHENYL)ACETATE)ESTRADIOL|ESTRA-1,3,5(10)-TRIENE-3,17-BETA-DIOL, BIS(P-(BIS(2-CHLOROETHYLAMINO)-PHENYL)ACETATE)|ESTRADIOL MUSTARD|ESTRADIOL, BIS|[P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]ACETATE|NCI-C01570|NSC 112259|OESTRADIOL MUSTARD	22966-79-6	PHYSICAL DESCRIPTION: Off-white powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	680.0	365.0	208.0	(BLOB)	The flash point of this chemical has not been determined, but it is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4311	ETHACRYNIC ACID	ACETIC ACID, [2,3-DICHLORO-4-(2-METHYLENEBUTYRYL)PHENOXY]-|CRINURYL|2,3-DICHLORO-4-(2-METHYLENE-1-OXOBUTYL)PHENOXY)-ACETIC ACID|2,3-DICHLORO-4-(2-METHYLENEBUTYRL)PHENOXY ACETIC ACID|[2,3-DICHLORO-4-(2-METHYLENEBUTYRYL)PHENOXY]ACETIC ACID|EDECRIL|EDECRIN|EDECRINA|ENDECRIL|ETACRINIC ACID|ETACRYNIC ACID|ETAKRINIC ACID|ETHACRYNIC ACID|HIDROMEDIN|HYDROMEDIN|METHYLENEBUTYRL PHENOXYACETIC ACID|(4-(2-METHYLENEBUTYRL)2,3-DICHLOROPHENOXY)ACETIC ACID|[4-(2-METHYLENEBUTYRYL)-2,3-DICHLOROPHENOXY]ACETIC ACID|MINGITMK 595|MK-595|OTACRIL|REDMAX|REO	58-54-8	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	681.0	365.0	208.0	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4312	ETHANOL, 1,2-DICHLORO-, ACETATE	1,2-DICHLOROETHYL ACETATE|ETHANOL, 1,2-DICHLORO-, ACETATE	10140-87-1	Water-white liquid. Density 1.23 g / cm3. Flash point 307Â°F. Low toxicity. Miscible with alcohol and ethyl ether. Insoluble in water. Used in organic synthesis.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	681.0	365.0	208.0	Remove from exposure. Administer artificial respiration if needed. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4308	EPINEPHRINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. Allow only your most experienced personnel access to this aliquot. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Sensitive to exposure to air and light. Water insoluble.	AFLATOXIN B-1 is incompatible with strong oxidizing agents, strong acids and strong bases. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			514 to 516
4309	EPN	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Diethylarsine is spontaneously flammable in air [Douda1966].	Hydrides, such as DIETHYLARSINE, are reducing agents and react rapidly and dangerously with oxygen and with other oxidizing agents, even weak ones. Thus, they are likely to ignite on contact with alcohols. Hydrides are incompatible with acids, alcohols, amines, and aldehydes.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4310	ESTRADIOL MUSTARD	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Water soluble.	An amino acid derivative. Toxic gases are formed by mixing AGARITINE with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing agaritine with alkali metals.						0																							(NTP, 1992)	Decomposes		397 to 406
4311	ETHACRYNIC ACID	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Oxygen, which is a major component of air, is a propellant; ignites upon contact with alcohols, amines, ammonia, beryllium alkyls, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. Heat of water will vigorously vaporize liquid oxygen, pressures may build to dangerous levels if this occurs in a closed container. Liquid oxygen gives a detonable mixture when combined with powdered aluminum [NFPA 491M. 1991]. Almost any reducing agent and all hydrocarbons can form explosive mixtures with liquid air [Chem. Eng. News 27:2612. 1949]. Explosions have occurred when liquid air contacts organic matter. A cracked tube of activated charcoal immersed in liquid air exploded violeently [J. Sci. Inst. 5:24. 1928]. Allyldimethylarsine ignites in air and on filter paper [NFPA 491M. 1991].		Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4312	ETHANOL, 1,2-DICHLORO-, ACETATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Safety goggles or face shield; similar to gasoline. (USCG, 1999)	Highly flammable. Insoluble in water.	N-HEPTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		25		(USCG, 1999)		1		%	(USCG, 1999)	not listed			(USCG, 1999)	500		(USCG, 1999)		-182	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4308	EPINEPHRINE HYDROCHLORIDE																										(NTP, 1992)		312.3						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C17H12O6	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4309	EPN																																								Class 9	C4H11As		2.0	0.0	0.0	0.0	0.0
4310	ESTRADIOL MUSTARD																										(NTP, 1992)		267.28						(NTP, 1992)	Very Soluble						C12H17N3O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4311	ETHACRYNIC ACID																																								Non-Flammable Gas		Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4312	ETHANOL, 1,2-DICHLORO-, ACETATE															(USCG, 1999)		0.697		68		(USCG, 1999)		200.5		760		(USCG, 1999)		98.18											HTE	Flammable Liquid	C7H14	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4313	ETHANOL, 2,2'-OXYBIS-, DICARBAMATE	ETHANOL, 2,2'-OXYBIS-, DICARBAMATE	5952-26-1		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	682.0	365.0	208.0	INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush immediately with running for at least 15 minutes; hold eyelids open if necessary. Wash skin with soap and water. Remove and isolate contaminated clothing and shoes at the site. If swallowed and victim is UNCONSCIOUS OR HAVING CONVULSIONS, do nothing except keep victim warm. (USCG, 1999)	Special Hazards of Combustion Products: Fire produces irritating and poisonous gases. Behavior in Fire: Will burn and produce irritating and poisonous gases. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors, or in sewers. Runoff to sewer may create fire or explosion hazard. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4314	ETHOXYDIHYDROPYRAN	2-ETHOXY-3,4-DIHYDRO-2H-PYRAN|ETHOXYDIHYDROPYRAN	103-75-3	Colorless liquid. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	682.0	365.0	208.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4315	ETHOXYLATED DODECANOL	ETHOXYLATED DODECANOL|ETHOXYLATED DODECYL ALCOHOL|ETHOXYLATED LAURYL ALCOHOL|POLY (OXYETHYL) DODECYL ETHER|POLY (OXYETHYL) LAURYL ETHER|TERGITOL NONIONIC TMN, DODECYL ETHYL ETHER	7289-37-4	Colorless to yellow oily liquid with a pleasant odor. Mixes slowly with water. Freezing point is 61Â°F. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1953.0	211.0	682.0	365.0	208.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4316	ETHOXYLATED TETRADECANOL	ETHOXYLATED MYRISTYL ALCOHOL|ETHOXYLATED TETRADECANOL|ETHOXYLATED TETRADECYL ALCOHOL|POLY(OXYETHYL) MYRISTYL ETHER|POLY(OXYETHYL) TETRADECYL ETHER|TERGITOL NONIONIC 45-S-10	4813-58-5	Colorless to yellow liquid with a pleasant odor. Mixes slowly with water. Freezing point is 59Â°F. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1954.0	211.0	682.0	365.0	208.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.		
4317	ETHYL BORATE	ETHYL BORATE	51845-86-4	A clear colorless liquid. Less dense than water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4318	ETHYL HEXYL TALLATE	CROPLAS EH|ETHYL HEXYL TALLATE	74664-96-3	Yellow liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4313	ETHANOL, 2,2'-OXYBIS-, DICARBAMATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Highly flammable. Insoluble in water.	1,3-PENTADIENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. May undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions at low temperatures in ammonia synthesis units have been traced to the addition products of dienes and nitrogen dioxide [Beetherick, 5th Ed., 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(USCG, 1999)		-20		(USCG, 1999)		2		%	(USCG, 1999)		8.3		%					(USCG, 1999)		-222	
4314	ETHOXYDIHYDROPYRAN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound may be sensitive to heat, light, and air. May form peroxides. Slightly water soluble (NTP, 1992).	N-HEXYL METHACRYLATE may be sensitive to heat, light, and air. Combustible, polymerizes. (NTP, 1992)	Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	2	0	2		(NTP, 1992)		180																			
4315	ETHOXYLATED DODECANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	N-HYDROXY-2-ACETYLAMINOFLUORENE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																					(NTP, 1992)		277 to 279
4316	ETHOXYLATED TETRADECANOL		(BLOB)	No rapid reaction with air No rapid reaction with water	This compound is incompatible with the following: Oxidizers								0																								
4317	ETHYL BORATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	NICKEL NITRATE is a strong oxidizing agent. A violent explosion occurs if an ammonium salt is melted with a nitrite salt [Von Schwartz 1918, p. 299]. A mixture of potassium cyanide and nitrite salts may cause an explosion [Pieters 1957, p. 30].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4318	ETHYL HEXYL TALLATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Aqueous solutions are very sensitive to light. (NTP, 1992). Insoluble in water.	NIFEDIPINE is sensitive to light. [[Details on specifics of reactivity not yet available.]]						0																					(NTP, 1992)		342 to 345

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4313	ETHANOL, 2,2'-OXYBIS-, DICARBAMATE														(USCG, 1999)	(average value for cis and trans isomers)	0.6834		68		(USCG, 1999)		-45		760		(USCG, 1999)		68.12											PDE	Flammable Liquid	C5H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4314	ETHOXYDIHYDROPYRAN								(NTP, 1992)		5.9				(NTP, 1992)		0.88				(NTP, 1992)			153 to 185	8		(NTP, 1992)		170						(NTP, 1992)	Slightly soluble					Class 9	C10H18O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4315	ETHOXYLATED DODECANOL																										(NTP, 1992)		239.29						(NTP, 1992)	at 64Â° F		less than 1	mg/mL			C15H13NO2		0.0	0.0	0.0	0.0	0.0
4316	ETHOXYLATED TETRADECANOL																										(NIOSH, 2003)	mixture													C8H20N2O.C5H10N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4317	ETHYL BORATE																														(NIOSH, 2003)	(as Ni); A potential human carcinogen.	10	mg/m3						Oxidizer	Ni(NO2)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4318	ETHYL HEXYL TALLATE																										(NTP, 1992)		346.34						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL			C17H18N2O6	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4319	ETHYL METHYL ETHER	ETHER, ETHYL METHYL|ETHYL METHYL ETHER|METHANE, ETHOXY-|METHOXYETHANE|METHYL ETHYL ETHER	540-67-0	A clear colorless gas with a medicine-like odor. Less dense than water. Vapors are heavier than air. Under prolonged exposure to fire or heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4320	ETHYL P-(P'-PHENYLBENZALAMINO)BENZOATE	BENZOIC ACID, P-[(P-PHENYLBENZYLIDENE)AMINO]-, ETHYL ESTER|4-[(1-1,1'-BIPHENYL]-4-YLMETHYLENE)AMINO]BENZOIC ACID ETHYL ESTER|ETHYL 4-(4-PHENYLBENZALAMINO)BENZOATE|ETHYL P-(P'-PHENYLBENZALAMINO)BENZOATE|P-[(P-PHENYLBENZYLIDENE)AMINO]BENZOIC ACID ETHYL ESTER	3782-80-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	(BLOB)	This chemical is combustible. Dust may form explosive mixtures in air (NTP, 1992)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4321	ETHYLBIS(2-CHLOROETHYL)AMINE	BIS(2-CHLOROETHYL)ETHYLAMINE|ETHYL-S|ETHYLBIS(2-CHLOROETHYL)AMINE|ETHYLBIS(BETA-CHLOROETHYL)AMINE|HN-1|HN1|N-ETHYLBIS(2-CHLOROETHYL)AMINE|NITROGEN MUSTARD|TL 329|TRIETHYLAMINE, 2,2'-DICHLORO-	538-07-8	Dark liquid with a faint, fishy amine odor. Used as a delayed-action, military casualty agent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	Excerpt from GUIDE 133 [Flammable Solids]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Removal of solidified molten material from skin requires medical assistance. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4322	ETHYLDICHLOROARSINE	ARSENIC DICHLOROETHANE|ARSINE, DICHLOROETHYL-|DICHLOROETHYLARSINE|ETHYL DICHLOROARSINE|ETHYLDICHLOROARSINE	598-14-1	A colorless liquid with a fruity biting irritating odor. Vapors irritate eyes and skin. Very toxic by inhalation. Denser than water and vapors are heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	682.0	365.0	208.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4323	ETHYLENE GLYCOL DINITRATE	EGDN|1,2-ETHANEDIOL DINITRATE|ETHYLENE DINITRATE|ETHYLENE GLYCOL DINITRATE|ETHYLENE GLYCOL DINITRATE ESTER|ETHYLENE GLYCOL, DINITRATE|ETHYLENE NITRATE|GLYCOL DINITRATE|NITROGLYCOL	628-96-6	Colorless to yellow, oily odorless liquid with a sweetish taste. Mp: -22Â°C; bp: explodes at 114Â°C. Density: 1.49 g cm-3. Soluble in water (23.3 g/L H2O) at 25Â°C). Very soluble in ethanol and in ether. Used as an explosive ingredient in dynamite along with nitroglycerine. Toxic; can penetrate the skin.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	683.0	365.0	208.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Substance does not burn but will support combustion. Some may react explosively with fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Vapors from liquefied gas are initially heavier than air and spread along ground. Runoff may create fire or explosion hazard. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4319	ETHYL METHYL ETHER	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Ca(C12H23C6H4SO3)2 dissolved in C4H9OH	TRIETHYLENE GLYCOL DIACETATE can undergo polymerization upon exposure to extreme heat or light. This chemical is incompatible with acetic acid. It is also incompatible with peroxides, strong oxidants, oxygen scavengers and heavy metal compounds. (NTP, 1992).	Polymerizable		(NFPA, 2010)		0	1	0	1		(NTP, 1992)		345													(NTP, 1992)		-58	
4320	ETHYL P-(P'-PHENYLBENZALAMINO)BENZOATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water [Merck].	1,3-PHENYLENEDIAMINE an aromatic amine, neutralizes acids, acid chlorides, acid anhydrides and chloroformates in exothermic reactions to form salts. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Incompatible with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		280												(NTP, 1992)		1040		(NTP, 1992)		145 to 147
4321	ETHYLBIS(2-CHLOROETHYL)AMINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	NITROCELLULOSE, [WITH PLASTICIZER] may undergo a vigorous reaction with reducing agents, including hydrides, sulfides and nitrides, that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Highly Flammable; Explosive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																				
4322	ETHYLDICHLOROARSINE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	NITROCELLULOSE, [COLLOIDED, GRANULAR OR FLAKE, WET WITH >= 20% ALCOHOL OR SOLVENT, OR BLOCK, WET WITH >= 25% ALCOHOL] may explode if dried and exposed to heat, flame, friction or shock. May undergo a vigorous reaction with reducing agents, including hydrides, sulfides and nitrides, that culminates in a detonation. Can react with inorganic bases to form explosive salts.	Highly Flammable; Explosive	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(NFPA, 2010)		55																		
4323	ETHYLENE GLYCOL DINITRATE	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	NITROGEN TRIFLUORIDE is a very powerful oxidizing agent. Presents dangerous fire hazard in the presence of reducing agents. Etches glass in the presence of moisture. Emits toxic and corrosive fumes of fluoride when heated to decomposition [Lewis, 3rd ed., 1993, p. 937]. Can react violently with hydrogen, ammonia, carbon monoxide, diborane, hydrogen sulfide, methane, tetrafluorohydrazine, charcoal. Explosive reaction with chlorine dioxide. A severe explosion may occur when exposed to reducing agents under pressure [Bretherick, 5th ed., 1995, p. 1427].	Strong Oxidizing Agent	Excerpt from GUIDE 122 [Gases - Oxidizing (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																				(NIOSH, 2003)		-340	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4319	ETHYL METHYL ETHER	(NTP, 1992)		19		77		mm Hg	(NTP, 1992)		8.1				(NTP, 1992)		1.1173		68		(NTP, 1992)		572		760		(NTP, 1992)		234.25						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL			C10H18O6	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4320	ETHYL P-(P'-PHENYLBENZALAMINO)BENZOATE	(NTP, 1992)	; 0.0018 mm Hg at 77Â° F	1		211.6		mm Hg	(NTP, 1992)		3.7				(NTP, 1992)		1.0696		136		(NTP, 1992)			540 to 543	760		(NTP, 1992)		108.14						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C6H8N2		0.0	0.0	0.0	0.0	0.0
4321	ETHYLBIS(2-CHLOROETHYL)AMINE																																							Flammable Solid	[C12H14N6O22]n	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4322	ETHYLDICHLOROARSINE																																							Explosive 1.1D	[C12H14N6O22]n	Cellulose-Based Absorbents	Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4323	ETHYLENE GLYCOL DINITRATE	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-200		760		(NIOSH, 2003)		71		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)	Slight					Non-Flammable Gas(Oxidizer	F3N	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4324	ETHYLENE GLYCOL DIPROPIONATE	1,2-BIS(PROPIONYLOXY)ETHANE|ETHYLENE DIPROPIONATE|ETHYLENE GLYCOL DIPROPIONATE|1,2-ETHYLENE GLYCOL DIPROPIONATE|ETHYLENE GLYCOL, DIPROPIONATE|ETHYLENE PROPIONATE|PROPIONIC ACID, ETHYLENE ESTER	123-80-8	Liquid. Slightly soluble in water. Used as a plasticizer. Direct contact should be avoided.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	683.0	365.0	208.0	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Clothing frozen to the skin should be thawed before being removed. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Keep victim under observation. Effects of contact or inhalation may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Substance does not burn but will support combustion. Vapors from liquefied gas are initially heavier than air and spread along ground. These are strong oxidizers and will react vigorously or explosively with many materials including fuels. May ignite combustibles (wood, paper, oil, clothing, etc.). Some will react violently with air, moist air and/or water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4325	ETHYLENE GLYCOL, MONOACETATE	2-ACETOXYETHANOL|BETA-HYDROXYETHYL ACETATE|1,2-ETHANEDIOL, MONOACETATE|ETHYLENE GLYCOL ACETATE|ETHYLENE GLYCOL, MONOACETATE|ETHYLENEDIOL MONOACETATE|GLYCOL MONOACETATE|GLYCOL-MONEACETIN|2-HYDROXYETHYL ACETATE|2-HYDROXYETHYLACETATE|MONOACETYL ETHYLENE GLYCOL	542-59-6	PHYSICAL DESCRIPTION: Almost odorless clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1955.0	211.0	683.0	365.0	208.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4326	ETHYLENEAMINE	AMINOETHYLENE|ETHENAMINE (9CI)|ETHYLENAMINE|ETHYLENE AMINES|ETHYLENEAMINE|VINYLAMINE	593-67-9	Usually colorless to light colored liquids with an ammonia-like odor. Flammable. May be very corrosive to skin, eyes, mucus membranes and metals. They are often used as fungicides and to manufacture other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1956.0	211.0	683.0	365.0	208.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4327	ETHYLENEBISDITHIOCARBAMIC ACID, SALTS AND ESTERS	ETHYLENEBISDITHIOCARBAMIC ACID, SALTS & ESTERS|ETHYLENEBISDITHIOCARBAMIC ACID, SALTS AND ESTERS	111-54-6	Solid. Very unstable material, used as a pesticide and fungicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1956.0	211.0	683.0	365.0	208.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and sulfur oxides. Incompatible with highly alkaline substances. Unstable in alkali; poor stability at 122F. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Carbamate Pesticide, Solid) Some of these materials may burn but none of them ignite readily. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog or foam. (EPA, 1998)
4328	ETHYL-P-ETHOXYBENZAL-P'-AMINOCINNAMATE	CINNAMIC ACID, P-[(P-ETHOXYBENZYLIDENE)AMINO]-, ETHYL ESTER|BAC|3-(4-(((4-ETHOXYPHENYL)METHYLENE)AMINO)PHENYL)-2-PROPENOIC ACID|ETHYL 4-(4-ETHOXYBENZALAMINO)CINNAMATE|ETHYL 4-(4-ETHOXYBENZYLIDENEAMINO)CINNAMATE|ETHYL P-(P'-ETHOXYBENZYLIDENE)AMINOCINNAMATE|ETHYL-P-ETHOXYBENZAL-P'-AMINOCINNAMATE|P-((P-ETHOXYBENZYLIDENE)AMINO)CINNAMIC ACID, ETHYL ESTER|2-PROPENOIC ACID, 3-[4-[[(4-ETHOXYPHENYL)METHYLENE]AMINO]PHENYL]-, ETHYL ESTER, (E,E)-	2863-94-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1957.0	211.0	683.0	365.0	208.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4324	ETHYLENE GLYCOL DIPROPIONATE	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	NITROGEN TRIOXIDE is an oxidizing agent. Nonflammable but may cause fires when mixed with combustible materials. Reacts with reducing agents to generate heat and products that may be gaseous (causing pressurization of closed containers). The products may themselves be capable of further reactions (such as combustion in the air). Catalyzes ignition of phosphine gas [Edin. Roy. Soc. 13:88. 1935]. A mixture with caprolactam dissolved in acetic acid is explosive unless effectively cooled. Incompatible with phosphorus, or other reduced materials Reactivity likely to resemble that of nitrogen dioxide and nitrogen tetraoxide.	Strong Oxidizing Agent	Excerpt from GUIDE 124 [Gases - Toxic and/or Corrosive - Oxidizing]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2421 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0	Oxidizer																						
4325	ETHYLENE GLYCOL, MONOACETATE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Nitroalkanes, such as NITROMANNITE, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. Nitroalkanes are insoluble in water.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																						
4326	ETHYLENEAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Slightly soluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						
4327	ETHYLENEBISDITHIOCARBAMIC ACID, SALTS AND ESTERS	Caution : Avoid sources of heat including fire. Aldicarb will liberate toxic nitrogen and sulfur oxide gases when heated. (Non-Specific -- Carbamate Pesticide, solid) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Slightly water soluble.	ALDICARB is a carbamate ester. This chemical decomposes at temperatures greater than 212Â° F. This chemical is incompatible with highly alkaline substances. It is rapidly converted by oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		210 to 214
4328	ETHYL-P-ETHOXYBENZAL-P'-AMINOCINNAMATE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as 1,4-BIS(METHYLISOCYANATE)CYCLOHEXANE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4324	ETHYLENE GLYCOL DIPROPIONATE																																								Poison Gas(Oxidizer)(Corrosive	N2O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4325	ETHYLENE GLYCOL, MONOACETATE																																								Explosive 1.1D	C6H8N6O18	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4326	ETHYLENEAMINE																																								Poison	C6H5NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4327	ETHYLENEBISDITHIOCARBAMIC ACID, SALTS AND ESTERS	(EPA, 1998)	Less than 0.5 at 68F												(EPA, 1998)		1.195		77		(NTP, 1992)	Decomposes					(EPA, 1998)		190.23						(NTP, 1992)	at 72Â° F		0.1 to 1.0	mg/mL		Poison	C7H14N2O2S		0.0	0.0	0.0	0.0	0.0
4328	ETHYL-P-ETHOXYBENZAL-P'-AMINOCINNAMATE																																								Poison	C10H14N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4329	FATTY ACIDS, C5-10, ESTERS WITH POLYPENTAERYTHRITOL	FATTY ACIDS, C5-10, ESTERS WITH POLYPENTAERYTHRITOL|HERCOFLEX 707A|HERCOFLEX 707A FATTY ACID ESTER|PENTAERYTHRITOL ESTERS OF FATTY ACIDS	68915-66-2	PHYSICAL DESCRIPTION: Clear yellow liquid with a faint odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1958.0	211.0	683.0	365.0	208.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may be formed in fire. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4330	FATTY ACIDS, TALL OIL, POLYMERS WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE, AND SOYBEAN OIL	DURAPLEX(R) SYNTHETIC RESIN|FATTY ACIDS, TALL OIL, POLYMERS WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE, AND SOYBEAN OIL|SOYBEAN OIL, POLYMER WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE AND TALL-OIL FATTY ACIDS	68015-41-8	Clear liquid with a mild odor. An alkyd varnish and lacquer resin. Contains low molecular-weight polyesters.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1958.0	211.0	683.0	365.0	208.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4331	FATTY ACIDS, TALL OIL, REACTION PRODUCTS WITH 2-[(2-AMINOETHYL)-AMINO]ETHANOL, QUATERNIZED WITH DIETHYL SULFATE	FATTY ACIDS, TALL OIL, REACTION PRODUCTS WITH 2-[(2-AMINOETHYL)-AMINO]ETHANOL, QUATERNIZED WITH DIETHYL SULFATE|FATTY ACIDS, TALL OIL, REACTION PRODUCTS WITH 2-[(2-AMINOETHYL)-AMINO]ETHANOL, QUATERNIZED WITH DIETHYL SULFATE|QUAT 1738	70955-34-9	PHYSICAL DESCRIPTION: Opaque dark amber non-pourable paste or clear brown viscous liquid. pH (1% solution) 6-8. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1959.0	211.0	684.0	365.0	208.0	(BLOB)	Special Hazards of Combustion Products: Toxic vapors are generated when heated. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4332	FERRIC ARSENATE	FERRIC ARSENATE|FERRIC ARSENATE, [SOLID]|IRON ARSENATE (FEASO4)	10102-49-5	Ferric arsenate is a green or brown powder. It is insoluble in water. It is toxic by ingestion and inhalation and is a strong irritant. It is used in the manufacture of insecticides.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1959.0	211.0	684.0	365.0	209.0	(BLOB)	When heated to decomposition, it emits toxic fumes of chlorine containing compounds. Commercial solutions may contain flammable or combustible liquids. The dry powder will not burn. Container may explode in heat of fire. Avoid concentrated mineral acids, acid catalysts, acid oxidizing agents, phenols, or active metals. (EPA, 1998)	Wear full protective clothing, including positive pressure breathing apparatus. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire-control water for later disposal; do not scatter the material. Not Flammable. Extinguish by using water spray, dry chemical, foam, or carbon dioxide. Use water to keep fire-exposed containers cool. Use water spray to disperse the vapors. (EPA, 1998)
4333	FERRIC ARSENITE	FERRIC ARSENITE|FERRIC ARSENITE, [SOLID]	63989-69-5	A yellow-brown powder. Insoluble in water. Toxic by ingestion and inhalation and is a strong irritant. It is used in medicines.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1960.0	211.0	685.0	365.0	209.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4334	FERROCERIUM	AUER METAL|FERROCERIUM|PYROPHOROUS ALLOY|SPARK METAL	8049-18-1	Ferrocerium is a white to light colored metallic solid. Insoluble in water and denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1960.0	211.0	685.0	365.0	209.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, foam or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4329	FATTY ACIDS, C5-10, ESTERS WITH POLYPENTAERYTHRITOL	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992) Keep sparks, flames, and other sources of ignition away. Keep material out of water sources and sewers. Build dikes to contain flow as necessary.	Goggles or face shield; rubber gloves (USCG, 1999)	Soluble in water.	This amine is a very mild chemical base. It does tend to neutralize acids to form salts plus water. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		204														(NTP, 1992)		-9	
4330	FATTY ACIDS, TALL OIL, POLYMERS WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE, AND SOYBEAN OIL	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	N-METHYL-4-NITROANILINE has a vigorous exothermic reaction with carbaryl sulfate when heated above 167Â° F. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)		306	
4331	FATTY ACIDS, TALL OIL, REACTION PRODUCTS WITH 2-[(2-AMINOETHYL)-AMINO]ETHANOL, QUATERNIZED WITH DIETHYL SULFATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Becomes brown on exposure to air (NTP, 1992). Slightly soluble in water.	N-METHYLANILINE is an aryl an amine. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		175															(NTP, 1992)		-71	
4332	FERRIC ARSENATE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	ALDRIN may be sensitive to prolonged exposure to light. This chemical is stable to heat and in the presence of inorganic and organic bases. It is stable to hydrated metal chlorides and mild acids. This compound is thermally stable up to 392Â° F and it is stable between pH 4 and 8. This compound reacts with concentrated acids and phenols in the presence of oxidizing agents. It can be corrosive to metals. It can react with acid catalysts, acid oxidizing agents and active metals. (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(EPA, 1998)	Approximately 150F or higher															(EPA, 1998)	219Â° F for pure product. 120 to 140Â° F for technical product.		
4333	FERRIC ARSENITE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							
4334	FERROCERIUM	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator under an inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	Organic imides, of which alloxan is one, react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generate mixed oxides of nitrogen.					0																			(NTP, 1992)	(decomposes)	464	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4329	FATTY ACIDS, C5-10, ESTERS WITH POLYPENTAERYTHRITOL								(NTP, 1992)		3.4				(USCG, 1999)		1.03		77		(NTP, 1992)		396		760		(NTP, 1992)		99.13						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	MPY	Combustible Liquid	C5H9NO	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4330	FATTY ACIDS, TALL OIL, POLYMERS WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE, AND SOYBEAN OIL														(NTP, 1992)		1.201		311		(NTP, 1992)	Decomposes					(NTP, 1992)		152.15						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C7H8N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4331	FATTY ACIDS, TALL OIL, REACTION PRODUCTS WITH 2-[(2-AMINOETHYL)-|AMINO]ETHANOL, QUATERNIZED WITH DIETHYL SULFATE	(NTP, 1992)		1		106		mm Hg	(NTP, 1992)		3.9				(USCG, 1999)		0.989		68		(NTP, 1992)		385.3		760		(NTP, 1992)		107.16		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 70.7Â° F		1 to 5	mg/mL	MAN	Poison	C7H9N		0.0	0.0	0.0	0.0	0.0
4332	FERRIC ARSENATE	(EPA, 1998)		6.00E-06		77		mm Hg							(EPA, 1998)		1.7		68		(EPA, 1998)	decomposes	293		2		(EPA, 1998)		364.9		(NIOSH, 2003)	: A potential human carcinogen.	25	mg/m3	(NTP, 1992)	at 75Â° F		less than 1	mg/mL	ALD	Poison	C12H8Cl6	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4333	FERRIC ARSENITE																																								Combustible Liquid		Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4334	FERROCERIUM																				(NTP, 1992)	Sublimes (vacuum)					(NTP, 1992)		160.09						(NTP, 1992)	at 70.7Â° F		greater than or equal to 100	mg/mL			C4H4N2O5		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4335	FERROUS ARSENATE	FERROUS ARSENATE|FERROUS ARSENATE, [SOLID]|IRON ARSENATE (FE3(ASO4)2)	10102-50-8	Ferrous arsenate is a green powder. It is insoluble in water. It is toxic by ingestion. It is used in insecticides.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1961.0	211.0	686.0	365.0	209.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4336	FLUENETIL	ACETIC ACID, 4-BIPHENYLYL-, 2-FLUOROETHYL ESTER|BETA-FLUOROETHYL 4-BIPHENYLACETATE|4-BIPHENYLACETIC ACID, 2-FLUOROETHYL ESTER|[1,1'-BIPHENYL]-4-ACETIC ACID, 2-FLUOROETHYL ESTER|ETHANOL, 2-FLUORO-, 4-BIPHENYLACETATE|FLUENETHYL|FLUENETIL|2-FLUOROETHYL 4-BIPHENYLACETATE(ACN)|LAMBROL|M 2060|MYTROL|TH 367-1	4301-50-2	Solid. Formerly used as an acaricide and insecticide. No longer made. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1961.0	211.0	686.0	367.0	209.0	(BLOB)	Allyl alcohol vapor may explode if ignited in confined areas. Combustion products may be poisonous. The vapor is heavier than air and flashback along vapor trail may occur. Gives off toxic fumes when heated. May react vigorously with oxidizing materials, carbon tetrachloride, acids, oleum, sodium hydroxide, diallyl phosphite, potassium chloride, or tri-n-bromomelamine. (EPA, 1998)	Water may be ineffective on fire. Cool exposed containers with water. Wear goggles, self-contained breathing apparatus, rubber overclothing, gloves. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Extinguish with dry chemical, alcohol foam, or carbon dioxide. Dike fire control water for later disposal and do not scatter the material. (EPA, 1998)
4337	FLUOROTOLUENES	FLUOROTOLUENE|FLUOROTOLUENES|TOLUENE, AR-FLUORO-	25496-08-6	A colorless liquid with a benzene-like odor. Mixture of three isomers. Insoluble in water and about the same density as water. May irritate skin and eyes. Used to make plastics.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1961.0	211.0	686.0	367.0	209.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4338	FONOFOS	DIFONATE|DIFONATUL|DYFONAT|DYFONATE|DYFONATE 10G|DYFONATE 20G|DYFONATEÂ®|DYPHONATE|ENT 25,796|ETHYLPHOSPHONODITHIOIC ACID O-ETHYL S-PHENYL ESTER|FONOFOS|(.*.)-FONOFOS|FONOPHOS|N 2790|N-2790|O-ETHYL S-PHENYL ETHYLDITHIOPHOSPHONATE|O-ETHYL S-PHENYL ETHYLPHOSPHONODITHIOATE|O-ETHYL S-PHENYL ETHYLPHOSPHONOTHIOLOTHIONATE|O-ETHYL-S-PHENYL ETHYLPHOSPHOROTHIOATE|PHOSPHONODITHIOIC ACID, ETHYL-, O-ETHYL S-PHENYL ESTER|STAUFFER N 2790	944-22-9	Light-yellow liquid with a pungent mercaptan-like odor. Used primarily as an insecticide for corn. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1962.0	211.0	687.0	367.0	209.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4339	FORMOTHION	AFLIX|ANTHIO|ANTHIO 25|ANTHIO 33|ANTIO|CP 53926|ENT 27,257|ENT 27257|FORMITHION|FORMOTHION|J-38|N-FORMYL-N-METHYLCARBAMOYLMETHYL O,O-DIMETHYL PHOSPHORODI-THIOATE|O,O-DIMETHYL DITHIOPHOSPHORYLACETIC ACID N-METHYL-N-FORMYLAMIDE|O,O-DIMETHYL PHOSPHORODITHIOATE N-FORMYL-2-MERCAPTO-N-METHYLACETAMIDE S-ESTER|O,O-DIMETHYL S-(N-FORMYL-N-METHYLCARBAMOYLMETHYL) PHOSPHORODITHIOATE|O,O-DIMETHYL S-(N-METHYL-N-FORMYLCARBAMOYLMETHYL) PHOSPHORODITHIOATE|OMS-968|P 1|PHOSPHORODITHIOIC ACID, O,O-DIMETHYL ESTER, N-FORMYL-2-	2540-82-1	Viscous yellow oil or a crystalline mass. Used as an insecticide and acaricide on crops and ornamentals. Not presently produced commercially in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1963.0	211.0	688.0	367.0	209.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4335	FERROUS ARSENATE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	ALLYL ACETATE is an ester. Reacts with acids to liberate heat along with alcohols and acids. Generates heat with strong oxidizing acids. The reaction may be sufficiently exothermic to ignite the reaction products. Also generates heat with basic solutions. Generates flammable hydrogen with alkali metals and hydrides. Emits acrid smoke and irritating fumes when heated to decomposition.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NFPA, 2010)		72																			
4336	FLUENETIL	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	ALLYL ALCOHOL presents a dangerous fire and explosion hazard when exposed to heat, flame, or oxidizing agents. Reacts violently or explosively with sulfuric acid, strong bases. Reacts violently with 2,4,6-trichloro-1,3,5-triazine and 2,4,6-tris(bromoamino)-1,3,5-triazine. Reacts with carbon tetrachloride to produce explosively unstable products [Lewis]. Mixing allyl alcohol in equal molar portions with any of the following substances in a closed container caused the temperature and pressure to increase: chlorosulfonic acid, nitric acid, oleum, sulfuric acid [NFPA 491M. 1991].	Highly Flammable; Polymerizable; Strong Reducing Agent	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1098 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	1	4		(EPA, 1998)		71.6		(EPA, 1998)		2.5		%	(EPA, 1998)		18		%	(USCG, 1999)		829		(EPA, 1998)		-200	
4337	FLUOROTOLUENES	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light, and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Bkthru Time Thickness Butyl rubber North B-174 480 min 0.56 mm Nitrile Edmont 37-175 15 min 0.41 mm (NTP, 1992)	Water soluble.	N-NITROSODIETHYLAMINE reacts with strong oxidizing agents. Incompatible with reducing agents. Can be hydrolyzed by hydrogen bromide in acetic acid (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		145																			
4338	FONOFOS	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	N-NITROSODI-N-BUTYLAMINE is a nitrated azo derivative. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4339	FORMOTHION	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Soluble in water.	ALLYL FORMATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4335	FERROUS ARSENATE																																								Flammable Liquid|Poison	C5H8O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4336	FLUENETIL	(EPA, 1998)		23.8		77		mm Hg	(EPA, 1998)		2				(EPA, 1998)		0.854		68		(EPA, 1998)		206		760		(EPA, 1998)		58.09		(NIOSH, 2003)		20	ppm	(NIOSH, 2003)	Miscible				ALA	Poison Inhalation Hazard|Flammable Liquid	C3H6O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4337	FLUOROTOLUENES	(NTP, 1992)	; 8.8 mm Hg at 94.1Â° F	5.7		77		mm Hg							(NTP, 1992)		0.9422		68		(NTP, 1992)		351		760		(NTP, 1992)		102.14						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL		Poison	C4H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4338	FONOFOS																																							Class 9	C8H18N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4339	FORMOTHION																																							Flammable Liquid|Poison	C4H6O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4340	FORMPARANATE	CARBAMIC ACID, METHYL-, 4-[((DIMETHYLAMINO)METHYLENE)AMINO)-M-TOLYL ESTER|CARBAMIC ACID, METHYL-, 4-[[(DIMETHYLAMINO)METHYLENE]AMINO}-M-TOLYL ESTER|CARBAMIC ACID, METHYL-, ESTER WITH N'-(4-HYDROXY-O-TOLYL)-N,N-DIMETHYLFORMAMIDINE|4-[(DIMETHYLAMINO)METHYLENE]AMINO-M-TOLYL METHYLCARBAMATE|ENT 27,305|FORMPARANATE|3-METHYL-4-DIMETHYLAMINOMETHYLENEIMINOPHENYL N-METHYLCARBAMATE|UC-25074|UNION CARBIDE UC-25074	17702-57-7	A solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1964.0	211.0	689.0	367.0	209.0	(BLOB)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4341	FUBERIDAZOLE	B-33172|BAY 33172|BAYER 33172|BENZIMIDAZOLE, 2-(2-FURYL)-|FUBERIDATOL|FUBERIDAZOL|FUBERIDAZOLE|FUBERISAZOLE|FURIDAZOLE|2-(2-FURANYL)-1H-BENZIMIDAZOLE|FURIDAZOL|FURIDAZOLE|2-(2'-FURYL)-BENZIMIDAZOLE|2-(2'-FURYL)BENZIMIDAZOLE|2-(2-FURYL)BENZIMIDAZOLE|1H-BENZIMIDAZOLE, 2-(2-FURANYL)-|PF 7402|VORONIT|VORONITE|WVII/117	3878-19-1	Crystalline powder. Used in cereal seed dressing and fungicidal non-mercurial seed dressing with special action against fusarium. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1965.0	211.0	689.0	367.0	209.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4342	GASOLINE BLENDING STOCKS: ALKYLATES	GASOLINE BLENDING STOCKS: ALKYLATES	68425-29-6	Colorless watery liquid with an odor of gasoline odor. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1966.0	211.0	690.0	367.0	209.0	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4343	GASOLINES: STRAIGHT RUN	GASOLINES: STRAIGHT RUN	68606-11-1	Colorless watery liquid with an odor of gasoline odor. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1966.0	211.0	690.0	367.0	209.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4344	GLYOXAL TRIMERIC DIHYDRATE	(1,4)DIOXINO(2,3-B)-1,4-DIOXIN-2,3,6,7-TETROL, HEXAHYDRO-|ETHANEDIAL, TRIMER, DIHYDRATE|GLYOXAL TRIMER DIHYDRATE|GLYOXAL TRIMERIC DIHYDRATE|HEXAHYDRO(1,4)DIOXINO(2,3-B)-1,4-DIOXIN-2,3,6,7-TETROL|HEXAHYDRO-P-DIOXINO(2,3-B)-P-DIOXIN-2,3,6,7-TETROL|HEXAHYDRO[1,4]DIOXINO[2,3-B]-1,4-DIOXIN-2,3,6,7-TETROL|P-DIOXINO(2,3-B)-P-DIOXIN-2,3,6,7-TETROL, HEXAHYDRO-|P-DIOXINO[2,3-B]-P-DIOXIN-2,3,6,7-TETROL, HEXAHYDRO-	4405-13-4	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1966.0	211.0	690.0	367.0	209.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4340	FORMPARANATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Flammable. Insoluble in water.	ALLYL GLYCIDYL ETHER reacts violently with oxidizing agents. Can form peroxides. Polymerizes readily [Handling Chemicals Safely 1980. p.128].	Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		135															(NTP, 1992)		-148	
4341	FUBERIDAZOLE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Contact with moisture in the air produces highly corrosive and toxic fumes containing hydrogen chloride. Insoluble in water. Decomposes in water producing acidic products.	DIETHYLTHIOPHOSPHORYL CHLORIDE. [LIQUID] is incompatible with bases (including amines), with strong oxidizing agents, and with alcohols. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Highly Flammable; Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4342	GASOLINE BLENDING STOCKS: ALKYLATES	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Insoluble in water.	VINYL PYRIDINE, INHIBITED contains additives to prevent unwanted rapid polymerization. May nevertheless polymerize exothermically if subjected to heat for prolonged periods or if contaminated. If polymerization takes place inside a closed container, the container may violently rupture. The liquid may polymerize upon contact with peroxides and with compounds partially peroxidized by exposure to the air [Bretherick 1979 p. 160]. Reacts with oxidizing agents [Handling Chemicals Safely, 1980 p. 960]. Neutralizes acids in exothermic reactions to form salts plus water. Incompatible with isocyanates, halogenated organics, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.	Highly Flammable; Polymerizable; Strong Reducing Agent; Peroxidizable Compound	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4343	GASOLINES: STRAIGHT RUN	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Practically water insoluble.	VITAMIN A is light sensitive. Also air sensitive and heat sensitive. Reacts with strong oxidizing agents. Also can react with acids (NTP, 1992). Can react exothermically with reducing agents to release hydrogen gas.						0																					(NTP, 1992)		144 to 147
4344	GLYOXAL TRIMERIC DIHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Soluble in water.	ALLYLTHIOUREA may react vigorously with strong oxidizing agents. Can react exothermically with reducing agents (such as alkali metals and hydrides) to release gaseous hydrogen. May react exothermically with both acids and bases. May generate flammable gases in combination with aldehydes, nitrides, and hydrides. Incompatible with peroxides and acid halides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(NTP, 1992)		158 to 172

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4340	FORMPARANATE	(NTP, 1992)	; 5.8 mm Hg at 86Â° F	3.6		68		mm Hg	(NTP, 1992)		3.94				(NTP, 1992)		0.969		68		(NTP, 1992)		309		760		(NTP, 1992)		114.14		(NIOSH, 2003)		50	ppm	(NTP, 1992)	at 65.3Â° F		greater than or equal to 100	mg/mL		Flammable Liquid	C6H10O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4341	FUBERIDAZOLE																																								Corrosive	C4H10Cl2O2PS	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4342	GASOLINE BLENDING STOCKS: ALKYLATES																																							Poison|Flammable Liquid|Corrosive	C7H7N	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4343	GASOLINES: STRAIGHT RUN																				(NTP, 1992)			279 to 280	1.00E-06		(NTP, 1992)		286.46						(NTP, 1992)	Practically insoluble						C20H30O	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4344	GLYOXAL TRIMERIC DIHYDRATE														(NTP, 1992)			1.11 to 1.22									(NTP, 1992)		116.19						(NTP, 1992)	at 67.1Â° F		10 to 50	mg/mL		Poison	C4H8N2S	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4345	HALOWAX 1000	HALOWAX 1000|HALOWAX-1000|POLYCHLORINATED NAPHTHALENE 1000|POLYCHLORINATED NAPHTHALENE-1000	58718-66-4	Chlorinated hydrocarbons with varying chlorine content, including chlorinated naphthalenes, ranging in viscosity from a low viscosity oil to hard microcrystalline waxes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1967.0	211.0	690.0	367.0	209.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4346	HALOWAX 1001	HALOWAX 1001|HALOWAX-1001|POLYCHLORINATED NAPHTHALENE 1001|POLYCHLORINATED NAPHTHALENE-1001	58718-67-5	Chlorinated hydrocarbons with varying chlorine content, including chlorinated naphthalenes, ranging in viscosity from a low viscosity oil to hard microcrystalline waxes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1968.0	211.0	690.0	367.0	209.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4347	HALOWAX 1099	HALOWAX 1099|HALOWAX-1099|POLYCHLORINATED NAPHTHALENE 1099|POLYCHLORINATED NAPHTHALENE-1099	39450-05-0	Chlorinated hydrocarbons with varying chlorine content, including chlorinated naphthalenes, ranging in viscosity from a low viscosity oil to hard microcrystalline waxes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1968.0	211.0	690.0	367.0	209.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4348	HC BLUE 1	ETHANOL, 2,2'-[[4-(METHYLAMINO)-3-NITROPHENYL]IMINO]DI-|HC BLUE 1|HC BLUE NO. 1|HC BLUE NO.1|HC BLUE NUMBER 1|2,2'-[(4-(METHYLAMINO)-3-NITROPHENYL)IMINO]BISETHANOL|2,2'-((4-(METHYLAMINO)-3-NITROPHENYL)IMINO)DIETHANOL|N',N'-BIS(2-HYDROXYETHYL)-N-METHYL-2-NITRO-P-PHENYLENEDIAMINE|N,N-BIS(2-HYDROXYETHYL)-N'-METHYL-2-NITRO-P-PHENYLENEDIAMINE|N4,N4-BIS(2-HYDROXYETHYL)-N1-METHYL-2-NITRO-P-PHENYLENEDIAMINE|NCI-C04159	2784-94-3	PHYSICAL DESCRIPTION: Dark blue microcrystals or dark purple powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1969.0	211.0	690.0	367.0	209.0	INHALATION: move to fresh air. EYES: flush with water. SKIN: wipe off; flush with water; wash with soap and water. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
4349	HC BLUE 2	ETHANOL, 2,2'-[[4-[(2-HYDROXYETHYL)AMINO]-3-NITROPHENYL]IMINO]DI-|HC BLUE 2|HC BLUE NO. 2|2,2'-((4-[(2-HYDROXYETHYL)AMINO)-3-NITROPHENYL)IMINO)BISETHANOL|2,2'-((4-((2-HYDROXYETHYL)AMINO)-3-NITROPHENYL)IMINO)DIETHANOL|N1,N4,N4-TRIS(2-HYDROXYETHYL)-2-NITRO-P-PHENYLENEDIAMINE|NCI-C54897|3-NITRO-N(SUP 1),N(SUP 1),N(SUP 4)-TRIS(2-HYDROXYETHYL)-P-PHENYLENEDIAMINE|P-PHENYLENEDIAMINE, 3-NITRO-N(SUP 1),N(SUP 1),N(SUP 4)-TRIS(2-HYDROXYETHYL)-	33229-34-4	PHYSICAL DESCRIPTION: Dark blue to dark brown microcrystalline powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1969.0	211.0	690.0	367.0	209.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this compound can be controlled with carbon dioxide, dry chemical or Halon extinguishers. (NTP, 1992)
4350	HEXABROMOBIPHENYL	BIPHENYL, HEXABROMO-|1,1'-BIPHENYL, HEXABROMO-|FIREMASTER BP6|FIREMASTER FF-1|HBB|HEXABROMO-1,1'-BIPHENYL|HEXABROMOBIPHENYL|HEXABROMODIPHENYL|NCI-C53634|PBB|POLYBROMILATED BIPHENYL	36355-01-8	PHYSICAL DESCRIPTION: White solid or tan powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1970.0	211.0	691.0	367.0	209.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4345	HALOWAX 1000	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. You should then use absorbent paper to pick up liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash contaminated surfaces with 60-70% methanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	ALPHA-CYCLODEXTRIN has hydrophobic cavities. It forms inclusion compounds with organic substances, salts, and halogens in the solid state or in aqueous solutions. It is incompatible with strong oxidizing agents. (NTP, 1992)				0																							(NTP, 1992)	(decomposes)	532	
		SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	This compound is sensitive to moisture. (NTP, 1992). Insoluble in water.	Nitriles, such as ALPHA-HYDROXYBENZENEACETONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)				0		(NTP, 1992)		179.5															(NTP, 1992)	(also given as 72Â° F)	14	
4346	HALOWAX 1001																																			
4347	HALOWAX 1099	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved respirator, chemical safety goggles, chemical resistant gloves, other protective clothing. (USCG, 1999)	Insoluble in water.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NTP, 1992)		185													(NTP, 1992)		68	
4348	HC BLUE 1		Goggles or face shield; rubber gloves (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	DIHEPTYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].						0																								
4349	HC BLUE 2	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to air, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This compound may be sensitive to prolonged exposure to air. Insoluble in water.	DIHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	0	3		(NTP, 1992)		203																				
4350	HEXABROMOBIPHENYL	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4345	HALOWAX 1000																									(NTP, 1992)		972.86														C36H60O30	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4346	HALOWAX 1001														(NTP, 1992)		1.1165		68		(NTP, 1992)	(decomposes)	338		760		(NTP, 1992)		133.15						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Poison	C8H7NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4347	HALOWAX 1099	(NTP, 1992)	; 1 mm Hg at 120.2Â° F; 5 mm Hg at 167.4Â° F	0.1		68		mm Hg	(NTP, 1992)		4.21				(USCG, 1999)		1.015		68		(NTP, 1992)		399		745		(NTP, 1992)		122.17						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL	MBA	Poison	C8H10O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4348	HC BLUE 1														(USCG, 1999)	(est.)	1		68								(USCG, 1999)		362											DHP		C22H34O		0.0	0.0	0.0	0.0	0.0
4349	HC BLUE 2	(NTP, 1992)		less than 0.1	68		mm Hg	(NTP, 1992)		6.38					(NTP, 1992)		0.79		68		(NTP, 1992)		451 to 469	760			(NTP, 1992)		185.36						(NTP, 1992)	at 79Â° F		less than 1	mg/mL		Poison	C12H27N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4350	HEXABROMOBIPHENYL																																								Class 9	C10H10O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4351	HEXABUTOXYTRIPHENYLENE	HEXABUTOXYTRIPHENYLENE|2,3,6,7,10,11-HEXABUTOXYTRIPHENYLENE	70351-85-8		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1970.0	211.0	691.0	367.0	209.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4352	HEXACHLOROCYCLOHEXANE (ALL ISOMERS)	HEXACHLOROCYCLOHEXANE (ALL ISOMERS)|HEXACHLOROCYCLOHEXANE (ALL ISOMERS) CAS 608-73-1	608-73-1	White to yellow powder or flakes. Musty odor. The gamma isomer is known as lindane, a systemic insecticide. Toxic by ingestion or inhalation.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1971.0	211.0	691.0	367.0	209.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4353	HEXACHLORONAPHTHALENE	HALOWAX 1014|HALOWAXÃ® 1014|HEXACHLORONAPHTHALENE	1335-87-1	PHYSICAL DESCRIPTION: White solid with an aromatic odor. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1972.0	211.0	691.0	367.0	209.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
4354	HEXADIENE	HEXADIENE	42296-74-2	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Hence floats on water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1972.0	211.0	692.0	367.0	209.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water. Where there is evidence of skin irritation, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4355	HEXAETHYL TETRAPHOSPHATE	BLADAN|ETHYL TETRAPHOSPHATE|HET|HEXAETHYL TETRAPHOSPHATE|HEXAETHYL TETRAPHOSPHATE, LIQUID|HEXAETHYL TETRAPHOSPHATE, SOLID|HEXAETHYL TETRAPHOSPHATE, [LIQUID]	757-58-4	Hexaethyl tetraphosphate is a yellow liquid which is miscible in water. It is difficult to burn. It is toxic by skin absorption and inhalation. It is a mixture of ethyl phosphates and ethyl pyrophosphate. It decomposes at high temperatures.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1972.0	211.0	692.0	367.0	209.0	INHALATION: Move victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. SKIN AND EYES: Immediately flush skin or eyes with running water for at least 15 minutes; hold eyelids open if necessary. Remove and isolate contaminated clothing and shoes. Maintain normal body temperature. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fire. Behavior in Fire: May produce toxic oxides of nitrogen. (USCG, 1999)	Fire Extinguishing Agents: Small fires: Dry chemical, CO 2 , water spray or alcohol foam. Large fires: Water spray, fog or alcohol foam. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4351	HEXABUTOXYTRIPHENYLENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air. Insoluble in water.	1,4-NAPHTHALENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)		248	
4352	HEXACHLOROCYCLOHEXANE (ALL ISOMERS)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Fumes in moist air. Reaction with water can produce some acidic HBr, which may destroy containers [Nicholson, D.G. et al. Inorg. Synth. 3, 35 1950]. This reaction may have been catalyzed by something in solution. Experimental work at Argonne National Laboratory has determined that there is essentially no HBr gas formation; the substance is quite unreactive in water. This does not prevent HBr formation by a catalytic mechanism, but under normal conditions anhydrous aluminum bromide is quite unreactive. The hydration reaction was rapid and quite exothermic. The small change in gas volume was attributed to this heating. The production of an acidic mist by intense heating of a restricted quantity of water should not be ruled out as a result of a spill of large quantities of aluminum chloride (Argonne Report ANL/DIS-00-1, October 2000).	An acid. May catalyze organic reactions. Corrosive to metals. Solutions of aluminum bromide in dichloromethane should be kept cold as a potentially dangerous exothermic halide exchange reaction occurs on warming, [Acc. Chem. Res., 1986, 19(3), 78].	Known Catalytic Activity; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													
4353	HEXACHLORONAPHTHALENE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes slowly in presence of water or moist air to generate heat and flammable methane gas [Merck 12th ed. 1989]. Consequently a dangerous fire risk.	ALUMINUM CARBIDE is a reducing agent. May react vigorously with oxidizing materials. Incandescence on warming with lead dioxide or potassium permanganate, [Mellor, 1946, Vol. 5, 872].	Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													
4354	HEXADIENE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Water soluble.	N-PROPANOL reacts with alkali metal, nitrides and strong reducing agents to give flammable and/or toxic gases. Reacts with oxoacids and carboxylic acids to form esters plus water. Converted by oxidizing agents to propanal or propionic acid. May initiate the polymerization of isocyanates and epoxides. Incompatible with strong oxidizing agents (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		77		(USCG, 1999)		2.1		%	(USCG, 1999)		13.5		%	(USCG, 1999)		700		(USCG, 1999)		-195.2	
4355	HEXAETHYL TETRAPHOSPHATE	Neutralizing Agents for Acids and Caustics: Cover spilled material with sodium bisulfate. Flush with water. (USCG, 1999)	Wear butyl rubber gloves and face shield or all-purpose canister respirator for spills. Wear self-contained breathing apparatus and full protective clothing for fires. (USCG, 1999)	Water soluble.	N-PROPANOLAMINE neutralizes acids to form salts plus water in an exothermic reaction. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Reacts with strong reducing agents, such as hydrides to generate flammable gaseous hydrogen.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		175														(USCG, 1999)		52	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4351	HEXABUTOXYTRIPHENYLENE																										(NTP, 1992)		158.2						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Class 9	C10H10N2		0.0	0.0	0.0	0.0	0.0
4352	HEXACHLOROCYCLOHEXANE (ALL ISOMERS)																																								Corrosive	AlBr3 (aqueous)		0.0	0.0	0.0	0.0	0.0
4353	HEXACHLORONAPHTHALENE																																								Dangerous When Wet	C3Al4		0.0	0.0	0.0	0.0	0.0
4354	HEXADIENE	(USCG, 1999)		44.98				mm Hg							(USCG, 1999)		0.803		68		(USCG, 1999)		207		760		(USCG, 1999)		60.1		(NIOSH, 2003)		800	ppm	(NIOSH, 2003)	Miscible				PAL	Flammable Liquid	C3H8O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4355	HEXAETHYL TETRAPHOSPHATE														(USCG, 1999)		0.982		68		(USCG, 1999)		369.5		760		(USCG, 1999)		75.11											PLA	Corrosive	C3H9NO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4356	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE|HEXAETHYL TETRAPHOSPHATE-COMPRESSED GAS MIXTURE	757-58-4	This is a mixture of ethyl phosphates and ethyl pyrophosphate (TEPP). Hexaethyl tetraphosphate and compressed gas mixture is a liquid material charged with a gas. Hexaethyl tetraphosphate is a yellow liquid and is lethal by skin absorption and inhalation. Prolonged exposure of the containers to fire or intense heat may result in the violent rupturing and rocketing of the containers.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	1972.0	211.0	692.0	367.0	209.0	(BLOB)		
4357	HEXAETHYL TETRAPHOSPHATE MIXTURE, [DRY, WITH > 2% HEXAETHYL TETRAPHOSPHATE]	BLADAN|ETHYL TETRAPHOSPHATE|HET|HEXAETHYL TETRAPHOSPHATE|HEXAETHYL TETRAPHOSPHATE MIXTURE, [DRY, WITH > 2% HEXAETHYL TETRAPHOSPHATE]	757-58-4	Tetraethyl pyrophosphate solid is a solid material on which the phosphate itself is absorbed. The phosphate itself is combustible though it may take effort to ignite. It is soluble in water and gradually decomposed by it. It is toxic by inhalation(dust, etc) and by skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1973.0	211.0	692.0	367.0	209.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4358	HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID	HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID	757-58-4	A yellow liquid. Difficult to burn. Toxic by skin absorption and inhalation. Mixture of ethyl phosphates and ethyl pyrophosphate. Decomposes at high temperatures.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1973.0	211.0	692.0	367.0	209.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
4359	HEXAFLUOROACETONE HYDRATE	HEXAFLUORO-2,2-PROPANEDIOL|HEXAFLUOROACETONE HYDRATE|2,2-PROPANEDIOL, HEXAFLUORO-	677-71-4	A colorless liquid with a acetone-like odor. Toxic by inhalation. Nonflammable. Emits toxic fumes when heated to high temperatures. Heavier than air. Used as an intermediate in organic synthesis.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1973.0	211.0	693.0	367.0	209.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4360	HEXAHYDROPHTHALIMIDE GLUTARIMIDE	1,2-CYCLOHEXANEDICARBOXIMIDE, N-(2,6-DIOXO-3-PIPERIDYL)-|HEXAHYDROPHTHALIMIDE GLUTARIMIDE|2-(HEXAHYDROPHTHALIMIDO)GLUTARIMIDE|HEXAHYDROTHALIDOMIDE|WU-320	19246-22-1	PHYSICAL DESCRIPTION: Shiny off-white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1974.0	211.0	693.0	367.0	209.0	(BLOB)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4356	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to moisture, air and light. (NTP, 1992). Water insoluble.	VITAMIN D3 may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.							0																								
4357	HEXAETHYL TETRAPHOSPHATE MIXTURE, [DRY, WITH > 2% HEXAETHYL TETRAPHOSPHATE]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Will be soluble in water with release of heat.	ALUMINUM CHLOROHYDRATE SOLUTION reacts to neutralize chemical bases (for example: amines and inorganic hydroxides) Reacts with or corrodes active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (to give SO2), and carbonates (to give CO2).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																								
4358	HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	N-PROPOXYPROPANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. Alcohols react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. alcohols exhibit both weak acid and weak base behavior. Alcohols may initiate the polymerization of isocyanates and epoxides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).						0	(USCG, 1999)		128													(USCG, 1999)		-112	
4359	HEXAFLUOROACETONE HYDRATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	N-PROPYL ACETATE is an ester. It is colorless, highly flammable liquid, moderately toxic. Dangerous fire hazard when exposed to heat, flame, sparks, or strong oxidizers. When heated to decomposition it emits acrid smoke and irritating fumes [Lewis, 3rd ed., 1993, p. 1093].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		58		(USCG, 1999)		2		%	(USCG, 1999)		8		%	(USCG, 1999)		842		(USCG, 1999)		-139	
4360	HEXAHYDROPHTHALIMIDE GLUTARIMIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	DIISOBUTYL KETONE may attack some plastics. It reacts with oxidizers. (NTP, 1992)	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NTP, 1992)		140		(USCG, 1999)	at 200Â°F	0.81		%	(USCG, 1999)	at 200Â°F	7.1		%	(USCG, 1999)		745		(NTP, 1992)		-51.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4356	HEXAETHYL TETRAPHOSPHATE AND COMPRESSED GAS MIXTURE																																	(NTP, 1992)	at 64Â° F		less than 1	mg/mL				Cellulose-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4357	HEXAETHYL TETRAPHOSPHATE MIXTURE, [DRY, WITH > 2% HEXAETHYL TETRAPHOSPHATE]																																								Corrosive	Al2(OH)5Cl (aqueous)		0.0	0.0	0.0	0.0	0.0
4358	HEXAETHYL TETRAPHOSPHATE MIXTURE, LIQUID														(USCG, 1999)		0.8865		68		(USCG, 1999)		301.6		760		(USCG, 1999)		118.17											PXP		C6H14O2	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4359	HEXAFLUOROACETONE HYDRATE	(USCG, 1999)		67.21				mm Hg							(USCG, 1999)		0.886		68		(USCG, 1999)		214.9		760		(USCG, 1999)		102.13		(NIOSH, 2003)		1700	ppm	(NIOSH, 2003)		2		%	PAT	Flammable Liquid	C5H10O2		0.0	0.0	0.0	0.0	0.0
4360	HEXAHYDROPHTHALIMIDE GLUTARIMIDE	(NTP, 1992)		2.4				mm Hg							(USCG, 1999)		0.806		68		(NTP, 1992)		331		760		(NTP, 1992)		142.27		(NIOSH, 2003)		500	ppm	(NTP, 1992)	Slightly soluble				DIK	Flammable Liquid	C9H18O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4361	HEXOTONAL <OR> HEXATONAL, CAST	ALUMINUM, MIXT. CONTAINING|BENZENE, 2-METHYL-1,3,5-TRINITRO-, MIXT. CONTAINING|COMPOSITION A|COMPOSITION B|COMPOSITION C|COMPOSITION D|H 6|HBX 3|HEXOTONAL|HEXOTONAL <OR> HEXATONAL, CAST|KS 22|TORPEX	67713-16-0	A very pale yellow to yellow solid mixture of the explosives cyclotrimethylenetrinitramine (hmx), trinitrotoluene (TNT), and the reducing agent aluminum. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1975.0	211.0	693.0	367.0	209.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4362	HEXYL GLYCIDYL ETHER	1,2-EPOXY-3-HEXOXYPROPANE|2,3-EPOXYPROPYLHEXYL ETHER|GLYCIDYL HEXYL ETHER|GLYCIDYL N-HEXYL ETHER|HEXYL GLYCIDYL ETHER|1-(HEXYLOXY)-2,3-EPOXYPROPANE|PROPANE, 1,2-EPOXY-3-(HEXYLOXY)-	5926-90-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1976.0	211.0	694.0	367.0	209.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4363	HYCANTHONE	1-((2-(DIETHYLAMINO)ETHYL)AMINO)-4-(HYDROXYMETHYL)-9H-THIOXANTHEN-9-ONE|1-((2-(DIETHYLAMINO)ETHYL)AMINO)-4-(HYDROXYMETHYL)THIOXANTHEN-9-ONE|1-(2'-DIETHYLAMINOETHYL)AMINO-4-HYDROXYMETHYL-9-THIOXANTHENONE|HYCANTHON|HYCANTHONE|LUCANTHONE METABOLITE|NSC 142982|NSC-134434|THIOXANTHEN-9-ONE, 1-[[2-(DIETHYLAMINO)ETHYL]AMINO]-4-(HYDROXYMETHYL)-|WIN 24933	3105-97-3	PHYSICAL DESCRIPTION: Odorless canary yellow to yellow-orange crystalline powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1976.0	211.0	694.0	367.0	209.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
4364	HYCANTHONE METHANESULFONATE	1-((DIETHYLAMINO)ETHYL)AMINO)-4-(HYDROXYMETHYL)-9H-THIOXANTHEN-9-ONE|ETRENOL|HCT|HYCANTHONE MESYLATE|HYCANTHONE METHANE SULPHONATE|HYCANTHONE METHANESULFONATE|HYCANTHONE METHANESULPHONATE|HYCANTHONE MONOMETHANESULFONATE|HYCANTHONE MONOMETHANESULPHONATE|MONOMETHANE SULFONATE (SALT)/THIOXANTHEN-9-ONE, 1-[[2-(DIETHYLAMINO)ETHYL]AMINO]-4-(HYDROXYMETHYL)-, MONOMETHANESULFONATE (SALT)	23255-93-8	PHYSICAL DESCRIPTION: Odorless yellow to yellow-orange powder. Bitter taste. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1977.0	211.0	694.0	367.0	209.0	(BLOB)	Releases toxic fumes on exposure to moist air, water, or acids. Decomposes to produce phosphine gas. Avoid water, dilute mineral acids, dilute or concentrated hydrochloric acid. Stable when dry. Avoid moist air. (EPA, 1998)	Wear self-contained breathing apparatus when fighting fires involving this material. If contact with the material is anticipated, wear full protective clothing. Do not use water or foam. Small fires can be extinguished with dry chemical, soda ash, or lime. Large fires -- withdraw from area and let fire burn. Move container from fire only if you can do it without risk. (EPA, 1998)
4365	HYDRAZINE SULFATE	DIAMIDOGEN SULFATE|DIAMINE SULFATE|HS|HYDRAZINE DIHYDROGEN SULFATE (SALT)|HYDRAZINE HYDROGEN SULFATE|HYDRAZINE HYDROSULFATE|HYDRAZINE MONOSULFATE|HYDRAZINE SULFATE|HYDRAZINE SULFATE (1:1)|HYDRAZINIUM SULFATE|HYDRAZINIUM(2+) SULFATE|HYDRAZONIUM SULFATE|NSC-150014|SEGIDRIN|SEHYDRIN	1184-66-3	A white crystalline solid. Obtained by neutralizing the base hydrazine with sulfuric acid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1977.0	211.0	694.0	367.0	209.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
4366	HYDRAZINE, 1,2-DIETHYL-	HYDRAZINE, 1,2-DIETHYL-|SYM-DIETHYLHYDRAZINE|SYMMETRICAL DIETHYLHYDRAZINE	1615-80-1	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1978.0	211.0	694.0	367.0	209.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4361	HEXOTONAL <OR> HEXATONAL, CAST	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	An acid. The resulting aqueous solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4362	HEXYL GLYCIDYL ETHER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as O,O-DIETHYL S-METHYL DITHIOPHOSPHATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4363	HYCANTHONE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and away from oxidizers, mineral acids and bases. (NTP, 1992)	Goggles or face shield; rubber gloves (USCG, 1999)	Insoluble in water.	DIISODECYL PHTHALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Can generate electrostatic charges. [Handling Chemicals Safely 1980. p. 250].			(NFPA, 2010)		0	1	0	1		(NTP, 1992)		450								(USCG, 1999)	at 508Â°F	0.2		%	(USCG, 1999)		755		(NTP, 1992)		-58	
4364	HYCANTHONE METHANESULFONATE	(BLOB)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Decomposed by water or moist air, evolving phosphine slowly, a toxic gas that often ignites [Merck 11th ed. 1989]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	ALUMINUM PHOSPHIDE is a reducing agent. Contact with mineral acids causes explosive evolution of toxic phosphine [Wang, C. C. et al., J. Inorg. Nucl. Chem., 1963, 25, p. 327]. Heating produces highly toxic fumes of phosphorus oxides. Can react vigorously upon contact with oxidizing agents. [Sax, 9th ed., p. 119].	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1397 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	4	2	6	No Water																						(EPA, 1998)		Does not melt or decompose at temperatures up to 1832Â° F.	
4365	HYDRAZINE SULFATE		Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	DIISONONYL ADIPATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as carbon dioxide and carbon monoxide, may be formed when involved in fire (USCG, 1999).					0																										
4366	HYDRAZINE, 1,2-DIETHYL-	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Coated form prevents spontaneous ignition in air. Can react with water to generate gaseous hydrogen and heat.	(BLOB)	Highly Flammable; Strong Reducing Agent; Water-Reactive	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	3	1	4																						(NIOSH, 2003)		1220	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4361	HEXOTONAL <OR> HEXATONAL, CAST																																								Corrosive	AlPO4 (in phosphoric acid)		0.0	0.0	0.0	0.0	0.0
4362	HEXYL GLYCIDYL ETHER																																								Class 9	C5H13O2PS2		0.0	0.0	0.0	0.0	0.0
4363	HYCANTHONE								(NTP, 1992)		15.4				(USCG, 1999)		0.967		68		(NTP, 1992)			482 to 495	4		(NTP, 1992)		446.67						(NTP, 1992)	Insoluble						C28H46O4		0.0	0.0	0.0	0.0	0.0
4364	HYCANTHONE METHANESULFONATE														(EPA, 1998)		2.85		59								(EPA, 1998)		57.95											APH	Dangerous When Wet(Poison	AlP		0.0	0.0	0.0	0.0	0.0
4365	HYDRAZINE SULFATE																										(USCG, 1999)		398.63											DNY		C24H46O4		0.0	0.0	0.0	0.0	0.0
4366	HYDRAZINE, 1,2-DIETHYL-	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.7				(NIOSH, 2003)			4221	760		(NIOSH, 2003)		27						(NIOSH, 2003)	Insoluble						Flammable Solid	AI		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4367	HYDRIDES, METAL, N.O.S.	HYDRIDE ANION|HYDRIDE ION|HYDRIDE ION (H1-)|HYDRIDE(1-)|HYDRIDE, [METAL]|HYDRIDES, METAL, N.O.S.|HYDROGEN ATOM ION(1-)|HYDROGEN ION(1-)|HYDROGEN, ION (H1-)|METAL HYDRIDES, WATER-REACTIVE, N.O.S.	12184-88-2	Metal hydrides are either liquids or solids shipped within a solution. This material will react vigorously in water or upon exposure to air to generate flammable fumes. Contact with the material may cause burns to skin, eyes, and mucous membranes, and it may be toxic by ingestion, inhalation or skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1979.0	212.0	694.0	367.0	210.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4368	HYDROGENDIFLUORIDES, N.O.S.	BIFLUORIDE|BIFLUORIDE (HF2-)|BIFLUORIDE (HF21-)|BIFLUORIDE ANION (HF21-)|FLUORIDE (HF2-)|HYDROGEN BIFLUORIDE ION(1-)|HYDROGEN DIFLUORIDE (HF21-)|HYDROGEN DIFLUORIDE ANION|HYDROGEN DIFLUORIDE ION(1-)|HYDROGEN DIFLUORIDE(1-)|HYDROGEN FLUORIDE (HF21-)|HYDROGEN FLUORIDE ION (HF21-)|HYDROGENDIFLUORIDES, N.O.S.	18130-74-0	Salts containing the bifluoride or acid fluoride ion (examples: sodium bifluoride, potassium bifluoride). Corrosive. May be shipped as solids dissolved in a liquid. Very irritating to skin, eyes and mucous membranes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1979.0	212.0	694.0	367.0	210.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4369	ICR 170	ACRIDINE MUSTARD|ACRIDINE, 6-CHLORO-9-((3-((2-CHLOROETHYL)ETHYLAMINO)PROPYL)AMINO)-2-METHOXY-,2HCL,HYDRATE|ACRIDINE, 6-CHLORO-9-[[3-[(2-CHLOROETHYL)ETHYLAMINO]PROPYL]AMINO]-2-METHOXY, DIHYDROCHLORIDE MONOHYDRATE|6-CHLORO-9-((3-((2-CHLOROETHYL)ETHYLAMINO)PROPYL)AMINO)-2-METHOXYACRIDINE 2HCL HYDRATE|ICR 170|1,3-PROPANEDIAMINE, N-(2-CHLOROETHYL)-N'-(6-CHLORO-2-METHOXY-9-ACRIDINYL)-N-ETHYL-, DIHYDROCHLORIDE, HYDRATE	146-59-8	PHYSICAL DESCRIPTION: Yellow crystalline or chunky solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1979.0	212.0	694.0	367.0	210.0	INHALATION: Call for medical aid. Remove the victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Do not induce vomiting. EYES: Flush with lots of running water for 15 minutes, lifting lower and upper lids occasionally. SKIN: Wash with soap and water. Remove contaminated clothing. (USCG, 1999)	Special Hazards of Combustion Products: Vapors may travel considerable distance to an ignition source and flash back. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water spray, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
4370	ICR 191	ACRIDINE, 6-CHLORO-9-(3-((2-CHLOROETHYL)AMINO)PROPYL)AMINO-2-METHOXY, DIHYDROCHLORIDE|ACRIDINE, 6-CHLORO-9-[[3-[(2-CHLOROETHYL)AMINO]PROPYL]AMINO]-2-METHOXY-, DIHYDROCHLORIDE|ICR 191|ICR 191 DIHYDROCHLORIDE|ICR 191A|ICR DIHYDROCHLORIDE|2-METHOXY-6-CHLORO-9-(3-(2 CHLOROETHYL)AMINOPROPYLAMINO)ACRIDINE, DIHYDROCHLORIDE|1,3-PROPANEDIAMINE,N-(2-CHLOROETHYL)-N'-(6-CHLORO-2-METHOXY-9-ACRIDINYL)-, DIHYDROCHLORIDE	17070-45-0	PHYSICAL DESCRIPTION: Yellow crystalline or chunky solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1979.0	212.0	694.0	367.0	210.0	INHALATION: move to fresh air; call a doctor. EYES: flush with water for 15 minutes, holding eyelids open; call physician. SKIN: wash several times with soap and water. (USCG, 1999)	Combustible. Will increase the intensity of a fire. May cause fire on contact with combustibles. Containers may explode in fire. Flammable alcohol and ketone gases are formed in fire. Burns with a flare effect. Containers may explode. (USCG, 1999)	Extinguish with dry chemicals, foam or carbon dioxide. Water may be ineffective on fire. Cool exposed containers with water. (USCG, 1999)
4371	IODOMETHANESULFONIC ACID, SODIUM SALT	ABRODAN|ABRODIL|CONTUREX|DIAGNORENOL|IODOMETHANESULFONIC ACID SODIUM SALT|IODOMETHANESULFONIC ACID, SODIUM SALT|KONTRAST-U|METHIODAL SODIUM|MYELOTRAST|NEO-SOMBRAVEN|RADIOGRAPHOL|SERGOSIN|SERGOZIN|SKIODAN|SODIUM IODOMETHANESULFONATE|SODIUM METHIODAL|SODIUM MONOIODOMETHANESULFONATE	126-31-8	PHYSICAL DESCRIPTION: Colorless crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1980.0	212.0	694.0	367.0	210.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4367	HYDRIDES, METAL, N.O.S.	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	Nitriles, such as TETRAMETHYLSUCCINONITRILE, may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids. This chemical can react violently with (LiAlH4 + H2O). (NTP, 1992)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						(NTP, 1992)	(sublimes)		338.9 to 340.7
4368	HYDROGENDIFLUORIDES, N.O.S.	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TETRANITROANILINE is a nitroaryl derivative. It is sensitive to heat, especially in the absence of a solvent that may mitigates its tendency to explode. Nitroaryls range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)					0																														
4369	ICR 170	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Gloves impervious to aromatic hydrocarbon and splash-proof safety goggles. Approved organic cartridge respirator for exposure below 1,000 ppm. Full face piece is required above 500 ppm. Self-contained breathing apparatus or air supplied respirators above 1000 ppm. Clothing impervious to aromatic hydrocarbon. (USCG, 1999)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIISOPROPYLBENZENE (ALL ISOMERS), and strong oxidizing agents. Can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		170		(USCG, 1999)		6.5		%	(USCG, 1999)		0.9		%	(USCG, 1999)		840		(USCG, 1999)		1.4	
4370	ICR 191	Stop discharge if possible. Keep people away. Avoid contact with liquid and vapor. Isolate and remove discharged material. Notify local health and pollution control agencies. (USCG, 1999)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	The explosive instability of the lower dialkyl peroxides (e.g., dimethyl peroxide) and 1,1-bis-peroxides decreases rapidly with increasing chain length and degree of branching, the di-tert-alkyl derivatives being amongst the most stable class of peroxides. Though many 1,1-bis-peroxides have been reported, few have been purified because of the higher explosion hazards compared with the monofunctional peroxides. It is unlikely that this derivative would be particularly unstable compared to other peroxides in its class [Bretherick 2nd ed., p 44 1979].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)		175																(USCG, 1999)			less than 15
4371	IODOMETHANESULFONIC ACID, SODIUM SALT	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4367	HYDRIDES, METAL, N.O.S.														(NTP, 1992)		1.07				(NIOSH, 2003)	Sublimes					(NTP, 1992)		136.2		(NIOSH, 2003)		5	ppm	(NTP, 1992)	at 75Â° F		less than 1	mg/mL		Poison	C8H12N2		0.0	0.0	0.0	0.0	0.0
4368	HYDROGENDIFLUORIDES, N.O.S.																																								Explosive 1.1D	C6H3N5O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4369	ICR 170														(USCG, 1999)		0.86				(USCG, 1999)			397 to 410	760		(USCG, 1999)		162.3										DIX	Class 9	C12H18		0.0	0.0	0.0	0.0	0.0
4370	ICR 191														(USCG, 1999)		0.956		59								(USCG, 1999)		194.26										DIH	Organic Peroxide	C12H18O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4371	IODOMETHANESULFONIC ACID, SODIUM SALT																																								Poison	C9H17NS	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4372	IODOPROPANES	IODOPROPANE|IODOPROPANES	26914-02-3	A colorless liquid that discolors in air. Denser than water. The vapors are heavier than air. May be mildly toxic by inhalation. Used as a solvent and to make pharmaceuticals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1980.0	212.0	695.0	367.0	210.0	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Some may burn but none ignite readily. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Use extinguishing agent suitable for type of surrounding fire. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. Some of these materials, if spilled, may evaporate leaving a flammable residue. (ERG, 2012)
4373	ISOBENZAN	948|CP 14,957|ENT 25,545|ENT 25,545-X|ISOBENZAN|4,7-METHANOISOBENZOFURAN, 1,3,4,5,6,7,8,8-OCTACHLORO-1,3,3A,4,7,7A-HEXAHYDRO-|4,7-METHANOISOBENZOFURAN, 1,3,4,5,6,7,8,8-OCTACHLORO-3A,4,7,7A-TETRAHYDRO-|1,3,4,5,6,7,8,8-OCTACHLORO-1,3,3A,4,7,7A- HEXAHYDRO-4,7-METHANOISOBENZOFURAN|1,3,4,5,6,7,8,8-OCTACHLORO-2-OXA-3A,4,7,7A-TETRAHYDRO-4,7-METHANOINDENE|1,3,4,5,6,7,10,10-OCTACHLORO-4,7-ENDO-METHYLENE- 4,7,8,9-TETRAHYDROPHTHALAN|OMTAN|SD 4402|SHELL 4402|SHELL WL 1650|TELODRIN|WL 1650	297-78-9	Crystals. The technical product is a whitish to light-brown crystalline powder with a mild chemical odor. Used as an insecticide. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1981.0	212.0	696.0	367.0	210.0	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4374	ISOBUTYL ISOCYANATE	ISOBUTYL ISOCYANATE|ISOCYANIC ACID, ISOBUTYL ESTER	1873-29-6	A colorless liquid. Less dense than water. Contact may severely irritate skin, eyes and mucous membranes. May be very toxic by ingestion, inhalation and skin absorption. Used to make pesticides and pharmaceuticals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1982.0	212.0	696.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available; however it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4375	ISOCYANATE SOLUTION, FLAMMABLE, POISONOUS, N.O.S.	CYANATE ION|CYANATE ION(1-)|CYANATE(1-)|CYANIC ACID, ION(1-)|ISOCYANATE ION(1-)|ISOCYANATE SOLUTION, FLAMMABLE, POISONOUS, N.O.S.|ISOCYANATE SOLUTION, FLAMMABLE, TOXIC, N.O.S.|ISOCYANATE SOLUTIONS, N.O.S.|ISOCYANATES AND SOLUTIONS, [FLAMMABLE LIQUID LABEL]|ISOCYANATES, FLAMMABLE, POISONOUS, N.O.S.|ISOCYANATES, FLAMMABLE, TOXIC, N.O.S.|ISOCYANATES, N.O.S.|ISOCYANIC ACID, ION(1-)	661-20-1	Isocyanates are a class of liquid compounds which are generally colorless with slight odors. Many of these compounds are extremely flammable, toxic by inhalation, and irritants to skin, eyes and mucous membranes. Most isocyanates will react with water to generate toxic fumes, and when heated to high temperatures they may decompose to emit toxic nitric oxides and cyanide fumes. Obtain the technical name of the material from the shipping papers and contact CHEMTREC, 800 424-9300 for specific response information. They are used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1982.0	212.0	696.0	367.0	210.0	EYES: flush with water for at least 15 min. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
4376	ISOCYANATE SOLUTION, POISONOUS, N.O.S.	ISOCYANATE ION(1-)|ISOCYANATE SOLUTION, POISONOUS, N.O.S.|ISOCYANATE SOLUTION, TOXIC, N.O.S.|ISOCYANATE SOLUTIONS, N.O.S.|ISOCYANATES AND SOLUTIONS, [B.P. < 300 C]|ISOCYANATES, N.O.S.|ISOCYANATES, POISONOUS, N.O.S.|ISOCYANATES, TOXIC, N.O.S.	661-20-1	A class of generally colorless liquids with slight odors. Toxic by inhalation. Irritate skin, eyes, and mucous membranes. Decompose to emit toxic nitric oxide and cyanide fumes when heated to high temperatures. May be combustible. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1982.0	212.0	696.0	367.0	210.0	No treatment necessary. (USCG, 1999)		Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
4377	ISODRIN	COMPOUND 711|1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO-, ENDO,ENDO-|1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO-, (1ALPHA,4ALPHA,4ABETA,5BETA,8BETA,8ABETA)-|1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO-, ENDO,ENDO-|1,4:5,8-DIMETHANONAPHTHALENE, 1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO-,(1 ALPHA, 4 ALPHA, 4A BETA, 5 BETA, 8 BETA, 8A BETA)-|5,8- ENDO,ENDO-DIMETHANONAPHTHALENE|ENT 19,244|EXPERIMENTAL INSECTICIDE 711|1,2,3,4,10,10-HEXACHLORO-1,4,4A,5,8,8A-HEXAHYDRO-ENDO,ENDO-1,4:5,8-DIMETHANONAPHTHALENE|1,2,3,4,10,10-HEXACHLORO-	465-73-6	Solid. This material is no longer used as a pesticide. Isomer of aldrin.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4372	IODOPROPANES	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Allow substance to evaporate. Ventilate the area. (ERG, 2012)	Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	OCTAFLUOROCYCLOBUTANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		Excerpt from GUIDE 126 [Gases - Compressed or Liquefied (Including Refrigerant Gases)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 500 meters (1/3 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
4373	ISOBENZAN	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. Slightly soluble in water.	DIKETENE is a very reactive dimer, it may undergo a spontaneous decomposition followed by explosion or ignition [Vervalin, 1973, p.86]. In the presence of bases, amines, mineral acids or Lewis acids a violent polymerization will occur, accompanied by gas evolution [Zdenek, F. et al., Czech Pat. 156 584, 1975].	Highly Flammable; Explosive; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2521 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	2	2	4		(NFPA, 2010)		93																			
4374	ISOBUTYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Insoluble in water.	OIL ORANGE SS is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																						(NTP, 1992)		268	
4375	ISOCYANATE SOLUTION, FLAMMABLE, POISONOUS, N.O.S.		Goggles or face shield. (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: FISH react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.						0		(USCG, 1999)		420																			
4376	ISOCYANATE SOLUTION, POISONOUS, N.O.S.		Goggles or face shield (USCG, 1999)	Insoluble in water.	OILS, EDIBLE: OLIVE react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		437														(USCG, 1999)		650				
4377	ISODRIN	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	They are soluble in water.	An amine and phenol, and therefore may exhibit properties of an acid or base. THF forms explosive products with 2-aminophenol [Lewis 3227].		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4372	IODOPROPANES																																									Non-Flammable Gas	C4F8		0.0	0.0	0.0	0.0	0.0
4373	ISOBENZAN																																									Poison Inhalation Hazard|Flammable Liquid	C4H4O2	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4374	ISOBUTYL ISOCYANATE																										(NTP, 1992)		262.33						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C17H14N2O		0.0	0.0	0.0	0.0	0.0
4375	ISOCYANATE SOLUTION, FLAMMABLE, POISONOUS, N.O.S.														(USCG, 1999)		0.93		68		(USCG, 1999)	Very high																			OFS				0.0	0.0	0.0	0.0	0.0
4376	ISOCYANATE SOLUTION, POISONOUS, N.O.S.	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.915		68		(USCG, 1999)	Very high																			OOL			Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4377	ISODRIN																																									Poison	C6H7NO		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4378	ISOFENPHOS	2-((ETHOXYL((1-METHYLETHYL)AMINO)PHOSPHINOTHIOYL)OXY) BENZOIC ACID 1-METHYLETHYL ESTER|ISOFENPHOS	25311-71-1	Colorless oil. Non corrosive. Used as an insecticide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4379	ISOHEPTENE	ISOHEPTENE	68975-47-3	A colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0			Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
4380	ISOHEPTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	ISOHEPTYL ACETATE|ISOHEPTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	180348-60-1	A clear colorless liquid with a sweet mint-like odor. Less dense than water. Vapors heavier than air. Eye contact may cause irritation. Frequent or prolonged skin contact may cause irritation and dermatitis. Vapors irritate the eyes and respiratory tract and may cause headaches and dizziness. Vapors are anesthetic and may have other central nervous system effects. Vapors may also cause liver and kidney disorder. Ingestion of the liquid into the respiratory system may cause bronchopneumonia or pulmonary edema.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0			Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Dry chemical, foam, or carbon dioxide (USCG, 1999)
4381	ISOHEXENE	ISOHEXENE|2-METHYLPENTENE|4-METHYLPENTENE	27236-46-0	A colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Used as a solvent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0			Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide (USCG, 1999)
4382	ISONONANOYL PEROXIDE	DI(3,5,5-TRIMETHYLHEXANOYL) PEROXIDE|ISONONANOYL PEROXIDE	67805-95-2		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0	Get medical attention. INHALATION: Remove to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with water for at least 15 min., lifting lids occasionally. SKIN: Remove contaminated clothing and shoes. Wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as hydrogen chloride and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water. Fire Extinguishing Agents: Dry chemical, alcohol foam, or carbon dioxide. (USCG, 1999)
4383	ISOOCTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	ISOOCTANOL, ACETATE|ISOOCTYL ACETATE|ISOOCTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)|ISOOCTYL ALCOHOL, ACETATE	31565-19-2	A clear colorless liquid with a sweet ester odor. Less dense than water. Vapors heavier than air. Eye contact may cause irritation. Frequent or prolonged skin contact may irritate and cause dermatitis. Vapors irritate the eyes and respiratory tract and may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Vapors may also cause liver and kidney disorder. Ingestion of the liquid into the respiratory system may cause bronchopneumonia or pulmonary edema.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4384	ISOOCTYL ACID PHOSPHATE, [CORROSIVE LIQUID]	ISOOCTYL ACID PHOSPHATE, [CORROSIVE LIQUID]	10353-73-8	A liquid. May severely irritate skin, eyes,and mucous membranes.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1983.0	212.0	696.0	367.0	210.0	(BLOB)	Combustible (NTP, 1992)	
4385	ISOPHTHALIC ACID-TRIMETHYLOLETHANE-SOYBEAN OIL POLYMER	ISOPHTHALIC ACID-TRIMETHYLOLETHANE-SOYBEAN OIL POLYMER|SOYBEAN OIL, POLYMER WITH ISOPHTHALIC ACID AND TRIMETHYLOLETHANE|STERLING THERMODUR D-180	66070-63-1	PHYSICAL DESCRIPTION: Cloudy very viscous amber or dark amber liquid with black particulate matter. Has a mild odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1984.0	212.0	697.0	367.0	210.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4378	ISOFENPHOS	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time PVA Edmont 25-545 Unknown 480 min Unknown North 0.10 mm 480 min Silvershield PE/EVOH/PE Safety4 4H 0.07 mm 240 min (NTP, 1992)	This chemical is sensitive to prolonged exposure to air. Insoluble in water.	1,5-NAPHTHALENEDIAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NTP, 1992)		374	
4379	ISOHEPTENE			Insoluble in water.	OILS, MISCELLANEOUS: NEATSFOOT react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.			(NFPA, 2010)		1	1	0	1		(USCG, 1999)			430 to 470										(USCG, 1999)		828		(USCG, 1999)		14	
4380	ISOHEPTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)			Insoluble in water.	OILS, MISCELLANEOUS: SPERM react with acids to liberate heat. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides. React slowly with oxygen in the air to become rancid.			(NFPA, 2010)		0	1	0	1		(USCG, 1999)		460										(USCG, 1999)		586					
4381	ISOHEXENE			Insoluble in water.	OILS, MISCELLANEOUS: TALL are weakly acidic.								0		(USCG, 1999)		380																			
4382	ISONONANOYL PEROXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Insoluble in water.	1,6-DICHLOROHEXANE is incompatible with strong oxidizing and reducing agents. Also incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides. Irritating vapors and toxic gases, such as hydrogen chloride and carbon monoxide, may be formed when involved in fire (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		165																			
4383	ISOOCTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	It may be sensitive to prolonged exposure to air. Insoluble in water.	Amines, such as OLEIC ACID DIETHANOLAMINE CONDENSATE (1/1), are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0		(NTP, 1992)		greater than 200																			
4384	ISOOCTYL ACID PHOSPHATE, [CORROSIVE LIQUID]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that neoprene gloves may provide protection to contact with this compound. Neoprene over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, remove them at once. (NTP, 1992)	Insoluble in water.	Esters, such as OLEIC ACID METHYL ESTER, react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides						0																					(NTP, 1992)		-3.8	
4385	ISOPHTHALIC ACID-TRIMETHYLOLETHANE-SOYBEAN OIL POLYMER	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Because of its insolubility it doesn't react vigorously with water, although it does generate annoying levels of hydrogen chloride fumes.	O-METHYLBENZYL CHLORIDE is rapidly decomposed when heated in the presence of iron.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4378	ISOFENPHOS														(NTP, 1992)		1.4				(NTP, 1992)	Sublimes					(NTP, 1992)		158.22						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL		Class 9	C10H10N2		0.0	0.0	0.0	0.0	0.0
4379	ISOHEPTENE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.915		60.8		(USCG, 1999)	Very high																	ONF			Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4380	ISOHEPTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.882		68		(USCG, 1999)	Very high																	OSP				0.0	0.0	0.0	0.0	0.0
4381	ISOHEXENE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.951		60.8		(USCG, 1999)	Very high																	OTL				0.0	0.0	0.0	0.0	0.0
4382	ISONONANOYL PEROXIDE														(USCG, 1999)		1.068		68								(USCG, 1999)		155.07										DHX	Class 9	C6H12Cl2		0.0	0.0	0.0	0.0	0.0
4383	ISOOCTYL ACETATE (COMBUSTIBLE LIQUID, N.O.S.)	(NTP, 1992)	; 12.1 mm Hg at 108Â° F; 32.5 mm Hg at 149Â° F	5.7		77		mm Hg													(NTP, 1992)			469 to 473	760		(NTP, 1992)		387.68						(NTP, 1992)	at 77Â° F		less than 1	mg/mL			C18H34O2.C4H11NO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4384	ISOOCTYL ACID PHOSPHATE, [CORROSIVE LIQUID]														(NTP, 1992)		0.8739				(NTP, 1992)		425.3		20		(NTP, 1992)		296.5						(NTP, 1992)	Insoluble						C19H36O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4385	ISOPHTHALIC ACID-TRIMETHYLOLETHANE-SOYBEAN OIL POLYMER																																							Combustible Liquid	C8H9Cl		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4386	ISOPHTHALIC DIGLYCIDYL ESTER	1,3-BENZENEDICARBOXYLIC ACID, BIS(OXIRANYLMETHYL) ESTER|BIS(2,3-EPOXYPROPYL) ISOPHTHALATE|DIGLYCIDYL ISOPHTHALATE|ISOPHTHALIC ACID, BIS(2,3-EPOXYPROPYL) ESTER|ISOPHTHALIC ACID, DIGLYCIDYL ESTER|ISOPHTHALIC DIGLYCIDYL ESTER|1-PROPANOL, 2,3-EPOXY-, ISOPHTHALATE (2:1)|1-PROPANOL, 2,3-EPOXY-, ISOPHTHALATE	7195-43-9	PHYSICAL DESCRIPTION: White solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1984.0	212.0	697.0	367.0	210.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4387	ISOPROPANOLAMINE DODECYLBENZENE SULFONATE	CONCO AAS SPECIAL 3|ISOPROPANOLAMINE DODECYLBENZENE SULFONATE|ISOPROPANOLAMINE DODECYLBENZENESULFONATE|ISOPROPANOLAMINE DODECYLBENZENESULPHONATE|MIPA-DODECYLBENZENESULFONATE|P-DODECYLBENZENESULFONIC ACID 2-HYDROXY-1-PROPYLAMINE SALT|2-PROPANOL, 1-AMINO-, 4-DODECYLBENZENESULFONATE (SALT)	42504-46-1	Isopropanolamine dodecylbenzenesulfonate is a white to light yellow granular solid. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used as a detergent.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1985.0	212.0	697.0	367.0	210.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4388	ISOPROPYL 2-CHLOROPROPIONATE	ISOPROPYL (+)-2-CHLOROPROPIONATE|ISOPROPYL 2-CHLOROPROPIONATE|ISOPROPYL CHLOROPROPIONATE	40058-87-5	A colorless liquid with a pungent odor. About the same density as water and insoluble in water. Vapors are heavier than air. May be toxic by ingestion and skin absorption.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1985.0	212.0	697.0	367.0	210.0	(BLOB)	This compound is combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4389	ISOPROPYL CYCLOHEXANE	HEXAHYDROCUMENE|ISOPROPYL CYCLOHEXANE|1-METHYLETHYLCYCLOHEXANE|NORMENTHANE	696-29-7	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1985.0	212.0	697.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4390	ISOPROPYLCUMYL HYDROPEROXIDE	DIISOPROPYLBENZENE HYDROPEROXIDE|ISOPROPYLCUMYL HYDROPEROXIDE	80-24-0		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1986.0	212.0	697.0	367.0	210.0	(BLOB)	This chemical is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be use. (NTP, 1992)
4391	ISOPROPYLMETHYLPYRAZOLYL DIMETHYLCARBAMATE	CARBAMIC ACID, DIMETHYL-, 1-ISOPROPYL- 3-METHYLPYRAZOL-5-YL ESTER|CARBAMIC ACID, DIMETHYL-, 1-ISOPROPYL-3-METHYLPYRAZOL-5-YL ESTER|CARBAMIC ACID, DIMETHYL-, 3-METHYL-1-(1-METHYLETHYL)-1H-PYRAZOL-5-YL ESTER|DIMETHYL-5-(1-ISOPROPYL-3-METHYL-PYRAZOLYL)-CARBAMATE|DIMETHYLCARBAMIC ACID 1-ISOPROPYL-3-METHYLPYRAZOL-5-YL ESTER|DIMETHYLCARBAMIC ACID 3-METHYL-1-(1-METHYLETHYL)-1H-PYRAZOL-5-YL ESTER|ENT 19,060|G 23611|ISOLAN|ISOLAN (PESTICIDE)|1-ISOPROPYL-3-METHYL-5-PYRAZOLYL DIMETHYLCARBAMATE|ISOPROPYLMETHYLPYRAZOLYL DIMETHYLCARBAMATE|5-METHYL-2- ISOPROPYL-3-PYRAZOLYL	119-38-0	Colorless liquid. Used as a systemic aphicide in Europe, insecticide. Currently of little commercial interest. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1987.0	212.0	697.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. Fine dust dispensed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4386	ISOPHTHALIC DIGLYCIDYL ESTER	(Non-Specific -- Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	It is an amino derivative of folic acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4387	ISOPROPANOLAMINE DODECYLBENZENE SULFONATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water.	AMINOPYRIDINES are amines. Highly toxic, may cause epilepsy-like convulsions, toxic effects resemble strychnine poisoning. When heated to decomposition (over 200Â° C), it emits highly toxic fumes of oxides of nitrogen [Sax, 9th ed., p. 193].		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4388	ISOPROPYL 2-CHLOROPROPIONATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face chemical cartridge respirator equipped with the appropriate organic vapor and high efficiency particulate filter cartridges. If that is not available, a half face respirator similarly equipped plus airtight goggles can be substituted. However, please note that half face respirators provide a substantially lower level of protection than do full face respirators. (NTP, 1992)	Insoluble in water.	A halogenated aromatic nitro compound. Aromatic nitro compounds range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 235																(NTP, 1992)			122 to 126
4389	ISOPROPYL CYCLOHEXANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials and strong acids. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	O-PHENANTHROLINE MONOHYDRATE is incompatible with strong oxidizers. It is also incompatible with strong acids. It forms complex compounds with ferrous ions. (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)			212 to 219
4390	ISOPROPYLCUMYL HYDROPEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures and away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1,6-DIMETHYLNAPHTHALENE can react with strong oxidizing agents. (NTP, 1992)						0		(NTP, 1992)		greater than 230															(NTP, 1992)		1.6	
4391	ISOPROPYLMETHYLPYRAZOLYL DIMETHYLCARBAMATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Fine dust dispensed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. (NTP, 1992). Insoluble in water.	(BLOB)						0																			(NTP, 1992)			225 to 226

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4386	ISOPHTHALIC DIGLYCIDYL ESTER																									(EPA, 1998)		440.47														Poison	C19H20N8O5	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4387	ISOPROPANOLAMINE DODECYLBENZENE SULFONATE																																							Poison	C5H6N2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4388	ISOPROPYL 2-CHLOROPROPIONATE														(NTP, 1992)		1.5557										(NTP, 1992)		171.58						(NTP, 1992)	Insoluble					Corrosive	C7H6ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4389	ISOPROPYL CYCLOHEXANE																									(NTP, 1992)		198.23						(NTP, 1992)	at 70Â° F		less than 0.1	mg/mL		Poison	C12H8N2.H2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4390	ISOPROPYLCUMYL HYDROPEROXIDE														(NTP, 1992)		1.009		61.3		(NTP, 1992)			509 to 511	760	(NTP, 1992)		156.23						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C12H12		0.0	0.0	0.0	0.0	0.0
4391	ISOPROPYLMETHYLPYRAZOLYL DIMETHYLCARBAMATE														(NTP, 1992)		1.062		239		(NTP, 1992)			496 to 498	760	(NTP, 1992)		136.15						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C8H8O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4392	JET FUELS, [JP-4]	JET FUELS, [JP-4]|JET FUELS: JP-4	50815-00-4	Watery colorless liquids. Less dense than water and insoluble in water. Hence float on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1987.0	212.0	697.0	367.0	210.0	(BLOB)	When heated to decomposition, it emits acrid smoke and fumes. Hydrolysis yields one mole ouabagenin and one mole rhamnose. Stable in air, but affected by light (ouabain octahydrate) (EPA, 1998)	(Non-Specific -- Medicine, n.o.s.) Cool containers that are exposed to flames with water from the side until well after fire is out. For massive fires use unmanned hose holder or monitor nozzles; if this is impossible, withdraw and let fire burn. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Medicine, n.o.s.) For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
4393	KEPONE	1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA(CD)-PENTALEN-2-ONE|CHLORDECONE|CIBA 8514|CLORDECONE|COMPOUND 1189|1,2,3,5,6,7,8,9,10,10-DECACHLORO(5.2.1.0(SUP 2,6).0(SUP 3,9).0(SUP 5,8))-DECANO-4-ONE|DECACHLORO-1,3,4-METHENO-2H-CYCLOBUTA(CD)PENTALEN-2-ONE|DECACHLOROKETONE|DECACHLOROOCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA(CD)-PENTALEN-2-ONE|DECACHLOROOCTAHYDRO-1,3,4-METHENO-2H-CYCLOBUTA(CD)PENTALEN-2-ONE|DECACHLOROOCTAHYDRO-KEPONE-2-ONE|DECACHLOROOCTAHYDROKEPONE-2-ONE|DECACHLOROPENTAC	143-50-0	Odorless colorless crystalline solid. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1988.0	212.0	697.0	367.0	210.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4394	KEPONE ALCOHOL	1,1A,3,3A,4,5,5,5A,5B,6-DECACHLOROOCTA-HYDRO-2-HYDROXY-1,3,4-METHENO-2H-CYCLOBUTA(CD)-PENTALENE|CHLORDECOL|CHLORDECONE ALCOHOL|KEPONE ALCOHOL|REDUCED KEPONE	1034-41-9	PHYSICAL DESCRIPTION: White powder or solid. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1989.0	212.0	697.0	367.0	210.0	INHALATION: Call for medical aid. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush immediately with copious amounts of water for at least 15 minutes. SKIN: Wash immediately with soap and copious amounts of water. (USCG, 1999)		Fire Extinguishing Agents: Carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
4395	KETOTIFEN	4,9-DIHYDRO-4-(1-METHYL-4-PIPERIDINYLIDENE)-10H-BENZO(4,5)CYCLOHEPTA[1,2-B]-THIOPEN-10-ONE|HC 20-511|KETOTIFEN	34580-13-7	PHYSICAL DESCRIPTION: Crystals (from ethyl acetate). (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1989.0	212.0	697.0	367.0	210.0			
4396	LASIOCARPINE	(BLOB)	303-34-4	PHYSICAL DESCRIPTION: Colorless plates or beige crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1989.0	212.0	697.0	367.0	210.0	(BLOB)	This chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4397	LEAD ARSENITE	ARSENIOUS ACID (HASO2), LEAD(2+) SALT|LEAD ARSENITE|LEAD ARSENITE (PB(ASO2)2)|LEAD ARSENITE, [SOLID]|LEAD ARSENITES	10031-13-7	Lead arsenite is a white powder. It is insoluble in water. It is toxic by inhalation and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1990.0	212.0	697.0	367.0	210.0	Consult physician in case of ingestion or severe irritation. INHALATION: move to uncontaminated atmosphere. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: if conscious, give water and induce vomiting. SKIN: Wash with large amounts of soap and water. EYES: wash with large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating and toxic ammonia gas may form in fires. Behavior in Fire: Decomposes, but reaction is not explosive. Ammonia gas is formed. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4398	LEAD CYANIDE	C.I. 77610|C.I. PIGMENT YELLOW 48|LEAD CYANIDE	592-05-2	A white to yellowish powder. Toxic by skin absorption, by ingestion, and by inhalation of dust, or hydrogen cyanide produced by slight decomposition. Produces toxic oxides of nitrogen in fires.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1991.0	212.0	697.0	367.0	210.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4392	JET FUELS, [JP-4]	(Non-Specific -- Medcines, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. If water pollution occurs, notify appropriate authorities. Shut off ignition sources; no flares, smoking or flames in hazard area. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch spilled material. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move container from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, OUABAIN emits acrid smoke and fumes. Hydrolysis yields one mole ouabagenin and one mole rhamnose. Stable in air, but affected by light (ouabain octahydrate) [EPA, 1998].		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																					(EPA, 1998)		392	
4393	KEPONE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	About the same density as water and slowly dissolves in water.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4394	KEPONE ALCOHOL	Neutralizing Agents for Acids and Caustics: Data (USCG, 1999)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Flammable. Hydrolyzed by strong mineral acids and strong alkalis.	DIMETHYL ADIPATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0		(USCG, 1999)		225		(USCG, 1999)		0.81		%	(USCG, 1999)		8.1		%	(USCG, 1999)		680		(USCG, 1999)		46.4	
4395	KETOTIFEN			Insoluble in water.	Unstable in acid.								0																								
4396	LASIOCARPINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in an explosion-proof refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	DIMETHYL DITALLOW AMMONIUM CHLORIDE is a strong oxidizing agent. (NTP, 1992). It is a basic salt. Aqueous solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		71																								
4397	LEAD ARSENITE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Work gloves; dust respirator; chemical safety goggles, protective clothing. (USCG, 1999)	Soluble in water.	Heat > 36Â° C (produces ammonia and carbon dioxide); strong acids and strong bases (CO2 and NH3) [Handling Chemicals Safely 1980 p. 141].	Decomposes at Elevated Temperatures (<120 deg. C)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		95	
4398	LEAD CYANIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Inorganic reducing agents, such as AMMONIUM BISULFITE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. Their reactions with oxidizing agents may be violent. Sulfites and hydrosulfites (dithionites) can react explosively with strong oxidizing agents. Sulfites generate gaseous sulfur dioxide in contact with oxidizing acids and nonoxidizing acids.	Strong Reducing Agent	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4392	JET FUELS, [JP-4]																									(EPA, 1998)		584.64														Poison	C29H44O12	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4393	KEPONE																																									Corrosive	C2H8O7P2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4394	KEPONE ALCOHOL														(USCG, 1999)		1.063				(USCG, 1999)			228.2 to 230	14		(USCG, 1999)		174.2											DLA		C8H14O4		0.0	0.0	0.0	0.0	0.0
4395	KETOTIFEN																																										C19H23N3	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4396	LASIOCARPINE	(NTP, 1992)	approx.	35		68		mm Hg							(NTP, 1992)		0.87		100		(NTP, 1992)	(Decomposes)	172		760		(NTP, 1992)		556						(NTP, 1992)	at 68Â° F		less than 1	mg/mL		Flammable Liquid			0.0	0.0	0.0	0.0	0.0
4397	LEAD ARSENITE														(USCG, 1999)		1.57		68								(USCG, 1999)		79.06											ABC	Class 9	CH2O3.H3N		0.0	0.0	0.0	0.0	0.0
4398	LEAD CYANIDE																																									Corrosive	NH4HSO3 (aqueous)		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4399	LEAD DIMETHYLDITHIOCARBAMATE	BIS(DIMETHYLCARBAMODITHIOATO-S,S')LEAD|BIS(DIMETHYLDITHIOCARBAMATO)LEAD|BIS(N,N-DIMETHYLDITHIOCARBAMATO)LEAD|CARBAMIC ACID, DIMETHYLDITHIO-, LEAD SALT|CARBAMODITHIOIC ACID, DIMETHYL-, LEAD COMPLEX|DIMETHYLDITHIOCARBAMIC ACID, LEAD SALT|LEAD BIS(DIMETHYLDITHIOCARBAMATE)|LEAD DIMETHYLDITHIOCARBAMATE|LEAD, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-, (T-4)-|LEAD, BIS(DIMETHYLDITHIOCARBAMATO)-|LEDATE|METHYL LEDATE|NCI-C02891	19010-66-3	PHYSICAL DESCRIPTION: White to off-white powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1992.0	212.0	697.0	367.0	210.0	EYES AND SKIN: Flush with large amounts of water. INGESTION: Induce vomiting and call a doctor. (USCG, 1999)	Special Hazards of Combustion Products: Material decomposes into N 2 and HBr or Br 2 under extreme temperatures. (USCG, 1999)	Fire Extinguishing Agents: Water spray (USCG, 1999)
4400	LEAD MONONITRORESORCINATE	LEAD MONONITRORESORCINATE	51317-24-9	An initiating explosive shipped as a slurry or wet mass of reddish-brown crystals. May explode due to shock, heat, flame, or friction if dried. The primary hazard is the blast of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1993.0	212.0	697.0	367.0	210.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Special Hazards of Combustion Products: Toxic and irritating ammonia and hydrogen chloride gases may form in fire. Behavior in Fire: May volatilize and condense on cool surfaces. (USCG, 1999)	
4401	LEPTOPHOS	ABAR|ABAR(VELSICOL)|FOSVEL|K62-105|LEPTON|LEPTOPHOS|(+-,)-LEPTOPHOS|MBCP|NK 711|O-(2,5- DICHLORO-4-BROMOPHENYL) O-METHYL PHENYL THIOPHOSPHONATE|O-(2,5-DICHLORO-4-BROMOPHENYL) O-METHYL PHENYLTHIOPHOSPHONATE|O-(4-BROMO-2,5-DICHLOROPHENYL) O-METHYL PHENYLPHOSPHONOTHIOATE|O-(4-BROMO-2,5-DICHLORO- PHENYL) O-METHYLPHENYLPHOSPHONOTHIOATE|O-4-BROMO-2,5-DICHLOROPHENYL-O-METHYL PHENYLPHOSPHONOTHIOATE|OLEOPHOSVEL|PHOSPHONOTHIOIC ACID, PHENYL-, O-(4-BROMO-2,5-DICHLOROPHENYL) O-METHYL ESTER|PHOSVEL|V.C.S.|VCS 5-D|VCS 506|VDS-	21609-90-5	White crystalline or colorless amorphous solid, the technical product is a light tan powder. Used as an insecticide; its use is not permitted in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1993.0	212.0	697.0	367.0	210.0	INHALATION: Call for medical aid. Take the affected person to fresh air. Treat symptoms. EYES: Flush with plenty of water. SKIN: Take off contaminated clothing and shoes. Wash with plenty of water and soap. (USCG, 1999)	Special Hazards of Combustion Products: Not known. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4402	LEWISITE	ARSINE, DICHLORO(2-CHLOROVINYL)-|ARSINE,(2-CHLOROVINYL) DICHLORO-|ARSONOUS DICHLORIDE,(2-CHLOROETHENYL)-(9Cl)BETA-CHLOROVINYLBICHLOROARSINE|CHLOROVINYLARSINE DICHLORIDE|2-CHLOROVINYLDICHLOROARSINE|DICHLORO(2-CHLOROVINYL)ARSINE|LEWISITE|LEWISITE (ARSENIC COMPOUND)	541-25-3	When pure, a colorless oily liquid solidifying at -13Â°C. Impurities cause colors ranging from brown to violet. Faint odor of geranium. Irritating to the eyes and mucous membranes at concentrations below the threshold of odor. Very toxic; used as a war gas. Produces severe vesication (blistering) even through rubber (Merck); absorbed through the skin to produce seven systemic effects. Antidote: dimercaprol (British Anti-Lewisite). Prolonged exposure of container to fire or intense heat may result in violent rupturing and rocketing of container.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1994.0	212.0	697.0	367.0	210.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
4403	LITHIUM DICHROMATE	LITHIUM BICHROMATE|LITHIUM BICHROMATE DIHYDRATE|LITHIUM DICHROMATE|LITHIUM DICHROMATE DIHYDRATE	13843-81-7	Orange red to black brown crystalline powder. Denser than water. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1994.0	212.0	697.0	367.0	210.0	(BLOB)	FLAMMABLE. Flashback along vapor trail may occur. May explode if ignited in an enclosed area. Vapors are eye, skin and respiratory irritants. (USCG, 1999)	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4399	LEAD DIMETHYLDITHIOCARBAMATE		In fire conditions wear self-contained breathing apparatus, wear goggles if eye protection not provided. (USCG, 1999)	Water soluble	Bromine trifluoride reacts explosively with the following AMMONIUM BROMIDE, ammonium chloride, ammonium iodide [Mellor 2 Supp. 1:165 1956].								0																(USCG, 1999)	Not flammable			(USCG, 1999)	Sublimes without melting		
4400	LEAD MONONITRORESORCINATE		(BLOB)	Soluble in water. Slowly releases hydrogen chloride (USCG, 1999).	Acidic salts, such as AMMONIUM CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.								0																				(NIOSH, 2003)	(Sublimes)	662	
4401	LEPTOPHOS	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Self-contained breathing apparatus. (USCG, 1999)	Flammable. Insoluble in water.	TERPENE HYDROCARBONS may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release gaseous hydrogen.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0		(USCG, 1999)		104		(USCG, 1999)		0.6		%	(USCG, 1999)		6.5		%	(USCG, 1999)		410					
4402	LEWISITE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Recommendations regarding personal protective clothing vary depending upon the specific compound. Recommendations regarding eye protection vary depending upon the specific compound. Recommendations regarding washing the skin vary depending upon the specific compound. Recommendations regarding the removal of personal protective clothing that becomes wet or contaminated vary depending upon the specific compound. Recommendations regarding the daily changing of personal protective clothing vary depending upon the specific compound. Recommendations regarding the need for eyewash or quick drench facilities vary depending upon the specific compound. (NIOSH, 2003)	May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. The severity of the pyrophoric reaction depends a great deal on zirconium particle size, with the finely divided material reacting with the most vigor. The initiation of the explosion has been spark and by electrostatic ignition. Zirconium dusts have been known to explode, [NFPA 482M, 1974], covers all aspects of storage and handling of zirconium, there are 43 abstracts of unusual zirconium fire and explosion incidents. Water Insoluble (NIOSH, 1997).	When a mixture of alkali hydroxides and zirconium is heated, the liberated oxygen reacts explosively with zirconium [Mellor 7:116 1946-47]. Chromates, dichromates, sulfates, molybdates, and tungstates of lithium, sodium, potassium, rubidium, and cesium will react violently, even explosively, with an excess of zirconium powder [Ellern 1968. p. 249]. A mixture of hydrated borax and zirconium explodes when heated [Mellor 7:116 1946-47]. An explosion occurred when zirconium sponge was placed in a beaker of carbon tetrachloride [Allison 1969]. Zirconium explodes violently with cupric oxide or lead oxide [Mellor 7:116 1946-47]. A mixture of powdered zirconium and potassium nitrate explodes when heated above the melting point [Mellor 7:116 1946-47].	Highly Flammable; Strong Reducing Agent	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)								0																				(NIOSH, 2003)		3375	
4403	LITHIUM DICHROMATE	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Isolate area until gas has dispersed. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	DIMETHYLAMINE is a base, neutralizing acids in exothermic reactions, and a reducing agent. It is temperature sensitive. Reacts vigorously with mercury and chlorine (NTP, 1992). Reacts violently with strong oxidizing agents and attacks copper and copper compounds [Handling Chemicals Safely, 1980 p. 123]. Reacts with hypochlorites to give N-chloroamines, some of which are explosives when isolated [Bretherick, 1979 p. 108].	Highly Flammable	Excerpt from GUIDE 118 [Gases - Flammable - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(USCG, 1999)		20		(NTP, 1992)		2.8		%	(NTP, 1992)		14.1		%	(USCG, 1999)		756		(NTP, 1992)		-135	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4399	LEAD DIMETHYLDITHIOCARBAMATE														(USCG, 1999)		2.429		68		(USCG, 1999)	Sublimes 1007Â° F					(USCG, 1999)		97.95										ANB		BrH4N		0.0	0.0	0.0	0.0	0.0
4400	LEAD MONONITRORESORCINATE	(NIOSH, 2003)		1		321		mm Hg							(USCG, 1999)		1.53		68		(NIOSH, 2003)	Sublimes					(USCG, 1999)		53.5						(NIOSH, 2003)		37		%	AMC		ClH4N		0.0	0.0	0.0	0.0	0.0
4401	LEPTOPHOS														(USCG, 1999)		0.78				(USCG, 1999)			302 to 374	760															WSL	Flammable Liquid		Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4402	LEWISITE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)	(Metal)	6.51				(NIOSH, 2003)			6471	760		(NIOSH, 2003)		91.2		(NIOSH, 2003)	(as Zr)	50	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	Zr		0.0	0.0	0.0	0.0	0.0
4403	LITHIUM DICHROMATE	(USCG, 1999)		1388.03		70		mm Hg	(USCG, 1999)		1.6				(USCG, 1999)		0.671		44.4		(NTP, 1992)			45.3	760		(NTP, 1992)		45.1		(NIOSH, 2003)		500	ppm	(NIOSH, 2003)	at 140Â° F	24		%	DMA	Flammable Gas	C2H7N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4404	LITHIUM FERROSILICON	LITHIUM FERROSILICON	70399-13-2	Crystalline lumps or powder. Metallic appearance.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1994.0	212.0	698.0	367.0	210.0	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4405	LITHIUM SILICON	LITHIUM SILICON|SILICON ALLOY, NONBASE, LI,SI	68848-64-6	A black lustrous powder or cohesive lump with a sharp irritating odor. An alloy of lithium and silicon.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1994.0	212.0	698.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4406	LONDON PURPLE	LONDON PURPLE|LONDON PURPLE, [SOLID]	8012-74-6	A solid consisting of a mixture of arsenic trioxide, aniline, lime and ferrous oxide. Insoluble in water. Very toxic by inhalation and ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1995.0	212.0	698.0	367.0	210.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4407	MAGNESIUM BROMATE	MAGNESIUM BROMATE	14519-17-6	Crystalline solid. Soluble in water and denser than water. Hence sinks in water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1996.0	212.0	698.0	367.0	210.0	Get medical attention. INHALATION: Remove from exposure area. If the victim has trouble breathing, give oxygen. If breathing has stopped, give artificial respiration. EYES: Flush eyes with water for at least 15 minutes. SKIN: Remove contaminated clothing. Flush affected areas with plenty of running water. (USCG, 1999)	Behavior in Fire: Dangerous when exposed to heat or flame. Can react vigorously with oxidizing materials. (USCG, 1999)	Fire Extinguishing Agents: Carbon dioxide, dry chemical powder, polymer or alcohol foam. (USCG, 1999)
4408	MAGNESIUM DIAMIDE	MAGNESIUM DIAMIDE	7803-54-5	A whitish to gray-colored crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. Vapors may be toxic by inhalation. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1997.0	212.0	699.0	367.0	210.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4404	LITHIUM FERROSILICON	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Highly flammable. When dissolved in water, it is a strong base.	DIMETHYLAMINE is a base, neutralizing acids in exothermic reactions, and a reducing agent. Dissolution in water moderates but does not nullify its reactivity. It is temperature sensitive. Reacts vigorously with mercury and chlorine. (NTP, 1992). Reacts violently with strong oxidizing agents and attacks copper and copper compounds. [Handling Chemicals Safely, 1980 p. 123]. Reacts with hypochlorites to give N-chloroamines, some of which are explosives when isolated [Beetherick, 1979 p. 108]. During an amination preparative procedure combining 4-chloroacetophenone and dimethylamine (4.22:1) at 234Â°C led to explosions, [Acta Chem. Scand., Ser.B, 1984, B38, 717-719].		Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4																									
4405	LITHIUM SILICON	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	An ammonium sulfonate salt made from the lignin of sulfite pulp mill liquors, an amorphous polyphenylpropane polymer.					0																(NTP, 1992)	approximately		480 to 570	(NTP, 1992)	Decomposes >392Â° F		
4406	LONDON PURPLE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	AMMONIUM NITRATE is a strong oxidizing agent. Intimate ontact with combustible materials creates a fire or explosion hazard. Closed containers may rupture violently or detonate if heated. May detonate if subjected to strong shocks, such as from an explosion. Ammonium nitrate of any grade, including fertilizer grade should be considered, especially when mixed with oil, charcoal, or other organic materials, an explosive capable of detonation by the combustion or explosion of adjacent materials. Emits oxides of nitrogen and ammonia when heated to decomposition.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																								
4407	MAGNESIUM BROMATE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained breathing apparatus, rubber boots, heavy rubber gloves. If entering spill area, wear self-contained breathing apparatus and full protective clothing, including boots. (USCG, 1999)	Highly flammable. Water soluble.	DIMETHYLCYCLOHEXYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Highly Flammable	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		108																		
4408	MAGNESIUM DIAMIDE	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions. These materials may be nontoxic.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4404	LITHIUM FERROSILICON																													(NIOSH, 2003)		500	ppm								Flammable Liquid|Corrosive	HN(CH3)2 (aqueous)	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4405	LITHIUM SILICON														(NTP, 1992)		0.5										(NTP, 1992)			1000 to 20000				(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL					0.0	0.0	0.0	0.0	0.0
4406	LONDON PURPLE																																								Oxidizer	NH4NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4407	MAGNESIUM BROMATE														(USCG, 1999)		0.849		68		(USCG, 1999)		323.6		760		(USCG, 1999)		127.23											DXN	Corrosive|Flammable Liquid	C8H17N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4408	MAGNESIUM DIAMIDE																																								Flammable Liquid	C6H16O2Si		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4409	MAGNESIUM DIPHENYL	DIPHENYLMAGNESIUM|MAGNESIUM DIPHENYL|PHENYLMAGNESIUM	555-54-4	A whitish to gray crystalline solid. Denser than water. Contact may irritate skin, eyes and mucous membranes. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4410	MANGANESE RESINATE	MANGANESE RESIN ACID SALTS|MANGANESE RESINATE|RESIN ACIDS, MANGANESE SALTS	9008-34-8	Manganese resinate ranges from a dark brown-black solid mass to a light tan powder. It may spontaneously heat in the presence of air or moisture. This heat may be sufficient to ignite surrounding combustible materials. It is insoluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) This material may burn but does not ignite readily. Container may explode in heat of fire. Hydrolyzed by acids and alkalis. (EPA, 1998)	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Move container from fire area. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Carbamates) Extinguish fire using agent suitable for types of surrounding fire, as the material itself burns with difficulty. Use water in flooding quantities as a fog. Use alcohol foam, carbon dioxide, or dry chemical. (EPA, 1998)
4411	MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-	MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-	15339-36-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	(BLOB)	Flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4412	MANITOL HEXANITRATE, [WET WITH >= 40 % WATER OR MIXTURE OF ALCOHOL AND WATER]	ANGIOSPASMYL|DILANGIL|HEXANITROL|HYPERTENAIN|MALTRATE|MANEXIN|MANHEXIN|MANICOLE|MANITOL HEXANITRATE, [WET WITH >= 40 % WATER OR MIXTURE OF ALCOHOL AND WATER]|MANNEX|MANNITATE|MANNITE HEXANITRATE|MANNITOL HEXANITRATE|MANNITOL, HEXANITRATE, D-|MANNITRIN|MAXITATE|MEDEMANOL|MHN|MOLOID|NITRANITOL|NITROMANNITE|NITROMANNITOL	15825-70-4	Shipped as a slurry or wet mass of colorless crystals. Must be shipped wet with at least 40% water or water and denatured alcohol mixture. May explode due to shock, heat, flame, or friction if dried. The primary hazard is the blast of an instantaneous explosion and not flying projectiles and fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4413	MANNIDE MONOOLEATE	ARLACEL A|CRILL 14|D-DIANHYDROMANNITOL MONOOLEATE|D-MANNITOL, DIANHYDRO-, MONO-9-OCTADECENOATE, (Z)-|DIANHYDROMANNITOL MONOOLEATE|MANNIDE MONOOLEATE|MANNITOL, DIANHYDRO-, MONOOLEATE, D-|(Z)-DIANHYDRO-D-MANNITOL, MONO-9-OCTADECENOATE	25339-93-9	PHYSICAL DESCRIPTION: Clear yellow to brown liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4414	MARBLE	CALCIUM CARBONATE|CALCIUM CARBONATE; (DOLOMITE, LIMESTONE)|K 80|K 80 (MARBLE)|KD 1|KD 1 (MARBLE)|KD 100|MARBLE|MARBLE, CALCITIC|NATURAL CALCIUM CARBONATE	308068-21-5	Limestone (calcium carbonate) that has been recrystallized by metamorphism and is capable of taking a polish. Practically insoluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	EYES: wash with plenty of water for 10-15 min. and rinse with a 5% boric acid solution; call a doctor. SKIN: rinse well with water. (USCG, 1999)	Behavior in Fire: Water of solution may evaporate, and remaining solids may then explode. (USCG, 1999)	

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4409	MAGNESIUM DIPHENYL	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Soluble in water.	Ethers, such as DIMETHYLDIOXANE, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)			3	0	3		(NFPA, 2010)		75																				
4410	MANGANESE RESINATE	(Non-Specific -- Carbamate Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, keep out of low areas. Do not touch spilled material, or breathe the vapors, dusts, or fumes from burning materials. Do not handle broken packages without protective equipment. Wash away any material that may have contacted the body with soap and water. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Readily soluble in water [Farm Chemicals Handbook].	DIMETILAN is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																		(EPA, 1998)		154 to 160Â° F 131 to 149Â° F	technical grade		
4411	MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust can be explosive when suspended in air at specific concentrations. Insoluble in water.	1-[(4-NITROPHENYL)AZO]-2-NAPHTHENAMINE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																		(NTP, 1992)		365.9		
4412	MANITOL HEXANITRATE, [WET WITH >= 40 % WATER OR MIXTURE OF ALCOHOL AND WATER]	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	The ammonium nitrate is soluble in water.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures a nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture of ammonium nitrate and aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony behave similarly to aluminum) can be used as an explosive. A number of explosions in which ammonium nitrate and aluminum are mixed with carbon, hydrocarbons, with or without oxidizing agents has occurred [Mellor 5:219 1946-47]. A mixture of ammonium nitrate and acetic acid ignites when warmed, especially if concentrated [Von Schwartz p. 322 1918].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)	(NFPA, 2010)		0	0	3	3	Oxidizer																						
4413	MANNIDE MONOOLEATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is hygroscopic. Water soluble. Undergoes slow hydrolysis in the presence of water. Concentrated aqueous solutions at neutral pH hydrolyze on standing.	OXYTETRACYCLINE HYDROCHLORIDE is sensitive to light. It may be unstable at temperatures above 77Â° F. It darkens on exposure to sunlight or to moist air above 194Â° F. Concentrated aqueous solutions at neutral pH hydrolyze on standing. This chemical undergoes hydrolysis in the presence of water. It may be incompatible with alkalis. (NTP, 1992)	Decomposes at Elevated Temperatures (<120 deg. C)						0																				(NTP, 1992)	(decomposes)	356	
4414	MARBLE		Goggles or face shield; rubber gloves. (USCG, 1999)	Water soluble.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures a nitrate with phosphorus, tin (II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. A mixture of ammonium nitrate and aluminum powder (also zinc, cadmium, copper, magnesium, lead, cobalt, nickel, bismuth, chromium, and antimony behave similarly to aluminum) can be used as an explosive. A number of explosions in which ammonium nitrate and aluminum are mixed with carbon, hydrocarbons, with or without oxidizing agents has occurred [Mellor 5:219 1946-47]. A mixture of ammonium nitrate and acetic acid ignites when warmed, especially if concentrated [Von Schwartz p. 322 1918].	Explosive; Strong Oxidizing Agent		(NFPA, 2010)	Note: NFPA ratings shown are for ammonium nitrate, CAS number 6484-52-2	0	0	3	3	Oxidizer																				(USCG, 1999)		32	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4409	MAGNESIUM DIPHENYL																																								Flammable Liquid	C6H12O2		0.0	0.0	0.0	0.0	0.0
4410	MANGANESE RESINATE	(EPA, 1998)		0.0001		68		mm Hg													(EPA, 1998)			392 to 410		13	(EPA, 1998)		240.27												Poison	C10H16N4O3		0.0	0.0	0.0	0.0	0.0
4411	MANGANESE, BIS(DIMETHYLCARBAMODITHIOATO-S,S')-																									(NTP, 1992)		292.26						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C16H12N4O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4412	MANITOL HEXANITRATE, [WET WITH >= 40 % WATER OR MIXTURE OF ALCOHOL AND WATER]																																								Explosive 1.5D	NH4NO3 (ammonium nitrate)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4413	MANNIDE MONOOLEATE																									(NTP, 1992)		496.9						(NTP, 1992)	at 70Â° F		greater than or equal to 100	mg/mL			C22H24N2O9.ClH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4414	MARBLE														(USCG, 1999)		1.327		68		(USCG, 1999)			greater than 212	760														ANU		NH4NO3 (ammonium nitrate)CH4N2O (urea)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4415	MERCURIC OXYCYANIDE	MERCURIC OXYCYANIDE|MERCURIC OXYCYANIDE, [SOLID, DESENSITIZED]|MERCURY CYANIDE OXIDE (HG2O(CN)2)|MERCURY OXYCYANIDE	1335-31-5	A white crystalline solid. Can explode on prolonged exposure to fire, heat or percussion. For the purpose of desensitization 33% mercuric oxycyanide is mixed with 67% mercuric cyanide. Toxic by inhalation and by ingestion. Used in medicine.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1998.0	212.0	700.0	367.0	210.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4416	MERCURIC SUBSULFATE, [SOLID]	BASIC MERCURIC SULFATE|DIOXOTRIMERCURY SULFATE|MERCURIC BASIC SULFATE|MERCURIC OXIDE COMPOUND WITH MERCURIC SULFATE (2:1)|MERCURIC SUBSULFATE|MERCURIC SUBSULFATE, [SOLID]|MERCURY OXIDE (HGO), COMPOUND WITH MERCURY(2+) SULFATE (2:1:1)|MERCURY OXIDE SULFATE (HG3O2SO4)|MERCURY OXONIUM SULFATE|MERCURY SULFATE (HG3O2(SO4))|SULFURIC ACID, MERCURY(2+) SALT (1:1), COMPOUND WITH MERCURY OXIDE (HGO) (1:2)|TURPETH MINERAL	1312-03-4	A lemon-yellow powder or bright yellow scaly material. Very slightly soluble in water and denser than water. Hence sinks in water. Toxic by inhalation and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1999.0	212.0	700.0	367.0	210.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Immediately flush affected area with running water for at least 15 minutes; hold eyelids open if appropriate. Wash skin with soap or mild detergent. Remove and isolate contaminated clothing and shoes at the site. INGESTION: Immediately give victim large quantities of water and have him induce vomiting by touching a finger to the back of the throat. If victim is unconscious or having convulsions, do nothing except keep victim quiet and maintain normal body temperature. (USCG, 1999)	Special Hazards of Combustion Products: Contain highly toxic NOx fumes. Behavior in Fire: Flammable solid. UNCONFINED material burns without detonation when ignited. Confined material will explode upon heating to its ignition temperature. (USCG, 1999)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4417	MERCUROUS BROMIDE	DIMERCURY DIBROMIDE|MERCUROUS BROMIDE|MERCUROUS BROMIDE (HG2BR2)|MERCUROUS BROMIDE, [SOLID]	15385-58-7	White, odorless powder. Darkens on exposure to light. Sublimes at high temperatures.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1999.0	212.0	700.0	367.0	210.0	INHALATION or INGESTION: no treatment required. EYES: flush with copious quantities of tap water. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic ammonia and oxides of nitrogen may form in fires. (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
4418	MERCURY AMMONIUM CHLORIDE	ALBUS|AMINOMERCURIC CHLORIDE|AMMONIATED MERCURIC CHLORIDE|AMMONIATED MERCURY|MERCURIC AMIDOCHLORIDE|MERCURIC AMMONIUM CHLORIDE|MERCURIC CHLORIDE, AMMONIATED|MERCURY AMIDE CHLORIDE|MERCURY AMINE CHLORIDE|MERCURY AMMONIUM CHLORIDE|MERCURY, AMMONOBASIC (HGNH2CL)|WHITE MERCURIC PRECIPITATE|WHITE PRECIPITATE	10124-48-8	A white crystalline solid. Corrosive to the mucous membranes. Very toxic by inhalation and ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	1999.0	212.0	700.0	367.0	210.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4419	MERCURY BENZOATE	BETA-MERCURIBENZOATE|MERCURIC BENZOATE|MERCURIC BENZOATE, [SOLID]|MERCURY BENZOATE|MERCURY(II) BENZOATE	583-15-3	A white crystalline odorless solid. Melting point 165Â°C. Sensitive to light. Highly toxic by inhalation and ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2000.0	212.0	700.0	367.0	210.0	(BLOB)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4420	MERCURY FULMINATE, [WET]	MERCURIC FULMINATE|MERCURY FULMINATE|MERCURY FULMINATE (HG(ONC)2)|MERCURY FULMINATE, [WET]	628-86-4	A slurry or wet mass of white crystals. Contains at least 20% water or water-ethyl alcohol mixture. May explode from shock, heat, flame, or friction when dry. May explode under prolonged exposure to heat. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. A widely used initiating detonator for high explosives.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2001.0	212.0	700.0	367.0	210.0	INHALATION: move to fresh air. INGESTION: give large amount of water; get medical attention. EYES: flush with water for 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic sulfur dioxide and oxides of nitrogen may form in fires. (USCG, 1999)	
4421	MERCURY GLUCONATE	MERCURY GLUCONATE	63937-14-4	A white powder. Toxic by inhalation and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2001.0	212.0	700.0	367.0	210.0	EYES: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen or ammonia gas may form in fires. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4415	MERCURIC OXYCYANIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Materials in this group range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. Nitroalkanes are milder oxidizing agents, but still react violently with reducing agents at higher temperature and pressures. Nitroalkanes react with inorganic bases to form explosive salts. The presence of metal oxides increases the thermal sensitivity of nitroalkanes. Nitroalkanes with more than one nitro group are generally explosive. The higher nitroalkanes are insoluble in water.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
4416	MERCURIC SUBSULFATE, [SOLID]	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	No rapid reaction with air No rapid reaction with water	AMMONIUM PICRATE is a high explosive when dry [Hawley]. Mixing with water greatly reduces its sensitivity to shock, friction and heat. Traces of metallic picrates may significantly lower the temperature at which this mixture will explode (Military Explosives p. 96).	Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4417	MERCUROUS BROMIDE		Gloves and goggles (USCG, 1999)	Slightly soluble in water.	AMMONIUM STEARATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.								0																						
4418	MERCURY AMMONIUM CHLORIDE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	Materials in this group range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
4419	MERCURY BENZOATE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Insoluble in water.	DINITROTOLUENE is incompatible with strong oxidizing agents, caustics, active metals, tin and zinc (NTP, 1992). Decomposes at 250Â°C. Prolonged heating below this temperature causes some decomposition, and the presence of impurities may decrease the decomposition temperatures. Decomposition is self-sustaining at 280Â°C. Containers may explode in a fire (USCG, 1999). Reacts with oxidizing agents, caustics, nitric acid, reducing materials and metals such as zinc or tin. May react violently in the presence of a base or when heated to the boiling point. Attacks some forms of plastics, rubbers and coatings. (NTP, 1992).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2,4-dinitrotoluene, CAS number 121-14-2.	3	1	3	4	(NIOSH, 2003)		404														(NTP, 1992)		158	
4420	MERCURY FULMINATE, [WET]		Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Soluble in water.	AMMONIUM SULFITE is a reducing agent. Emits toxic sulfur dioxide and oxides of nitrogen when heated to decomposition (USCG, 1999).	Strong Reducing Agent							0																						
4421	MERCURY GLUCONATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Dust mask; goggles or face shield; rubber gloves (USCG, 1999)	Water soluble.	Salts, basic, such as AMMONIUM TARTRATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Special Hazards of Combustion Products: Toxic oxides of nitrogen or ammonia gas may form in fires (USCG, 1999).		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4415	MERCURIC OXYCYANIDE																																								Explosive 1.1D	C4H4N6O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4416	MERCURIC SUBSULFATE, [SOLID]														(USCG, 1999)		1.719		68								(USCG, 1999)		246.14											API	Flammable Solid	C6H2N3O7.NH4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4417	MERCUROUS BROMIDE														(USCG, 1999)		1.01		68								(USCG, 1999)		301.5											AMR		C18H39NO2		0.0	0.0	0.0	0.0	0.0
4418	MERCURY AMMONIUM CHLORIDE																																								Explosive 1.3C	C6H4N2O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4419	MERCURY BENZOATE	(NIOSH, 2003)		1				mm Hg	(NTP, 1992)		6.3				(NTP, 1992)		1.3208				(NTP, 1992)		482		760		(NTP, 1992)		182.14		(NIOSH, 2003)	; Not applicable for Dinitrotoluene, a potential human carcinogen.	50	mg/m3	(NTP, 1992)	Very slightly soluble					Poison	C7H6N2O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4420	MERCURY FULMINATE, [WET]														(USCG, 1999)			greater than 1.1	68								(USCG, 1999)		134.2											AMF		(NH4)2SO3.H2O		0.0	0.0	0.0	0.0	0.0
4421	MERCURY GLUCONATE														(USCG, 1999)		1.6		77								(USCG, 1999)		184											ATR	Class 9	C4H6O6.2H3N|C4H6O6.xH3N		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4422	MERCURY NUCLEATE	MERCUROL, [SOLID]|MERCURY NUCLEATE	12002-19-6	A brown powder containing about 20 per cent mercury. Toxic by inhalation, ingestion and skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2002.0	212.0	701.0	367.0	210.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4423	MERCURY OLEATE	MERCURIC OLEATE|MERCURIC OLEATE, [SOLID]|MERCURY OLEATE|9-OCTADECENOIC ACID (Z)-, MERCURY(2+) SALT|OLEIC ACID, MERCURY(2+) SALT	1191-80-6	A yellowish to red liquid/semi-solid or solid mass. Prepared by dissolving yellow mercuric oxide in oleic acid. Contains 24-26% HgO by mass. Insoluble in water. Toxic by ingestion. Used in medicine, antiseptic and antifouling paint.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2003.0	212.0	702.0	367.0	210.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4424	MERCURY SALICYLATE	BENZOIC ACID, 2-HYDROXY-, MERCURY COMPLEX|MERCURIC SALICYLATE|MERCURIC SALICYLATE, [SOLID]|MERCURISALICYLIC ACID|MERCURY SALICYLATE|MERCURY SUBSALICYLATE|MERCURY, [2-HYDROXYBENZOATO(2-)-O1,O2]-|MERCURY, [SALICYLATO(2-)]-|SALICYLIC ACID, (HYDROXYMERCURI)-, CYCLIC ANHYDRIDE	5970-32-1	Odorless tasteless white powder with a yellow or pink tint. Almost completely insoluble in water and denser than water. Hence sinks in water. Toxic by inhalation and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2004.0	212.0	702.0	367.0	210.0	(BLOB)	Special Hazards of Combustion Products: Toxic ammonia, hydrogen sulfide, and oxides of nitrogen and sulfur may form in fires. (USCG, 1999)	
4425	METHACROLEIN DIACETATE	ACETIC ACID, 2-METHYL-2-PROPENE-1,1-DIOL DIESTER|METHACROLEIN DIACETATE|2-PROPENE-1,1-DIOL, 2-METHYL-, DIACETATE	10476-95-6	A liquid. Density 1.04 g / cm3; highly toxic.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2004.0	212.0	702.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4426	METHAPYRILENE	A 3322|A3322|AH 42|AH-42|DIETHYLANDIAMINE|2-((2-(DIMETHYLAMINO)ETHYL)-2-THENYLAMINO)PYRIDINE|2-[[2-(DIMETHYLAMINO)ETHYL]-2-THENYLAMINO]PYRIDINE|HISTADRYL|HISTADYL|LULAMIN|METAPYRILENE|METHAPYRILENE|N,N-DIMETHYL-N'-PYRID-2-YL-N'-2-THENYLETHYLENEDIAMINE|N-(ALPHA-PYRIDYL)-N-(ALPHA-THENYL)-N,N'-DIMETHYLENEDIAMINE|NCI C55550|PARADORMALENE|PYRIDINE, 2-[[2-(DIMETHYLAMINO)ETHYL]-2-THENYLAMINO]-|PYRINISTAB|PYRINISTOL|REST-ON|RESTRYL|SEMIKEN|SEMIKON|SLEEPWELL|TENALINT|THENYLENE|THENYLPYRAMINE|THIONYLAN	91-80-5	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2004.0	212.0	702.0	367.0	210.0	(BLOB)	Literature sources indicate that this chemical is flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4427	METHDILAZINE	DILOSYN|DISYNCRAM|DISYNCRAN|METHDILAZINE|10-((1-METHYL-3-PYRROLIDINYL)METHYL)PHENOTHIAZINE|10-[(1-METHYL-3-PYRROLIDINYL)METHYL]PHENOTHIAZINE|MJ 5022|NCI-C60720|PHENOTHIAZINE, 10-[(1-METHYL-3-PYRROLIDINYL)METHYL]-|PRODUCT 5022|TACARYL|TACAZYL|TACRYL	1982-37-2	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2004.0	212.0	702.0	367.0	210.0	(BLOB)	Dangerous when exposed to heat or flames. Upon decomposition, nitrogen oxides are emitted. Can react with oxidizing materials. (EPA, 1998)	Extinguish with carbon dioxide or dry chemical. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4422	MERCURY NUCLEATE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Freely soluble in water.	AMMONIUM THIOCYANATE LIQUOR can release ammonia vapors if mixed with a chemical base or with an acid. Violent or explosive reactions have occurred when thiocyanates are mixed with oxidizing agents (such as chlorates(potassium chlorate), nitrates, nitric acid, and peroxides). Nitric acid violently oxidized a thiocyanate solution [Bretherick 1979 p. 121]. An explosion of guanidine nitrate demolished an autoclave built to withstand 50 atmospheres, in which it was being made from ammonium thiocyanate and lead nitrate [C. Angew. Chem. 49:23 1936].	Strong Reducing Agent	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4423	MERCURY OLEATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Water soluble.	TETRAPROPYL ORTHOTITANATE is a metal alkoxide, a strong base.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4424	MERCURY SALICYLATE		Respirator; rubber gloves; safety glasses; face shield; rubber apron, shield, or suit as necessary to prevent skin contact (USCG, 1999)	Hygroscopic. Very soluble in water.	AMMONIUM THIOSULFATE is sensitive to heat. This chemical is incompatible with magnesium and aluminum powder. Mixtures with sodium chlorate can cause an exothermic reaction which can then decompose explosively. (NTP, 1992). Reacts with strong oxidizers such as chlorates, nitrates, and nitrites to release toxic ammonia, hydrogen sulfide, and sulfur trioxide gases. Will not polymerize. Ammonia, hydrogen sulfide, and oxides of nitrogen and oxides of sulfur may form in fires (USCG, 1999).	Strong Reducing Agent						0																						(NTP, 1992)	Decomposes at 302Â° F		
4425	METHACROLEIN DIACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	An acidic organic salt. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		457	
4426	METHAPYRILENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it at refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P-BENZOQUINONE MONOXIME explodes when heated. Explodes on contact with acid, alkali (NTP, 1992).	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)	(decomposes)		270 to 291
4427	METHDILAZINE	(Non-Specific -- Drugs, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Shut off ignition sources; no flares, smoking or flames in hazard area. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch spilled material. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Amines, such as AMPHETAMINE, are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1		(EPA, 1998)		80	(EPA, 1998)	It is flammable.					(EPA, 1998)	It is flammable.									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4422	MERCURY NUCLEATE																																								Class 9	CHNS . H3N		0.0	0.0	0.0	0.0	0.0
4423	MERCURY OLEATE																																								Flammable Liquid	C3H8O.1|4Ti	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4424	MERCURY SALICYLATE	(NTP, 1992)		0				mm Hg							(USCG, 1999)		2		68		(NTP, 1992)	Decomposes					(NTP, 1992)		148.2						(NTP, 1992)	at 68Â° F	64		%	ATF		H3N.1|2H2O3S2		0.0	0.0	0.0	0.0	0.0
4425	METHACROLEIN DIACETATE																										(NTP, 1992)		159.62						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C7H9NO.ClH		0.0	0.0	0.0	0.0	0.0
4426	METHAPYRILENE																										(NTP, 1992)		123.11						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Flammable Solid	C6H5NO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4427	METHDILAZINE								(EPA, 1998)		4.65				(EPA, 1998)		0.913		77		(EPA, 1998)			392 to 397	760		(EPA, 1998)		135.2											Poison	C9H13N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4428	METHOXYMETHYL ISOCYANATE	ISOCYANATOMETHYL METHYL ETHER|ISOCYANIC ACID, METHOXYMETHYL ESTER|METHOXYMETHYL ISOCYANATE	6427-21-0	A colorless liquid with a pungent odor. Very toxic by inhalation and skin absorption. Vapors are heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2004.0	212.0	702.0	367.0	210.0	(BLOB)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4429	METHYL BIPHENYL (MIXED ISOMERS)	BIPHENYL, METHYL-|1,1'-BIPHENYL, METHYL-|METHYL BIPHENYL (MIXED ISOMERS)|METHYL-1,1'-BIPHENYL|METHYLBIPHENYL|PHENYLTOLUENE|SURESOL-177|SURE-SOL 175	28652-72-4	PHYSICAL DESCRIPTION: Clear light yellow liquid with an aromatic odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2005.0	212.0	702.0	367.0	210.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4430	METHYL CLOFENAPATE	CLOFENAPATE METHYL ESTER|ICI 54856 METHYL ESTER|METHYL ALPHA-[P-[P-CHLOROPHENYL)PHENOXY] ISOBUTYRATE|METHYL CLOFENAPATE|METHYL-2-(4-(P-CHLOROPHENYL)PHENOXY)-2-METHYLPROPIONATE|METHYL-ALPHA-(P-(P-CHLOROPHENYL)PHENOXY) ISOBUTYRATE|PROPANOIC ACID, 2-((4'-CHLORO(1,1'-BIPHENYL)-4-YL)OXY)-2-METHYL-, METHYL ESTER|PROPIONIC ACID, 2-[(4'-CHLORO-4-BIPHENYLYL)OXY)-2-METHYL-, METHYL ESTER|PROPIONIC ACID, 2-[(4'-CHLORO-4-BIPHENYLYL)OXY]-2-METHYL-, METHYL ESTER	21340-68-1	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2006.0	212.0	702.0	367.0	210.0	INHALATION: remove to fresh air; apply artificial respiration if required. EYES: flush with water. SKIN: wash well with soap and water. INGESTION: induce vomiting; give water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating hydrogen chloride and toxic phosgene may be formed in fires. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4431	METHYL DEMETON	BAY 15203|BAYER 21/116|DEMETON M|DEMETON METHYL|DURATOX|ENT 18,862|METASYSTOX|METASYSTOX FORTE|METASYSTOXÂ®|METHYL DEMETON|METHYL MERCAPTOPHOS|METHYL SYSTOX|METHYL SYSTOXÂ®|METHYLMERCAPTOPHOS|O,O-DIMETHYL 2-ETHYLMERCAPTOETHYL THIOPHOSPHATE|O-(2-(ETHYLTHIO)ETHYL) O,O-DIMETHYL PHOSPHOROTHIOATE MIXED WITH S-(2-(ETHYLTHIO)ETHYL) O,O-DIMETHYL PHOSPHOROTHIOATE (7:3)|PHOSPHOROTHIOIC ACID, O-[2-(ETHYLTHIO)ETHYL] O,O-DIMETHYL ESTER, MIXT. WITH S-[2-(ETHYLTHIO)ETHYL] O,O-DIMETHYL ESTER|PHOSPHOROTHIOIC	8022-00-2	PHYSICAL DESCRIPTION: Oily colorless to pale yellow liquid with an unpleasant odor. Slightly water soluble.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2006.0	212.0	702.0	367.0	210.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4432	METHYL GLYCIDYL ETHER	DENACOL EX 131|EPIOL M|1,2-EPOXY-3-METHOXYPROPANE|GLYCIDOL METHYL ETHER|GLYCIDYL METHYL ETHER|(+-)-GLYCIDYL METHYL ETHER|3-METHOXY-1,2-EPOXYPROPANE|(METHOXYMETHYL)OXIRANE|2-(METHOXYMETHYL)OXIRANE|METHOXYMETHYLOXIRANE|3-METHOXYPROPYLENE OXIDE|METHYL GLYCIDYL ETHER|PROPANE, 1,2-EPOXY 3-METHOXY-	930-37-0	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2007.0	212.0	703.0	367.0	210.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4428	METHOXYMETHYL ISOCYANATE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). RECOMMENDED GLOVE MATERIALS: Permeation data indicate that Viton gloves may provide protection to contact with this compound. Viton over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		286																				
4429	METHYL BIPHENYL (MIXED ISOMERS)	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	P-CHLOROBENZOIC ACID is incompatible with strong oxidizing agents and strong bases. (NTP, 1992)						0																		(NTP, 1992)		469	
4430	METHYL CLOFENAPATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles or face shield; rubber gloves. (USCG, 1999)	Highly flammable. Insoluble in water.	AMYL CHLORIDE is incompatible with strong oxidizing and reducing agents. Also, incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		34		(USCG, 1999)		1.4		%	(USCG, 1999)		8.6		%	(USCG, 1999)		500		(USCG, 1999)		-146	
4431	METHYL DEMETON	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA, (specific for organic vapors, HCl, acid gas SO2 and a high efficiency particulate filter). (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	P-CUMYLPHENYL GLYCIDYL ETHER is an ether. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.						0																				
4432	METHYL GLYCIDYL ETHER	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A dinitroaniline derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4428	METHOXYMETHYL ISOCYANATE														(NTP, 1992)		1.4				(NTP, 1992)			527 to 608	760																Class 9				0.0	0.0	0.0	0.0	0.0
4429	METHYL BIPHENYL (MIXED ISOMERS)														(NTP, 1992)		1.541		75		(NTP, 1992)	Sublimes					(NTP, 1992)		156.57						(NTP, 1992)	at 59Â° F		less than 1	mg/mL			C7H5ClO2		0.0	0.0	0.0	0.0	0.0
4430	METHYL CLOFENAPATE														(USCG, 1999)		0.8834		68		(USCG, 1999)		226		760		(USCG, 1999)		106.6										AMY	Flammable Liquid	C5H11Cl		0.0	0.0	0.0	0.0	0.0
4431	METHYL DEMETON																										(NTP, 1992)		268.36													C18H20O2	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4432	METHYL GLYCIDYL ETHER																																								Class 9	C13H19N3O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4433	METHYL PENTANE	METHYL PENTANE|METHYLPENTANE	43133-95-5	Colorless liquid. Isomers (2-methyl, 3-methyl) are possible and present in technical mixtures or singly for research purposes. Used in organic synthesis and as a solvent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2008.0	212.0	703.0	367.0	210.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (Non-Specific -- Alkylamine, n.o.s.) Vapors may travel to a source of ignition and flash back. Container may explode in heat of fire. Vapor explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard. (EPA, 1998)	(Non-Specific -- Alkylamine, n.o.s.) Move container from fire area if you can do it without risk. Do not get water inside container. Cool containers that are exposed to flames with water from the side until well after fire is out. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tank due to fire. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. (Non-Specific -- Alkylamine, n.o.s.) Flammable/combustible material; may be ignited by heat, sparks, or flames. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. (EPA, 1998)
4434	METHYL PHENKAPTON	ENT 25,554-X|G 30494|GEIGY 30494|METHANETHIOL,((2,5-DICHLOROPHENYLTHIO)-, S-ESTER WITH O,O-DIMETHYL PHOSPHORODITHIOATE|METHYL PHENCAPTON|METHYL PHENKAPTON|O,O-DIMETHYL S-(2,5-DICHLOROPHENYLTHIO)METHYL PHOSPHORODITHIOATE|O,O-DIMETHYL S-[[(2,5-DICHLOROPHENYL)THIO]METHYL] PHOSPHORODITHIOATE|PHOSPHORODITHIOIC ACID, S-(((2,5-DICHLOROPHENYL)THIO)METHYL) O,O-DIMETHYL ESTER|S-((2,5-DICHLOROPHENYL)THIO)METHYL) O,O-DIMETHYL PHOSPHORODITHIOATE|S-[(2,5-DICHLOROPHENYL)THIO]METHYL] O,O-DIMETHYL PHOSPHORODITHIOATE	3735-23-7	Liquid. Used as an acaricide, insecticide. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2008.0	212.0	703.0	367.0	210.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water. FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4435	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED	ALLENE-METHYLACETYLENE MIXTURE|MAPP GAS|MAPPGAS|METHYL ACETYLENE, PROPADIENE MIXTURE|METHYL ACETYLENE-ALLENE MIXTURE|METHYL ACETYLENE-PROPADIENE MIXTURE|METHYL ACETYLENE-PROPADIENE MIXTURE (STABILIZED)|METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED|METHYLACETYLENE-ALLENE MIXTURE|METHYLACETYLENE-PROPADIENE, [STABILIZED]|PROPADIENE AND METHYLACETYLENE MIXTURE, STABILIZED|PROPADIENE-METHYL ACETYLENE|PROPADIENE-METHYLACETYLENE MIXTURE|PROPYNE-ALLENE MIXTURE|PROPYNE-PROPADIENE MIXTURE	59355-75-8	Methylacetylene-propadiene stabilized is a colorless gas with an acetylene like odor. It is shipped as a liquefied gas under its vapor pressure. Contact with the liquid can cause frostbite. It is easily ignited. The vapors are heavier than air. Any leak can either be liquid or vapor. It can asphyxiate by the displacement of air. Under prolonged exposure to fire or intense heat the containers may rupture violently and rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	2009.0	212.0	703.0	367.0	210.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4436	METHYLAMYL ACETATE	1,3-DIMETHYLBUTYL ACETATE|HEXYL ACETATE|MAAC|METHYL AMYL ACETATE|METHYL ISOBUTYL CARBINYL ACETATE|4-METHYL-2-PENTANOL ACETATE|4-METHYL-2-PENTYL ACETATE|METHYLAMYL ACETATE|METHYLISOAMYL ACETATE|METHYLISOBUTYLCARBINOL ACETATE|4-METHYLPENT-2-YL ETHANOATE|SEC-HEXYL ACETATE	108-84-9	A clear colorless liquid. Flash point 95Â°F. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2010.0	212.0	703.0	367.0	210.0	Get medical attention following all exposures to this compound. INHALATION: move to fresh air; give oxygen if necessary. INGESTION: give large amounts of water. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Above 160Â°C (320Â°F) will react with combustible material and increase intensity of fire. Containers may explode. (USCG, 1999)	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. Do not get water inside containers: a violent reaction may occur. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Dike fire-control water for later disposal. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4437	METHYLAZOXYMETHANOL ACETATE	CYCASIN ACETATE|MAMAC|MAM ACETATE|METHANOL, (METHYL-ONN-AZOXY)-, ACETATE (ESTER)|METHANOL, (METHYLAZOXY)-, ACETATE|(METHYL-ONN-AZOXY)METHANOL, ACETATE ESTER|METHYLAZOXYMETHANOL ACETATE|METHYLAZOXYMETHYL ACETATE	592-62-1	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2011.0	212.0	703.0	367.0	210.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4438	METHYLDICHLOROARSINE	ARSINE, DICHLOROMETHYL-|DICHLOROMETHYLARSINE|MD|METHYLARSINE DICHLORIDE|METHYLDICHLOROARSINE	593-89-5	A colorless liquid with an agreeable odor. Denser than water. Very toxic by inhalation. Painful burns on contact.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2012.0	212.0	703.0	367.0	210.0	(BLOB)	Flash point data on this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4433	METHYL PENTANE	(Non-Specific -- Alkylamine, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Shut off ignition sources; no flares, smoking or flames in hazard area. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors; do not get water inside container. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	PENTADECYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		99.1	
4434	METHYL PHENKAPTON	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	PENTAERYTHRITE TETRANITRATE is a high explosive. An oxidizing agent. May begin a vigorous reaction that culminates in a detonation if mixed with reducing agents, including hydrides, sulfides and nitrides. Emits highly toxic nitrogen oxide fumes on decomposition.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																														
4435	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	A violent explosion occurs if an ammonium salt is melted with a nitrite salt [Von Schwartz 1918. p. 299]. A mixture of potassium cyanide and nitrite salts may cause an explosion [Pieters 1957. p. 30]. Reacts with acids to form toxic nitrogen dioxide gas.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4436	METHYLAMYL ACETATE	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Rubber gloves; face shield or vapor-tight chemical-type safety goggles; rubber apron; rubber boots or shoes (USCG, 1999)	Water soluble with some evolution of heat.	PERCHLORIC ACID, [> 50% BUT <= 72% STRENGTH] is a solution of a strong oxidizing acid. May react vigorously or deflagrate when mixed with oxidizable material [Merck]. This includes (but is not limited to) alcohols, amines, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. Perchloric acid ignites on contact with sulfinyl chloride. (Bailar, 1973, Vol. 2, 1442).	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 143 [Oxidizers (Unstable)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	3	3	Oxidizer																						(USCG, 1999)		-170	
4437	METHYLAZOXYMETHANOL ACETATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble with heat generation.	PERCHLORIC ACID, WITH NOT MORE THAN 50% ACID is a solution of a strong oxidizing acid. May react vigorously or deflagrate when mixed with oxidizable material [Merck]. This includes (but is not limited to) alcohols, amines, boranes, dicyanogen, hydrazines, hydrocarbons, hydrogen, nitroalkanes, powdered metals, silanes, or thiols [Bretherick 1979. p.174]. Perchloric acid ignites on contact with sulfinyl chloride. (Bailar, 1973, Vol. 2, 1442).	Strong Oxidizing Agent; Known Catalytic Activity	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	3	3	Oxidizer																														
4438	METHYLDICHLOROARSINE	(BLOB)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	PERFLUORODECANOIC ACID is incompatible with strong oxidizing agents. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		171 to 174	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4433	METHYL PENTANE														(EPA, 1998)		0.8104		68		(EPA, 1998)		585.7		760		(EPA, 1998)		227.49												Corrosive|Poison	C15H33N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4434	METHYL PHENKAPTON																																									Explosive 1.1D	C5H8N4O12	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4435	METHYLACETYLENE AND PROPADIENE MIXTURE, STABILIZED																																									Oxidizer	Zn.NH4.(NO2)3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4436	METHYLAMYL ACETATE														(USCG, 1999)			1.6 to 1.7	77								(USCG, 1999)	(solute only)	100.46												PCL	Oxidizer|Corrosive	HClO4 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4437	METHYLAZOXYMETHANOL ACETATE																																									Corrosive|Oxidizer	HClO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4438	METHYLDICHLOROARSINE														(NTP, 1992)		1.707		68		(NTP, 1992)		424		740		(NTP, 1992)		514.11												Poison	C10HF19O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4439	METHYLENE BIS(PHENYLENEOXYMETHYLENE)BISOXIRANE	BISPHENOL F BIS(OXIRANYLMETHYL) ETHER|BISPHENOL F DIGLYCIDYL ETHER|METHANE, BIS[(2,3-EPOXYPROPOXY)PHENYL]-|METHYLENE BIS(PHENYLENEOXYMETHYLENE)BISOXIRANE|2,2'-(METHYLENEBIS(PHENYLENEOXYMETHYLENE))BISOXIRANE	39817-09-9	Colorless liquid resin.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2013.0	212.0	704.0	367.0	210.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4440	METHYLMERCURIC DICYANAMIDE	AGROSOL|CYANO(METHYLMERCURI)GUANIDINE|CYANO(METHYLMERCURI)GUANIDINE|('CYANOGUANIDINO)METHYLMERCURY|GUANIDINE, CYANO(METHYLMERCURIO)-|GUANIDINE, CYANO-, MERCURY COMPLEX|GUANIDINE, CYANO-, METHYLMERCURY DERIV|MEMA|MERCURY, (CYANOGUANIDINATO)METHYL-|MERCURY, (CYANOGUANIDINATO-N')METHYL-|MERCURY, (CYANOGUANIDINE)METHYL-|MERCURY,(3-CYANOGUANIDINO)METHYL-|MERCURY,(CYANOGUANIDINATO)METHYL-|MERCURY,(CYANOGUANIDINATO-N')METHYL-|METHYLMERCURIC DICYANDIAMIDE|METHYLMERCURIC CYANOGUANIDINE|METHYLMERCURIC	502-39-6	Crystals. Used as a fungicide; a seed, soil, and turf treatment, especially for cereals, sorghum, sugar beets, cotton, and flax. Not registered as a pesticide in the U.S. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2014.0	212.0	704.0	367.0	210.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4441	METHYLPENTADIENE	1,1-DIMETHYL-1,3-BUTADIENE|1,1-DIMETHYLBUTADIENE|4-METHYL-1,3-PENTADIENE|METHYLPENTADIENE	926-56-7	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2015.0	212.0	704.0	367.0	210.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4442	METHYLSILATRANE	1-METHYL-2,8,9-TRIOXA-5-AZA-1-SILABICYCLO(3.3.3)UNDECANE|METHYLSILATRANE|1-METHYLSILATRANE|2,8,9-TRIOXA-5-AZA-1-SILABICYCLO(3.3.3)UNDECANE, 1-METHYL-	2288-13-3	PHYSICAL DESCRIPTION: White crystals or granular solid with a slight odor. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2015.0	212.0	704.0	367.0	210.0	(BLOB)	When heated to decomposition it emits acrid smoke and fumes. Sensitive to light. (EPA, 1998)	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. The material is similar to coumarin and indandione. (Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. (EPA, 1998)
4443	METHYLTETRAHYDROFURAN	METHYL TETRAHYDROFURAN|METHYLTETRAHYDROFURAN	25265-68-3	A colorless liquid with an ether-like odor. Less dense than water. Vapors heavier than air. Used to make other chemicals and as a solvent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2016.0	212.0	704.0	367.0	210.0	(BLOB)	Flash point data are not available for this chemical, but is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled by using a dry chemical carbon dioxide, and/or Halon extinguishers. (NTP, 1992)
4444	MEXACARBATE	(BLOB)	315-18-4	Mexacarbate is an odorless white crystalline solid dissolved in a liquid carrier. It is toxic by inhalation, skin absorption, and/or ingestion. When heated to high temperatures it may emit toxic oxides of nitrogen. It will burn but it is difficult to ignite. It is used as a pesticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2016.0	212.0	704.0	367.0	210.0	(BLOB)	The material will burn, though it may require some effort to ignite. Fire produces irritating and poisonous gases. When heated to decomposition, it emits toxic fumes of chlorine-containing compounds. (EPA, 1998)	Wear positive pressure breathing apparatus and full protective clothing. Move containers from fire area if you can do so without risk. Spray containers with cooling water until well after fire is out. Isolate for one-half mile in all directions if tank car or truck is involved in a fire. For small fires, use dry chemical, carbon dioxide, spray or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4439	METHYLENE BIS(PHENYLENEOXYMETHYLENE)BISOXIRANE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	A pyrethroid derivative.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4440	METHYLMERCURIC DICYANAMIDE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	It is slightly soluble in water.	Phenols, such as AMYL PHENOL, do not behave as organic alcohols, as one might guess from the presence of a hydroxyl (-OH) group in their structure. Instead, they react as weak organic acids. Phenols and cresols are much weaker as acids than common carboxylic acids (phenol has pKa = 9.88). These materials are incompartible with strong reducing substances such as hydrides, nitrides, alkali metals, and sulfides. Flammable gas (H2) is often generated, and the heat of the reaction may ignite the gas. Heat is also generated by the acid-base reaction between phenols and bases. Such heating may initiate polymerization of the organic compound. Phenols are sulfonated very readily (for example, by concentrated sulfuric acid at room temperature). The reactions generate heat. Phenols are also nitrated very rapidly, even by dilute nitric acid.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4441	METHYLPENTADIENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts slowly with moisture in air to form hydrogen bromide.	PHENACYL BROMIDE reacts slowly with metals causing mild corrosion.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4442	METHYLSILATRANE	(Non-Specific -- Coumarin Derivative Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Practically insoluble in water (17mg/L). Hydrolyzed by strong acid.	DIPHACINONE is a ketone, and behaves as a weak acid. Forms water soluble alkali metal salts. Ketones are reactive with many acids and bases liberating heat and flammable gases (e.g., H2). The amount of heat may be sufficient to start a fire in the unreacted portion of the ketone. Ketones react with reducing agents such as hydrides, alkali metals, and nitrides to produce flammable gas (H2) and heat. Ketones are incompatible with isocyanates, aldehydes, cyanides, peroxides, and anhydrides. They react violently with aldehydes, HNO3, HNO3 + H2O2, and HClO4.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(EPA, 1998)		295 to 297
4443	METHYLTETRAHYDROFURAN	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sparingly soluble in water.	PHENANTHRIDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		223 to 225
4444	MEXACARBATE	Keep unnecessary people away; isolate hazard area. Stay upwind; keep out of low areas. Shut off ignition sources. Do not touch spilled material. Use water spray to reduce vapors, but do not get water inside containers. For small spills, absorb with sand or other non-combustible absorbent material. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Insoluble in water.	TRANS-1,4-DICHLOROBUTENE will burn, though it may require some effort to ignite. Fire produces irritating and poisonous gases. When heated to decomposition, it emits toxic fumes of chlorine-containing compounds. [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0						(EPA, 1998)		1.5		%	(EPA, 1998)		4		%						(EPA, 1998)		34 to 37

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4439	METHYLENE BIS(PHENYLENEOXYMETHYLENE)BISOXIRANE																																									Class 9	C21Cl2H20O3	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4440	METHYLMERCURIC DICYANAMIDE																																								Corrosive	C11H16O		0.0	0.0	0.0	0.0	0.0
4441	METHYLPENTADIENE																																								Poison	C6H5COCH2Br		0.0	0.0	0.0	0.0	0.0
4442	METHYLSILATRANE																										(EPA, 1998)		340.38													Poison	C23H16O3		0.0	0.0	0.0	0.0	0.0
4443	METHYLTETRAHYDROFURAN																				(NTP, 1992)		660		760		(NTP, 1992)		179.22											Poison	C13H9N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4444	MEXACARBATE								(EPA, 1998)		4				(EPA, 1998)		1.183		77		(EPA, 1998)		312		758		(EPA, 1998)		125											Poison|Corrosive	C4H6Cl2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4445	MONO(2-ETHYLHEXYL) ADIPATE	ADIPIC ACID, 2-ETHYLHEXYL ESTER|ADIPIC ACID, MONO(2-ETHYLHEXYL) ESTER|HEXANEDIOIC ACID, MONO(2-ETHYLHEXYL) ESTER|MONO(2-ETHYLHEXYL) ADIPATE|MONO(2-ETHYLHEXYL) HEXANEDIOATE|MONO-2-ETHYLHEXYL ADIPATE	4337-65-9	PHYSICAL DESCRIPTION: Clear thick slightly yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2017.0	212.0	705.0	367.0	210.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4446	M-TOLUIDINE HYDROCHLORIDE	3-AMINOTOLUENE HYDROCHLORIDE|M-AMINOTOLUENE HYDROCHLORIDE|M-METHYLANILINE HYDROCHLORIDE|M-TOLUIDINE HYDROCHLORIDE|M-TOLUIDINE, HYDROCHLORIDE|META-TOLUIDINE HCL|META-TOLUIDINE HYDROCHLORIDE|3-METHYLANILINE HYDROCHLORIDE|3-METHYLANILINIUM CHLORIDE|3-METHYLBENZENAMINE HYDROCHLORIDE	638-03-9	PHYSICAL DESCRIPTION: Light gray solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2018.0	212.0	705.0	367.0	211.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4447	MUSTARD GAS	AGENT HD|BETA, BETA'-DICHLOROETHYL SULFIDE|BETA, BETA'-DICHLOROETHYL SULPHIDE|BETA,BETA'-DICHLORODIETHYL SULFIDE|BETA,BETA'-DICHLOROETHYL SULFIDE|BETA,BETA-DICHLOR-ETHYL-SULPHIDE|BETA-CHLOROETHYLISOBUTYL SULFIDE|BIS(2-CHLOROETHYL) SULFIDE|BIS(2-CHLOROETHYL) SULPHIDE|BIS(BETA-CHLOROETHYL) SULFIDE|BIS(BETA-CHLOROETHYL) SULPHIDE|1-CHLORO-2-(BETA-CHLOROETHYLTHIO)ETHANE|DI-2-CHLOROETHYL SULFIDE|DI-2-CHLOROETHYL SULPHIDE|2,2'-DICHLORODIETHYL SULFIDE|2,2'-DICHLORODIETHYL	505-60-2	Mustard gas is a clear amber colored oily liquid with a faint odor of mustard/garlic. It is not readily combustible. Its vapors are heavier than air, are very toxic, and can be absorbed through the skin. The effects from exposure to the material include blindness which may be delayed. Prolonged exposure of the container to fire or intense heat may cause it to violently rupture and rocket. Mustard gas is also known as dichlorodiethyl sulfide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2019.0	212.0	705.0	367.0	211.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4448	N-(4-(5-NITRO-2-FURYL)THIAZOYL)FORMAMIDE	FANFT|FORMAMIDE, N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]-|2-(FORMYLAMINO)-4-(5-NITRO-2-FURYL)THIAZOLE|2-FORMYLAMINO-4-(5-NITRO-2-FURYL)THIAZOLE|N-(4-(5-NITRO-2-FURYL)-2-THIAZOLYL)FORMAMIDE|N-(4-(5-NITRO-2-FURYL)THIAZOYL)FORMAMIDE|N-[4-(5-NITRO-2-FURYL)-2-THIAZOLYL]FORMAMIDE	24554-26-5	PHYSICAL DESCRIPTION: Dark yellow powder or gold solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2019.0	212.0	705.0	367.0	211.0	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive, refer to GUIDE 112. Keep material wet with water or treat as an explosive, refer to GUIDE 112. Runoff to sewer may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 800 meters (1/2 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4449	N,N-DIETHYL-4-((5-NITRO-2-THIAZOYL)AZO) BENZENAMINE	C.I. 11074|C.I. DISPERSE BLUE 339|DISPERSE BLUE 339|EASTMAN HTP VIOLET 310|N,N-DIETHYL-4-((5-NITRO-2-THIAZOYL)AZO) BENZENAMINE	54289-46-2		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2019.0	212.0	705.0	367.0	212.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4445	MONO(2-ETHYLHEXYL) ADIPATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	An ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(NFPA, 2010)		176																			
4446	M-TOLUIDINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This chemical may be sensitive to prolonged exposure to air and light. Insoluble in water.	ANTHRANILIC ACID is incompatible with strong oxidizers. (NTP, 1992)						0		(NTP, 1992)		340		(NTP, 1992)		0.03		oz/ft3										(NTP, 1992)		291 to 295
4447	MUSTARD GAS	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ZINC ARSENITE has only weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4448	N-(4-(5-NITRO-2-FURYL)THIAZOYL)FORMAMIDE	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. SMALL SPILL: Flush area with flooding quantities of water. LARGE SPILL: Wet down with water and dike for later disposal. KEEP "WETTED" PRODUCT WET BY SLOWLY ADDING FLOODING QUANTITIES OF WATER. (ERG, 2012)	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Flammable. Insoluble in water.	Organosulfides, such as DIPICRYL SULFIDE, are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.	Explosive	Excerpt from GUIDE 113 [Flammable Solids - Toxic (Wet/Desensitized Explosive)]: Isolate spill or leak area immediately for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial evacuation for 500 meters (1/3 mile) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4449	N,N-DIETHYL-4-((5-NITRO-2-THIAZOYL)AZO) BENZENAMINE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Soluble in water. Hydrolyzes to give diethanolamine (NTP, 1992).	1-AZIRIDINE ETHANOL is an amino alcohol. Amines are chemical bases. They neutralize acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.	Water-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		153																			

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_pressNMH G	bp_range_pressNMH G	molwgt_source	molwgt_note	molwgt_value	molwgt_range	molwgt_source	mdln_value	mdln_note	mdln_source	mdln_unit	solbly_source	solbly_note	solbly_value	solbly_range	solbly_unit	chris_code	formulas	incompatible_labels	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4447	MUSTARD GAS	(NTP, 1992)	Negligible	4.7	(calculated)	(NTP, 1992)			(NTP, 1992)			1.412		(NTP, 1992)							Sublimes	(NTP, 1992)			(NTP, 1992)	(NTP, 1992)		137.14		less than 0.1	mg/mL	Poison	Zn(AsO2)2	Combustible Liquid	C8H8OZ	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4445	MONO(2-ETHYLHEXYL) ADIPATE																																														
4448	N-(4-[5-NITRO-2-FURYL]THIAZOYL)FORMAMIDE																																														
4449	N,N-DIETHYL-4-([5-NITRO-2-THIAZOYL]AZO)BENZENAMINE											1.088		(NTP, 1992)			309 to 313	760		(NTP, 1992)								87.14																		Poison	C4H9NO	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4450	N,N'-DINITROSO-N,N'-DIMETHYL TEREPHTHALAMIDE	DINITROSO-DIMETHYL TEREPHTHALAMIDE|N,N'-DINITROSO-N,N'-DIMETHYL TEREPHTHALAMIDE	133-55-1		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	705.0	367.0	212.0	INHALATION: remove victim to fresh air. EYES: flush with water at once for at least 15 min.; get medical attention. SKIN: flush with water at once, followed by vinegar and dilute hydrogen peroxide. INGESTION: only symptomatic and supportive measures are available. (USCG, 1999)	Special Hazards of Combustion Products: Phosphoric acid mist may form in fire. Toxic oxides of nitrogen may form. (USCG, 1999)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4451	NAFENOPIN	ALPHA-METHYL-ALPHA-(P-1,2,3,4-TETRAHYDRONAPHTH-1-YLPHENOXY)PROPIONIC ACID|C 13437 SU|C 13437SU|CH 13-437|CIBA 13,437 SU|CIBA 13,437SU|CIBA 13437 SU|CIBA 13437SU|MELIPAN|2-METHYL-2-(4-(1,2,3,4-TETRAHYDRO-1-NAPHTHALENYL)PHENOXY)PROPANOIC ACID|2-METHYL-2-(4-(1,2,3,4-TETRAHYDRO-1-NAPHTHYL)PHENOXY|PROPANOIC ACID|2-METHYL-2-(P-(1,2,3,4-TETRAHYDRO-1-NAPHTHYL)PHENOXY)PROPIONIC ACID|NAFENOIC ACID|NAFENOPIN|PROPANOIC ACID, 2-METHYL-2-[4-(1,2,3,4-TETRAHYDRO-1-NAPHTHALENYL)PHENOXY]-|PROPIONIC ACID, 2-METHYL-2-(P-(1,2,3,4-TETRAHYDRO-1-NAPHTHYL)PHENOXY-|PROPIONIC ACID, 2-	3771-19-5	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	706.0	367.0	212.0	(BLOB)	Not flammable. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4452	NAPHTHYLTHIOUREA	N-NAPHTHYLTHIOUREA|NAPHTHYLTHIOUREA|TIOX 30|UREA, 1-(NAPHTHYL)-2-THIO-	30553-04-9	A crystalline solid or a solid dissolved in a liquid. Insoluble in water and denser than water. Contact may slightly irritate skin, eyes and mucous membranes. May be slightly toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	706.0	367.0	212.0	(BLOB)	Flash point data for this chemical are not available, however it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4453	NAPHTHYLUREA	NAPHTHYLUREA|1-NAPHTHYLUREA	6950-84-1	A gray solid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	706.0	367.0	213.0	(BLOB)	Emits sulfur dioxide, oxides of nitrogen, and carbon monoxide fumes upon decomposition. It reacts with silver nitrate and strong oxidizers. Avoid decomposing heat. (EPA, 1998)	Stay upwind, and out of low areas. Wear self-contained breathing apparatus and full protective clothing. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4454	N-BROMOACETAMIDE	ACETOBROMAMIDE|N-BROMOACETAMIDE|NBA	79-15-2	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	706.0	367.0	213.0	(BLOB)		
4455	N-DECYL ACRYLATE	ACRYLIC ACID, DECYL ESTER|DECYL ACRYLATE|DECYL ACRYLATE, INHIBITED|N-DECYL ACRYLATE|2-PROPENOIC ACID, DECYL ESTER	2156-96-9	Liquid. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2020.0	212.0	706.0	367.0	213.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of sulfur oxides and phosphorus oxides. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Fire and runoff from fire control water may produce irritating or poisonous gases. Hydrolyzed by alkalies at 99.5F. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Wear positive pressure breathing apparatus and special protective clothing. Dike fire control water for later disposal; do not scatter the material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. Fight fire from maximum distance. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4450	N,N'-DINITROSO-N,N'-DIMETHYL TEREPHTHALAMIDE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Protective clothing and gloves to prevent contact with skin; goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	TRIS-(1-AZIRIDINYL) PHOSPHINE OXIDE may react with aqueous solutions of acids or strong bases. Undergoes slow decomposition in water, not considered hazardous. Polymerizes violently at about 255Â°F. Acid fumes also cause polymerization at ordinary temperatures (USCG, 1999). May produce highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.	Polymerizable	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		106	
4451	NAFENOPIN	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Wear dust respirator and rubber overclothing (including gloves). (USCG, 1999)	Insoluble in water. ANTIMONY TRIOXIDE ignites and burns when heated in powdered form in air [Mellor 9:425 1946-47].	IANTIMONY TRIOXIDE ignites and burns when heated in powdered form in air [Mellor 9:425 1946-47]. Reacts violentlhy with bromine trifluoride [Mellor Vol. 9 425.1939].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Not Applicable. Not flammable.		(USCG, 1999)	Not Applicable. Not flammable.					(USCG, 1999)	Not Applicable. Not flammable.							(NTP, 1992)		1211	
4452	NAPHTHYLTHIOUREA	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	A halogenated alkene and alcohol. The unsaturated aliphatic hydrocarbons are generally much more reactive than the alkanes, which are saturated aliphatic hydrocarbons. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																				(NTP, 1992)		234 to 237	
4453	NAPHTHYLUREA	Avoid inhalation and skin contact. Do not touch spilled material, stay upwind, keep out of low areas, deny entry. (EPA, 1998)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Slightly soluble in water.	ANTU is incompatible with the following: Strong oxidizers, silver nitrate (NIOSH, 1997).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(EPA, 1998)	May burn but will not ignite readily															(EPA, 1998)		388	
4454	N-BROMOACETAMIDE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	APC is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).						0																										
4455	N-DECYL ACRYLATE	(Non-Specific -- Organophosphorus Pesticides) Keep material out of water courses and sewer. Build dikes to contain flow as necessary. Use water spray to knock down vapor. Do not touch spilled material. (Non-Specific -- Organophosphorus Pesticide, Liquid, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Remove and isolate contaminated clothing at the site. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hydrolyzed by alkalis at 99.5 F. [EPA, 1998].	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0					(EPA, 1998)	May burn but does not ignite readily.					(EPA, 1998)	May burn but does not ignite readily.											

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4450	N,N'-DINITROSO-N,N'-DIMETHYL TEREPHTHALAMIDE														(USCG, 1999)	(est)		greater than 1	68								(USCG, 1999)		173.16												TPO	Poison	(C2H4N)3PO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4451	NAFENOPIN	(NTP, 1992)		1		1065		mm Hg							(USCG, 1999)		5.2		77		(NTP, 1992)	(sublimes) : 1598Â° F at 210 mm Hg	2822		760		(NTP, 1992)		291.52						(NTP, 1992)	at 68Â° F		less than 1	mg/mL	ATX	Poison	O3Sb2		0.0	0.0	0.0	0.0	0.0
4452	NAPHTHYLTHIOUREA																										(NTP, 1992)		245.91						(NTP, 1992)	at 70Â° F		10 to 50	mg/mL			C4H6Br2O2	Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4453	NAPHTHYLUREA	(EPA, 1998)		0		77		mm Hg	(EPA, 1998)		6.99										(NIOSH, 2003)	Decomposes					(EPA, 1998)		202.23		(NIOSH, 2003)		100	mg/m3	(NIOSH, 2003)		0.06		%		Poison	C11H10N2S		0.0	0.0	0.0	0.0	0.0
4454	N-BROMOACETAMIDE																										(NTP, 1992)		553.63						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C10H13NO2.C9H8O4.C8H10N4O2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4455	N-DECYL ACRYLATE														(EPA, 1998)		1.273		70.52								(EPA, 1998)		248.25												Poison	C9H13O4PS		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4456	N-ETHYL-2-METHYL-4-NITROANILINE	N-ETHYL-2-METHYL-4-NITROANILINE	88374-25-8	PHYSICAL DESCRIPTION: Purple-black crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2021.0	213.0	706.0	369.0	214.0	(BLOB)	Behavior in Fire: Decomposes at high temperature, charring rather than melting or boiling. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4457	N'-ETHYL-N,N-DIPHENYLUREA	3-ETHYL-1,1-DIPHENYLUREA|N'-ETHYL-N,N-DIPHENYLUREA|UREA, 3-ETHYL-1,1-DIPHENYL-	18168-01-9		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2022.0	213.0	706.0	369.0	214.0	Excerpt from GUIDE 159 [Substances (Irritating)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects should disappear after individual has been exposed to fresh air for approximately 10 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect	Excerpt from GUIDE 159 [Substances (Irritating)]: Some of these materials may burn, but none ignite readily. Containers may explode when heated. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4458	N-HYDROXY-2-ACETYLAMINOFLUORENE	ACETAMIDE, N-FLUOREN-2-YL-N-HYDROXY|ACETAMIDE, N-FLUOREN-2-YL-N-HYDROXY|ACETAMIDE, N-HYDROXY-N-(2-FLUORENYL)-|ACETOHYDROXAMIC ACID, N-FLUOREN-2-YL-|FLUORENYL-2-ACETHYDROXAMIC ACID|N-(9H-FLUOREN-2-YL)-N-HYDROXYACETAMIDE|N-2-FLUORENYL-N-HYDROXYACETAMIDE|N-2-FLUORENYLACETOHYDROXAMIC ACID|N-ACETYL-N-2-FLUORENYLHYDROXYLAMINE|N-FLUOREN-2-YL-ACETOHYDROXAMIC ACID|N-FLUOREN-2-YLACETOHYDROXAMIC ACID|N-HO-AAF|N-HYDROXY-2-(ACETYLAMINO)FLUORENE|N-HYDROXY-2-ACETAMIDOFLUORENE|N-HYDROXY-2-ACETYLAMINOFLUORENE|N-HYDROXY-2-FAA|N-	53-95-2	PHYSICAL DESCRIPTION: Cream colored powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2023.0	213.0	706.0	369.0	214.0	Consult physician after all overexposure to this compound. INHALATION: move to fresh air. INGESTION: induce vomiting by giving warm salt water; repeat until vomit is clear. EYES: flush with water for at least 15 min. SKIN: wash well with water. (USCG, 1999)	Special Hazards of Combustion Products: Poisonous fumes of the compound may be formed in fires. If ignited, will form sulfur dioxide gas. Behavior in Fire: May ignite at very high temperatures (USCG, 1999)	Fire Extinguishing Agents: Water (USCG, 1999)
4459	NIAXÃ® CATALYST ESN	ETHANAMINE, 2,2'-OXYBIS[N,N-DIMETHYL-, MIXT. CONTG.|NIAX|NIAXES-N|NIAXÃ® CATALYST ESN|NONE	62765-93-9	A liquid mixture consisting of 95% dimethylaminopropionitrile by mass (C5H10O2, CAS: 1738-25-6) and 5% bis(2-[dimethylamino)ethyl] ether (C8H20N2O, CAS: 3033-62-3). Used as a catalyst in the manufacture of flexible polyurethane foams. Sale of the material was discontinuted in1978 after its use was linked to urological disorders among workers at a number of factories manufacturing these foams.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2023.0	213.0	706.0	369.0	214.0	(BLOB)	(BLOB)	White/Yellow: Deluge with water, taking care not to scatter, until fire is extinguished and phosphorus has solidified, then cover with wet sand or dirt. Red: Flood with water and when fire is extingushed, cover with wet sand or dirt. Extreme caution should be used during clean up since reignition may occur. Under certain conditions at high temperature, red phosphorus reverts to more hazardous white phosphorus. Small fires: dry chemical, sand, water spray, or foam. Large fires: water spray, fog, or foam. Cool containers that are exposed to flames with water from the side until well after fire is out. (EPA, 1998)
4460	NICKEL NITRITE	NICKEL DINITRITE|NICKEL NITRITE|NICKEL NITRITE (NI(NO2)2)|NICKEL(II) NITRITE	17861-62-0	A crystalline solid or the solid dissolved in a liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Noncombustible, but accelerates the burning of combustible materials. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2024.0	213.0	706.0	369.0	214.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4456	N-ETHYL-2-METHYL-4-NITROANILINE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear face shield, rubber gloves, rubber apron when handling concentrate. When spraying, wear waterproof foot wear and clothing. (USCG, 1999)	Water soluble. Solutions are stable in neutral and acid solutions; however, they are unstable in alkaline solutions.	DIQUAT is light sensitive. This compound can corrode aluminum and other metals. (NTP, 1992) Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics. Unlike the ammonium ion, [NH4]+, and the primary, secondary, or tertiary ammonium cations, the quaternary ammonium cations are permanently charged, independent of the pH of their solution.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NTP, 1992)	(decomposes)		less than 608
4457	N'-ETHYL-N,N-DIPHENYLUREA	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 159 [Substances (Irritating)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Some of these materials may burn, but none ignite readily. Containers may explode when heated.		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																													
4458	N-HYDROXY-2-ACETYLAMINOFLUORENE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved respirator; goggles; rubber gloves; clean protective clothing (USCG, 1999)	Burns with a blue flame when heated in air [Mellor 9:270 1946-47]. Insoluble in water.	ARSENIC DISULFIDE reacts with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. These reactions may be violent. Soluble in acids and alkalis, but not soluble in water. Generates toxic gaseous hydrogen sulfide on contact with acids.	Strong Reducing Agent	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(USCG, 1999)		585	
4459	NIAXÂ® CATALYST ESN	Caution : Flammable solid. Avoid sources of extreme heat or ignition including sparks or fire. White (or yellow) phosphorus may spontaneously ignite on contact with damp surfaces, including water or skin. Phosphorus will liberate toxic gases and vapors when heated. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Any clothing which becomes contaminated should be removed immediately. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Not reactive with air (unlike white phosphorus). Not soluble in water.	PHOSPHORUS is a reducing agent. Even at 10Â°C, bromine trifluoride reacts with antimony incandescently. Bromine trifluoride reacts similarly with arsenic, boron, bromine, iodine, phosphorus, and sulfur [Mellor 2:113. 1946-47]. Bromoazide explodes on contact with antimony, arsenic, phosphorus, silver foil, or sodium. Red phosphorus reacts in the cold with selenium oxychloride evolving light and heat; white phosphorus reacts explosively [Mellor 10:906. 1946-47]. When thorium is heated with phosphorus, they unite with incandescence [Svenska Akad. 1829. p.1].	Strong Reducing Agent	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	1	2						(EPA, 1998)	White-yellow: Can be ignited under almost all normal temperature conditions. Red: Material that must be preheated before ignition can occur.				(EPA, 1998)	White-yellow: Can be ignited under almost all normal temperature conditions. Red: Material that must be preheated before ignition can occur.				(USCG, 1999)		500		(EPA, 1998)	111.2Â° F White-yellow 1094Â° F violet 1094Â° F red		
4460	NICKEL NITRITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to prolonged exposure to air and light. Insoluble in water.	TRANS-CINNAMALDEHYDE is incompatible with strong oxidizing agents and strong bases. It can also react with sodium hydroxide. (NTP, 1992)					0		(NTP, 1992)		160																		(NTP, 1992)		18.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4456	N-ETHYL-2-METHYL-4-NITROANILINE	(NTP, 1992)			less than 0.000010	68		mm Hg							(USCG, 1999)			1.22 to 1.27	68								(NTP, 1992)		344.08						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	DIQ	Poison	C12H12N2		0.0	0.0	0.0	0.0	0.0
4457	N'-ETHYL-N,N-DIPHENYLUREA																																									Poison	C4H7BrO		0.0	0.0	0.0	0.0	0.0
4458	N-HYDROXY-2-ACETYLAMINOFLUORENE														(USCG, 1999)		3.5		68		(USCG, 1999)		1049		760		(USCG, 1999)		214		(NIOSH, 2003)	for Arsenic (inorganic compounds, as As); A potential human carcinogen.	5	mg/m3						ARD	Poison	As2S2		0.0	0.0	0.0	0.0	0.0
4459	NIAXÂ® CATALYST ESN	(EPA, 1998)	White-yellow	0.026		68		mm Hg	(EPA, 1998)	4.77 Red 4.42 white-yellow					(EPA, 1998)	2.34 Red 2.36 violet 2.70 black 1.8 white-yellow					(EPA, 1998)	White-yellow ignites at 86Â° F in moist air; red ignites at 500Â° F.	536		760		(EPA, 1998)		30.97											PPR	Flammable Solid	P		0.0	0.0	0.0	0.0	0.0
4460	NICKEL NITRITE	(NTP, 1992)	: 10.0 mm Hg at 163Â° F; 26.0 mm Hg at 207Â° F	0.5		124		mm Hg							(NTP, 1992)		1.048		68		(NTP, 1992)	(partial decomposition)	486		760		(NTP, 1992)		132.16						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C9H8O	Cellulose-Based Absorbents	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4461	NICKEL SUBSULFIDE	ALPHA-NICKEL SULFIDE (3:2) CRYSTALLINE|HEAZLEWOODITE|NICKEL SESQUISULFIDE|NICKEL SUBSULFIDE|NICKEL SUBSULFIDE (NI3S2)|NICKEL SUBSULPHIDE|NICKEL SULFIDE (3:2)|NICKEL SULPHIDE|NICKEL TRITADISULPHIDE|TRINICKEL DISULFIDE	12035-72-2	PHYSICAL DESCRIPTION: Pale yellowish-bronze metallic-lustrous crystals or shiny gold-green (metallic) crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2024.0	213.0	706.0	369.0	214.0	(BLOB)	Flash point data for this compound are unavailable; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)
4462	NICOTINE HYDROCHLORIDE	NICOTINE HYDROCHLORIDE|NICOTINE HYDROCHLORIDE, SOLUTION|NICOTINE, HYDROCHLORIDE	2820-51-1	A white crystalline solid. Combustible, although ignition may be difficult. Toxic by inhalation (dust, etc.) and skin absorption. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2024.0	213.0	706.0	369.0	214.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4463	NITRALIN	4-(METHYLSULFONYL)-2,6-DINITRO)N,N-DIPROPYLANILINE|NITRALIN|PLANAVIN	4726-14-1	Light yellow to orange solid with a mild odor. Sinks in water. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	213.0	706.0	369.0	214.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4464	NITROANILINES	AMINONITROBENZENE|ANILINE, NITRO-|MONONITROANILINE|NITROANILINE|NITROANILINES	29757-24-2	Orange-red to yellow crystalline solids with an musty odor or no odor. Consists of a mixture in unspecified proportions the compounds three isomeric forms. Used as corrosion inhibitors and to make other chemicals. Toxic by inhalation and skin absorption. Produces oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	213.0	706.0	369.0	214.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4465	NITROBENZENESULFONIC ACID	NITROBENZENESULFONIC ACID|NITROBENZENESULPHONIC ACID	31212-28-9	A whitish colored solid in the form of flakes. It will form a corrosive solution in water. Denser than water. Severely irritates skin and eyes. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	213.0	706.0	369.0	214.0	(BLOB)	Special Hazards of Combustion Products: Irritating hydrogen chloride and toxic oxides of nitrogen may be formed. (USCG, 1999)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4466	NITROCRESOLS	CRESOL, NITRO-|MONONITROTOLUOL|NITROCRESOL|NITROCRESOLS	12167-20-3	Nitrocresols are yellow-colored crystals. They are slightly soluble in water and weigh more than water. Contact with the material may cause irritation to skin, eyes, and mucous membranes. They are toxic by ingestion or skin contact. They are used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	214.0	707.0	369.0	215.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4461	NICKEL SUBSULFIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Soluble in water.	DIRECT BLUE 53 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This compound can react with strong reducing and oxidizing agents. (NTP, 1992)	Explosive							0																										
4462	NICOTINE HYDROCHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Soluble in water.	DIRECT GREEN 1 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive							0																										
4463	NITRALIN	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	ASPHALT may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreactive material and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. If heated sufficiently or ignited in the presence of air, oxygen or strong oxidizing agents, can burn exothermically. May be ignited by strong oxidizing agents.		Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		0	1	0	1	(NFPA, 2010)		greater than 400																(USCG, 1999)		110	
4464	NITROANILINES	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	DISTEARYL PEROXYDICARBONATE decomposes violently or explosively at temperatures 0-10Â°C owing to self-accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick, 1979 p. 156]. Danger of explosion when dry	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
4465	NITROBENZENESULFONIC ACID	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	(BLOB)	Insoluble in water.	ATRAZINE undergoes slow hydrolysis at 158Â°F under neutral conditions. Hydrolysis is more rapid in acidic or alkaline conditions. Forms salts with acids (NTP, 1992).							0																		(NTP, 1992)		347 to 351	
4466	NITROCRESOLS	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	This chemical is sensitive to air and light. Dust may form an explosive mixture in air. Insoluble in water.	AZOBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This compound is incompatible with strong oxidizing agents. (NTP, 1992)							0																		(NTP, 1992)		154	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4461	NICKEL SUBSULFIDE																										(NTP, 1992)		960.83						(NTP, 1992)	at 76.6Â° F		10 to 50	mg/mL			C34H28N6O14S4.4Na		0.0	0.0	0.0	0.0	0.0
4462	NICOTINE HYDROCHLORIDE																										(NTP, 1992)		767.71						(NTP, 1992)	at 73Â° F		10 to 50	mg/mL			C34H25N7O8S2.2Na		0.0	0.0	0.0	0.0	0.0
4463	NITRALIN														(USCG, 1999)	(est.)	1.11		122												(NIOSH, 2003)	As asphalt fumes; A potential human carcinogen.								ARF	Flammable Liquid		Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4464	NITROANILINES																																								Organic Peroxide	C38H74O6	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4465	NITROBENZENESULFONIC ACID	(NTP, 1992)		3.00E-07		68		mm Hg							(USCG, 1999)	(est)	1.2		68		(NIOSH, 2003)	Decomposes					(NTP, 1992)		215.72						(NTP, 1992)	at 67.1Â° F		less than 1	mg/mL	ATZ		C8H14ClN5	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4466	NITROCRESOLS	(NTP, 1992)	; 5 mm Hg at 276.3Â° F; 10 mm Hg at 304.7Â° F	1		218.3		mm Hg							(NTP, 1992)		1.203		68		(NTP, 1992)		559		760		(NTP, 1992)		182.23						(NTP, 1992)	at 63.5Â° F		less than 0.1	mg/mL			C12H10N2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4467	NITROGEN TETROXIDE	DINITROGEN TETRAOXIDE|NITROGEN DIOXIDE/DINITROGEN TETROXIDE MIXTURE|NITROGEN PEROXIDE (DINITROGEN TETROXIDE)|NITROGEN TETRAOXIDE|NITROGEN TETROXIDE|NITROGEN TETROXIDE, [LIQUID]|OXIDES OF NITROGEN|RED OXIDE OF NITROGEN	10544-72-6	Red-brown liquid with a sharp, unpleasant chemical odor. Low-boiling (boiling point 21.15Â°C) and held as a liquid by compression. Density 1.448 g / cm3. Consists of an equilibrium mixture of brown NO2 (nitrogen dioxide) and colorless N2O4 (dinitrogen tetroxide). Evolves poisonous brown vapors. Cylinders and ton containers may not be equipped with a safety relief device. Prolonged exposure of the containers to fire or heat may result in their violent rupturing and rocketing.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2025.0	214.0	707.0	369.0	215.0	INHALATION: CALL FOR MEDICAL AID. Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. EYES: Flush with copious amounts of water for at least 15 minutes. Assure adequate flushing of the eyes by separating eyelids with fingers. SKIN: Flush with copious amounts of water for at least 15 minutes while removing contaminated clothing and shoes. (USCG, 1999)	Special Hazards of Combustion Products: Emits toxic fumes under fire conditions. Forms explosive mixture in air. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4468	NITROGUANIDINE NITRATE	NITROGUANIDINE NITRATE	98205-29-9	White fiber-like crystals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	215.0	707.0	369.0	216.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4469	NITROMANNITE	ANGIOSPASMYL|DILANGIL|HEXANITROL|HYPERTENAIN|MALTRATE|MANEXIN|MANNHEXIN|MANICOLE|MANNEX|MANNITATE|MANNITE HEXANITRATE|MANNITOL HEXANITRATE|MANNITOL, HEXANITRATE, D-|MANNITRIN|MAXITATE|MEDEMANOL|MHN|MOLOID|NITRANITOL|NITROMANNITE|NITROMANNITOL	15825-70-4	Colorless needles. Used for filling blasting caps.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	215.0	708.0	369.0	216.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4470	NITRONAPHTHALENE	ALPHA-NITRONAPHTHALENE|MONONITRONAPHTHALENE|NCI-C01956|NITROL|NITRONAPHTHALENE	27254-36-0	A yellow crystalline solid. Insoluble in water and denser than water. May irritate skin and eyes. Readily ignitable and may be difficult to extinguish once ignited. Used to make dyes and other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	215.0	708.0	369.0	216.0	Ingestion is a route of entry.Move victim to fresh air; call emergency medical care. Remove and isolate contaminated clothing and shoes at the site. In case of contact with material, immediately flush skin or eyes with running water for at least 15 minutes. (EPA, 1998)	When heated to decomposition, it emits toxic fumes of iodine, sulfur oxides, and nitrogen oxides. (EPA, 1998)	(Non-Specific -- Pesticide, Solid, n.o.s.) This material may burn but does not ignite readily. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Wear self-contained, postive pressure if available, breathing apparatus and full protective clothing. (Non-Specific -- Pesticide, Solid, n.o.s.) Small fires: dry chemical, carbon dioxide, water spray or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do it without risk. (EPA, 1998)
4471	NITROSOETHYLURETHANE	ENU|ETHYL N-ETHYLNITROSOCARBAMATE|ETHYL NITROSOURETHAN|ETHYL NITROSOURETHANE|ETHYL NITROSOCARBAMIC ACID, ETHYL ESTER|N-ETHYL-N-NITROSOCARBAMIC ACID ETHYL ESTER|N-ETHYL-N-NITROSOURETHAN|N-ETHYL-N-NITROSOURETHANE|N-NITROSO-N-ETHYLURETHAN|N-NITROSO-N-ETHYLURETHANE|NEU|NITROSO-N-ETHYLURETHANE|NITROSOETHYLURETHAN|NITROSOETHYLURETHANE|NSC 24890	614-95-9		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2025.0	215.0	708.0	369.0	216.0	(BLOB)	This chemical is flammable. Vapor is heavier than air and may travel long distances to an ignition source and flash back. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. Vapor is heavier than air and may travel long distances to an ignition source and flash back. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4467	NITROGEN TETROXIDE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Wear self-contained breathing apparatus, rubber boots, heavy rubber gloves, and protective clothing. (USCG, 1999)	Highly flammable. Soluble in water.	GAMMA PICOLINE or 4-METHYLPYRIDINE neutralizes acids in exothermic reactions to form salts plus water. It is incompatible with isocyanates, halogenated organics, peroxides, phenols, sulfuric acid, epoxides, anhydrides, acid halides and iron (II) sulfate. Gamma picoline may generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides. Dangerous fire hazard when exposed to heat, flame or oxidizers. Severe explosion hazards in the form of vapor, when exposed to flame or spark. Reacts violently with chlorosulfonic acid; CrO3; maleic anhydride; HNO3; oleum; perchromates; B-propiolactone; AgClO4; H2SO4;formamide; SO3; I. Dangerous when heated to decomposition it emits highly toxic fumes of cyanides; can react vigorously with oxidizing materials.	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for 2-picoline, CAS number 109-06-8.	3	3	0	3		(USCG, 1999)		134											(USCG, 1999)		1000		(USCG, 1999)		36.3	
4468	NITROGUANIDINE NITRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Dust may form an explosive mixture in air. Insoluble in water.	AZOXYBENZENE is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.						0																		(NTP, 1992)		97	
4469	NITROMANNITE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Oxidizes in air to form unstable peroxides that may explode spontaneously.	1-BUTEN-3-YNE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions. Forms an explosive salt with silver nitrate. Thermally unstable, under pressure, in combination with 1,3-butadiene [Loss Prev., 1971, 5, 67].	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	3	7																						
4470	NITRONAPHTHALENE	(Non-Specific -- Pesticide, Solid, n.o.s.) Do not touch spilled material; stop leak if you can do so without risk. Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)	Decomposes at 478.4Â° F		
4471	NITROSOETHYLURETHANE	SMALL SPILLS AND LEAKAGE: This chemical should be used in a fume hood. If a leak should occur, the main valve of the gas cylinder should be turned off and all personnel evacuated. Do not reenter the area until the Safety Officer (or other responsible person) has verified that the area has been properly ventilated. STORAGE PRECAUTIONS: You should store this chemical at ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: When working with this chemical, wear a NIOSH-approved full face positive pressure supplied-air respirator or a self-contained breathing apparatus (SCBA). (NTP, 1992)	Highly flammable. Insoluble in water.	The unsaturated aliphatic hydrocarbons, such as 1-BUTENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions. May react with oxidizing materials. Aluminum borohydride reacts with alkenes and in the presence of oxygen, combustion is initiated even in the absence of moisture.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NTP, 1992)		-110		(NTP, 1992)		1.6		%	(NTP, 1992)		9.3		%	(NTP, 1992)		723		(NTP, 1992)		-301.5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4467	NITROGEN TETROXIDE														(USCG, 1999)		0.957				(USCG, 1999)		293		760		(USCG, 1999)		93.13											MPF	Flammable Liquid	C6H7N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4468	NITROGUANIDINE NITRATE														(NTP, 1992)		1.159		79		(NTP, 1992)	Decomposes					(NTP, 1992)		198.22						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H10N2O	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4469	NITROMANNITE																																								Flammable Gas	C4H4	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4470	NITRONAPHTHALENE																											(EPA, 1998)		519.51											Poison	C23H23N2S2.I	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4471	NITROSOETHYLURETHANE	(NTP, 1992)		3480		70		mm Hg	(NTP, 1992)		1.93				(NTP, 1992)		0.6255		19.9		(NTP, 1992)		21		760		(NTP, 1992)		56.12						(NTP, 1992)	Insoluble						Flammable Gas	C4H8	Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4472	NITROSTARCH, [DRY]	NITROSTARCH|NITROSTARCH, [DRY]	9056-38-6	A white solid. Detonated with a commercial number 8 electric blasting cap. Burns once ignited. Will burn vigorously even in small quantities or if thinly spread over a large area. May explode under exposure to intense heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2026.0	215.0	709.0	369.0	216.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4473	NITROSTARCH, WET, WITH NOT LESS THAN 30% ALCOHOL OR SOLVENT	NITROSTARCH, WET, WITH NOT LESS THAN 30% ALCOHOL OR SOLVENT|NITROSTARCH, WETTED WITH NOT LESS THAN 30% SOLVENT|NITROSTARCH, [WET WITH >= 30% ALCOHOL OR SOLVENT]	9056-38-6	An orange crystalline slurry or sludge. Easily ignited, burns vigorously, and a high explosive when dry.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2027.0	215.0	709.0	369.0	216.0	(BLOB)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
4474	NITROSTARCH, WETTED WITH NOT LESS THAN 20% WATER	NITROSTARCH, WETTED WITH NOT LESS THAN 20% WATER|NITROSTARCH, [WET WITH >= 20% WATER]	9056-38-6	An orange crystalline slurry or sludge. Easily ignited, burns vigorously, and a high explosive when dry. Burns when wet. Produces toxic oxides of nitrogen during combustion. Insoluble in water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2028.0	215.0	709.0	369.0	216.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
4475	NITROTRIAZOLONE <OR> NTO	NITROTRIAZOLONE <OR> NTO	932-64-9	A solid or liquid. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2029.0	215.0	709.0	369.0	216.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4476	NITROXYLENES	AR-NITROXYLENE|NITROXYLENE|NITROXYLENES|NITROXYLOL|XYLENE, AR-NITRO-|XYLENE, NITRO-	25168-04-1	Yellow crystalline solids or liquids. Insoluble in water and combustible. Toxic by inhalation and skin absorption. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2029.0	215.0	709.0	369.0	216.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4477	N-NITROSOMETHYLVINYLAMINE	ETHENYLAMINE, N-METHYL-N-NITROSO-|METHYLVINYLNITROSAMINE|METHYLVINYLNITROSOAMINE|MVNA|N-METHYL-N-NITROSOETHENAMINE|N-METHYL-N-NITROSOETHENYLAMINE|N-METHYL-N-NITROSOVINYLAMINE|N-NITROSO-N-METHYLVINYLAMINE|N-NITROSOMETHYLVINYLAMINE|NITROSOMETHYLVINYLAMINE|NMVA|VINYLAMINE, N-METHYL-N-NITROSO-	4549-40-0	PHYSICAL DESCRIPTION: Very volatile yellow liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2029.0	215.0	709.0	369.0	216.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material should be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4472	NITROSTARCH, [DRY]	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Hydrolyzed by strong acid or base.	BARBAN is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4473	NITROSTARCH, WET, WITH NOT LESS THAN 30% ALCOHOL OR SOLVENT	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts with moisture in the air. Rapidly reacts with water to generate gaseous hydrogen. The heat of reaction is sufficient that the evolved hydrogen may ignite [Lab. Govt. Chemist 1965]. Pyrophoric in powdered form [Bretherick, 1979 p. 170-171].	BARIUM reacts readily with water, ammonia, halogens, oxygen and most acids. Reacts with incandescence when heated with boron trifluoride [Merck 11th ed. 1989]. Mixtures of finely divided barium metal and a number of halogenated hydrocarbons (such as monofluorotrichloromethane, trichlorotrifluoroethane, carbon tetrachloride, trichloroethylene, or tetrachloroethylene) are explosives [ASESB Pot. Incid. 39 1968; Chem. Eng. News 46(9):38 1968].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)		1337	
4474	NITROSTARCH, WETTED WITH NOT LESS THAN 20% WATER	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Finely divided metal powder is pyrophoric, ignites spontaneously in air [Bretherick 1979 p. 170-171]. Alloys containing a substantial proportion of barium rapidly decomposed water. The heat of the reaction is sufficient that the evolved hydrogen may ignite [Lab. Govt. Chemist 1965].	Alloys containing a substantial amount of barium react violently with acids [Lab. Gov. Chemist 1965].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4475	NITROTRIAZOLONE <OR> NTO	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in cold water; soluble in hot water.	THALLIUM CHLORATE is an oxidizing agent. May initiate combustion when exposed to organic materials. May liberate explosive chlorine dioxide gas when heated in the presence of strong acid. May liberate chlorine dioxide and carbon dioxide if heated in contact with moist dibasic carboxylic acids. Mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination with finely divided aluminum may explode by heat, percussion, or friction [Mellor 2:310 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4476	NITROXYLENES	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Water soluble. Slowly hydrolyzes; decomposes within 3 hours at pH 7.5 and 77Â°F. (NTP, 1992).	[[Details on specifics of reactivity not yet available.]]						0																							(NTP, 1992)		216	
4477	N-NITROSOMETHYLVINYLAMINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	PIPERONYL BUTOXIDE can react with oxidizing materials. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		340																					

| id | name | vp_source | vp_note | vp_value | vp_range | vp_value_tempDegF | vp_range_tempDegF | vp_unit | vd_source | vd_note | vd_value | vd_range | vd_value_tempDegF | vd_range_tempDegF | sg_source | sg_note | sg_value | sg_range | sg_range_tempDegF | bp_source | bp_note | bp_value | bp_range | bp_value_pressMMHG | bp_range_pressMMHG | molwgt_source | molwgt_note | molwgt_n | molwgt_value | molwgt_range | molwgt_source | sg_note | sg_source | sg_range_tempDegF | vd_range_tempDegF | vd_value_tempDegF | vd_range | vd_value | vd_note | vd_source | vp_unit | vp_range_tempDegF | vp_value_tempDegF | vp_range | vp_value | vp_note | vp_source | solbly_source | solbly_note | solbly_value | solbly_unit | idln_value | idln_note | idln_source | idln_range | molwgt_value | molwgt_range | solbly_value | solbly_unit | chris_code | doi_labels | formulas | incompatible_johnsons | # of Natlons Producing | Production Score | # of Distributions Sites | Distribution Score | Prob Score |
|---|---|---

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4478	N-OCTYL METHACRYLATE	ENT 8767|METHACRYLIC ACID, OCTYL ESTER|2-METHYL-2-PROPENOIC ACID, N-OCTYL ESTER|2-METHYL-2-PROPENOIC ACID, OCTYL ESTER|N-OCTYL METHACRYLATE|OCTYL METHACRYLATE	2157-01-9	PHYSICAL DESCRIPTION: Clear colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2030.0	215.0	709.0	369.0	216.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
4479	NONAMETHYLENEIMINE	AZACYCLODECANE|DECAHYDROAZECINE|NONAMETHYLENEIMINE|NONAMETHYLENIMINE|PERHYDROAZECINE	4396-27-4	PHYSICAL DESCRIPTION: Colorless liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2031.0	215.0	709.0	369.0	216.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: May react violently or explosively on contact with water. Some are transported in flammable liquids. May be ignited by friction, heat, sparks or flames. Some of these materials will burn with intense heat. Dusts or fumes may form explosive mixtures in air. Containers may explode when heated. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: DO NOT USE WATER, FOAM OR CO2. Dousing metallic fires with water will generate hydrogen gas, an extremely dangerous explosion hazard, particularly if fire is in a confined environment (i.e., building, cargo hold, etc.). Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Confining and smothering metal fires is preferable rather than applying water. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: If impossible to extinguish, protect surroundings and allow fire to burn itself out. (ERG, 2012)
4480	NORBORMIDE	COMPOUND S 6999|COMPOUND S-6,999|ENT 51,762|MCN 1025|MCNEIL 1025|4,7-METHANO-1H-ISOINDOLE- 1,3(2H)-DIONE,3A,4,7,7A-TETRAHYDRO-5-(HYDROXYPHENYL-2-PYRIDINYLMETHYL)-8-(PHENYL-2-PYRIDINYLMETHYLENE)-|NORBORMIDE|5-NORBORNENE-2,3-DICARBOXIMIDE, 5-(ALPHA-HYDROXY-ALPHA-2-PYRIDYLBENZYL)-7-(ALPHA-2-PYRIDYLBENZYLIDENE)-|5-NORBORNENE-2,3-DICARBOXIMIDE, 5-(ALPHA-HYDROXY-ALPHA-2-PYRIDYLBENZYL)-7-(ALPHA-2-PYRIDYLBENZYLIDENE)-|RATICATE|RATICIDE|S 6999|S-6,999|SHOXIN	991-42-4	Colorless to off-white crystalline powder. Used as a selective rat poison. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2032.0	215.0	709.0	369.0	216.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4481	N-PENTYL-4-(4'-N-DECYLOXYBENZYLIDINE-AMINO)CINNAMATE	N-PENTYL-4-(4'-N-DECYLOXYBENZYLIDINEAMINO)CINNAMATE	20730-32-9		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2032.0	215.0	709.0	369.0	216.0	(BLOB)	Combustible: May produce toxic gases, including nitrogen oxides, hydrogen chloride, and carbon monoxide. Will attack some plastics, rubber, and coatings. (USCG, 1999)	Extinguish with dry chemicals, CO2, or alcohol foam. Use water spray to "knock down" vapors and cool exposed containers. (USCG, 1999)
4482	N-PHENYLMALEISOIMIDE	3-ISOXAZOLIN-5-ONE, 3-PHENYL-|N-PHENYLMALEISOIMIDE|3-PHENYL-3-ISOXAZOLIN-5-ONE|3-PHENYL-5(2H)-ISOXAZOLONE	7713-79-3		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2032.0	216.0	709.0	369.0	217.0	(BLOB)	When heated to decomposition, this compound evolves highly toxic fumes of phosgene and carbon monoxide. Reactive and incompatible with strong oxidizers, strong acids, caustics, zinc, aluminum, chlorides of iron and aluminumand compounds with an active hydrogen atom, including water. Unstable, avoid heat, contaminants, strong acids and bases, certain curing agents such as ethylenediamine. Hazardous polymerization may occur. (EPA, 1998)	If fire becomes uncontrollable, or containers are exposed to direct flames, evacuate for a radius of 1,500 feet. Isolate for one-half mile in all directions if tank car or truck is involved in fire. Epichlorohydrin may react violently with water. Use water spray, dry chemical, foam or carbon dioxide. Water spray may be used to dilute spills to non-flammable mixtures. If leak or spill has not ignited, use water spray to disperse the vapors. Keep fire-exposed containers cooled with water. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4478	N-OCTYL METHACRYLATE		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	PLASTER OF PARIS is non-flammable and non combustible. Has generally low chemical reactivity but can act as an oxidizing agent under extreme conditions. Decomposes at high temperature to generate toxic oxides of sulfur. Reacts exothermically but slowly with moisture in the air or water to form gypsum CaSO4.2H2O.							0																			(NIOSH, 2003)	(Loses H2O)	325	
4479	NONAMETHYLENEIMINE	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	Massive platinum (lump, ingot, etc.) is generally inert. Dissolves readily in aqua regia (mixture of concentrated hydrochloride and concentrated nitric acids). Reacts rapidly with molten alkali metal oxides and peroxides. Reacts with F2 and Cl2 at red heat. Absorbs large volumes of hydrogen when hot. Catalyzes the exothermic oxidation of ammonia by air. Finely divided platinum is incompatible with aluminum, acetone, arsenic, ethane, hydrazine, hydrogen peroxide, lithium, phosphorus, selenium, tellurium and many fluorides. Explosion can occur upon contact with hydrogen peroxide. Platinum black, sponge and supported catalysts have strong catalytic activity; can be dangerous to handle in the vicinity of other chemicals on this account. Used platinum catalysts are particularly dangerous and can cause explosions. Ethanol or methanol can ignite on contact with a platinum-black catalyst. (Urben 1794).	Known Catalytic Activity	Excerpt from GUIDE 170 [Metals (Powders, Dusts, Shavings, Borings, Turnings, or Cuttings, etc.)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 50 meters (160 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(NIOSH, 2003)		3222	
4480	NORBORMIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as DIVINYL BENEZENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	2	4		(NIOSH, 2003)		169		(NIOSH, 2003)		1.1		%	(NIOSH, 2003)		6.2		%					(NIOSH, 2003)		-88	
4481	N-PENTYL-4-(4'-N-DECYLOXYBENZYLIDINE-AMINO)CINNAMATE	Keep people away; shut off ignition sources; call fire department; notify local health and pollution control agencies; protect water intakes. (USCG, 1999)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water [Lawry's].	1-CHLORO-1-NITROPROPANE is sensitive to heat (may be explosive). This chemical is incompatible with oxidizers. It will attack some forms of plastics, rubber and coatings (NTP, 1992). Combustible: May produce toxic gases, including nitrogen oxides, hydrogen chloride, and carbon monoxide. Will attack some plastics, rubber, and coatings (USCG, 1999).	Explosive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	3	5		(NTP, 1992)		144																	
4482	N-PHENYLMALEISOIMIDE	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Highly flammable. Water soluble.	1-CHLORO-2,3-EPOXYPROPANE may polymerize exothermically if heated or contaminated. Reacts explosively with aniline. Ignites on contact with potassium tert-butoxide. Reacts with trichloroethylene to give the explosive dichloroacetylene. Violent reaction with sulfuric acid or isopropylamine. Exothermic polymerization on contact with strong acids or bases, zinc, aluminum, aluminum chloride, iron, ferric chloride [Sax, 9th ed., 1996, p. 1469].	Highly Flammable; Polymerizable	Excerpt from GUIDE 131P [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		4	3	2	5		(EPA, 1998)		93		(EPA, 1998)		3.8		%	(EPA, 1998)		21		%	(USCG, 1999)		772		(EPA, 1998)		-54.4 to -14.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4478	N-OCTYL METHACRYLATE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.5										(NIOSH, 2003)		145.2						(NIOSH, 2003)	at 77Â° F	0.3		%			CaSO4 = 0.5H2O		0.0	0.0	0.0	0.0	0.0
4479	NONAMETHYLENEIMINE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		21.45				(NIOSH, 2003)		6921		760		(NIOSH, 2003)		195.1						(NIOSH, 2003)	Insoluble					Flammable Solid	Pt		0.0	0.0	0.0	0.0	0.0
4480	NORBORMIDE	(NIOSH, 2003)		0.7				mm Hg							(NIOSH, 2003)		0.93				(NIOSH, 2003)		392		760		(NIOSH, 2003)		130.2						(NIOSH, 2003)		0.005		%		Combustible Liquid	C10H10	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4481	N-PENTYL-4-(4'-N-DECYLOXYBENZYLIDINE-AMINO)CINNAMATE	(NTP, 1992)		5.8		77		mm Hg	(NTP, 1992)		4.26				(USCG, 1999)		1.2				(NTP, 1992)			286 to 289	760		(NTP, 1992)		123.54		(NIOSH, 2003)		100	ppm	(NTP, 1992)	at 72Â° F		1 to 5	mg/mL	CNE	Poison	C3H6ClNO2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4482	N-PHENYLMALEISOIMIDE	(EPA, 1998)		10		61.88		mm Hg	(EPA, 1998)		3.29				(EPA, 1998)		1.18 to 1.801		68		(EPA, 1998)		241.7		760		(EPA, 1998)		92.53		(NIOSH, 2003)	; A potential human carcinogen.	75	ppm	(NTP, 1992)	at 72Â° F		50 to 100	mg/mL	EPC	Poison|Flammable Liquid	C3H5ClO	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4483	N-PROPOXYPROPANOL	N-PROPOXYPROPANOL	30136-13-1	Colorless liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2032.0	216.0	709.0	369.0	217.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4484	N-PROPYL NITRATE	N-PROPYL NITRATE|PROPYL ESTER OF NITRIC ACID|PROPYL NITRATE|PROPYL NITRATE (NORMAL)	627-13-4	A white to straw-colored liquid with an ether-like odor. About the same density as water and insoluble in water. Flash point 70Â°F. Vapors heavier than air. Used as a fuel. Shock sensitive. The shock sensitivity is removed by addition of 1-2% of propane, butane, chloroform, ethyl ether, or methyl ether.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2032.0	216.0	709.0	369.0	217.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4485	N-PROPYLTOLUENE	CYMENES|METHYL PROPYL BENZENE|METHYLPROPYLBENZENE|N-PROPYLTOLUENE|PROPYLTOLUENE|TOLUENE, PROPYL-	28729-54-6	Clear colorless liquids with an aromatic odor. Less dense than water and insoluble in water. Vapors heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2032.0	216.0	709.0	369.0	217.0	INHALATION: remove victim from exposure. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Carbon dioxide, dry chemical, or foam (USCG, 1999)
4486	O,O-DIETHYL S-METHYL DITHIOPHOSPHATE	O,O-DIETHYL S-METHYL DITHIOPHOSPHATE	3288-58-2	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2033.0	216.0	709.0	369.0	217.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4487	O-ANISIDINE HYDROCHLORIDE	2-AMINOANISOLE HYDROCHLORIDE|2-ANISIDINE HYDROCHLORIDE|C.I. 37115|FAST RED BB BASE|2-METHOXY-1-AMINOBENZENE HYDROCHLORIDE|2-METHOXYANILINE HCL|2-METHOXYANILINE HYDROCHLORIDE|2-METHOXYBENZENAMINE HYDROCHLORIDE|2-METHOXYBENZENEAMINE HYDROCHLORIDE|NCI-C03747|O-AMINOANISOLE HYDROCHLORIDE|O-ANISIDINE HCL|O-ANISIDINE HYDROCHLORIDE|O-ANISIDINE, HYDROCHLORIDE|O-ANISYLAMINE HYDROCHLORIDE|O-METHOXYANILINE HYDROCHLORIDE|O-METHOXYPHENYLAMINE HYDROCHLORIDE	134-29-2	PHYSICAL DESCRIPTION: Gray-black crystalline solid or light gray powder. May be carcinogenic.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2033.0	216.0	709.0	369.0	217.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4483	N-PROPOXYPROPANOL	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	A nitrated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																								(NTP, 1992)			144 to 147
4484	N-PROPYL NITRATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Protect it from moisture and store it in a refrigerator. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	POLYBROMINATED BIPHENYL is relatively inert (NTP, 1992). These substances undergo chemical reactions only under relatively severe circumstances or in the presence of an effective catalyst that promotes reaction. They are resistant to ignition, although they may become flammable at very high temperatures. They will be resistant to oxidation/reduction, except in the most severe conditions.						0																								(NTP, 1992)			246 to 250
4485	N-PROPYLTOLUENE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Insoluble in water.	POLYBUTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)			215 to 470																				
4486	O,O-DIETHYL S-METHYL DITHIOPHOSPHATE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hygroscopic. Reacts readily and exothermically with water to form a solution of corrosive barium hydroxide [Merck 11th ed. 1989].	BARIUM OXIDE reacts as a strong base. Combines exothermically with all categories of acids. Reacts with carbon dioxide to form barium carbonate [Merck 11th ed. 1989]. Ignites hydroxylamine on contact [Mellor 8:291 1946-47]. Mixtures with mercurous or nickel oxide react vigorously with hydrogen sulfide in air. Explosions may result [Mellor 10:140 1946-47]. Can react, particularly in the presence of moisture, with aluminum and zinc)to form oxides or hydroxides of the metal and generate gaseous hydrogen. May initiate polymerization reactions in polymerizable organic compounds, especially epoxides. May generate flammable and/or toxic gases with ammonium salts, nitrides, halogenated organics, peroxides, and hydroperoxides.	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
4487	O-ANISIDINE HYDROCHLORIDE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as TERT-BUTYL CUMENE PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4483	N-PROPOXYPROPANOL																				(NTP, 1992)		351		16		(NTP, 1992)		167.16						(NTP, 1992)	at 64Â° F		less than 0.1	mg/mL			C8H9NO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4484	N-PROPYL NITRATE	(NTP, 1992)		7.60E-05		194		mm Hg																											(NTP, 1992)	at 64Â° F		less than 1	mg/mL					0.0	0.0	0.0	0.0	0.0
4485	N-PROPYLTOLUENE														(USCG, 1999)			0.81 to 0.91	59		(USCG, 1999)	Very high		225 to 2300			(USCG, 1999)												PLB	Class 9	(C4H8)x	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4486	O,O-DIETHYL S-METHYL DITHIOPHOSPHATE																																								Poison	BaO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4487	O-ANISIDINE HYDROCHLORIDE																																								Organic Peroxide	C13H20O2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4488	O-CHLOROBENZALMALONONITRILE	CS|O-CHLOROBENZALMALONONITRILE	40915-55-7	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2033.0	216.0	709.0	369.0	217.0	INGESTION: give victim water, milk, or vegetable oil; do NOT induce vomiting. SKIN OR EYES: flush with water for at least 15 min.; call doctor for eye exposure. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4489	OCTACHLOROSTYRENE	OCTACHLOROSTYRENE	29082-74-4	Octachlorostyrene (OCS) is a by-product of the normal industrial chemical processes such as PVC recycling activities, Aluminum refining operations, metal-chlorinated solvent degreasing operations and many others. These materials are known to be highly toxic and when released to the environment are extremely persistent.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2034.0	216.0	709.0	369.0	217.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4490	OCTADIENE	OCTADIENE	63597-41-1	A colorless liquid. Less dense than water and insoluble in water. Vapors heavier than air. May be mildly toxic by inhalation and ingestion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2035.0	216.0	709.0	369.0	217.0	(BLOB)	This chemical is combustible. The dusts of this chemical are a slight explosion hazard when exposed to flame. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4491	OCTOLITE, [DRY OR WET WITH < 15% WATER]	BENZENE, 2-METHYL-1,3,5-TRINITRO-, MIXT. CONTAINING|OCTOL|OCTOL 60/40|OCTOL A|OCTOLITE|OCTOLITE, [DRY OR WET WITH < 15% WATER]|PBH 9	57607-37-1	A mixture of cyclotetramethylene tetranitramine (HMX) and trinitrotoluene (TNT). Shipped wetted or desensitized. May explode under exposure to intense heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Containers may explode violently under prolonged exposure to heat.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2036.0	217.0	710.0	369.0	218.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4492	OCTONAL	ALUMINUM, MIXT. CONTAINING|BENZENE, 2-METHYL-1,3,5-TRINITRO-, MIXT. CONTAINING|HTA 3|OCTONAL	78413-87-3	An aluminum desensitized cyclotetramethylene tetranitramine. A colorless crystal sensitive to heat. Emits toxic oxides of nitrogen fumes when heated to decomposition. May explode under prolonged exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2037.0	217.0	710.0	369.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4488	O-CHLOROBENZALMALONONITRILE	Neutralizing Agents for Acids and Caustics: Flush with water, neutralize acid with lime or soda ash. (USCG, 1999)	Goggles or face shield; rubber gloves or protective clothing. (USCG, 1999)	Hygroscopic. Soluble in water. Reacts with water to generate heat and phosphoric acid (orthophosphoric acid). The reaction is not violent.	POLYPHOSPHORIC ACID reacts exothermically with chemical bases (examples: amines, amides, inorganic hydroxides). The reactions can generate large amounts of heat in small spaces. Reacts with or corrodes active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain classes of organic compounds. May catalyze chemical reactions. Reacts with cyanide compounds to release toxic hydrogen cyanide gas. May generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions may occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates (CO2).	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(USCG, 1999)	Not flammable			(USCG, 1999)		100	
4489	OCTACHLOROSTYRENE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Self-reactive [Halpern, Chem. and Eng. News, 29:2666(1951)]. The mixture of this ompound with hydrazine hydrate caused a violent reaction.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	4	5		(NFPA, 2010)		382																				
4490	OCTADIENE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture and light. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble.	(BLOB)			(NFPA, 2010)		0	2	0	2		(NTP, 1992)		175																(NTP, 1992)	(decomposes)	442	
4491	OCTOLITE, [DRY OR WET WITH < 15% WATER]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials and strong bases. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	1-CHLORO-2-BROMOETHANE is incompatible with strong bases, strong oxidizing agents and magnesium (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		2.1	
4492	OCTONAL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	BARIUM SULFATE is non-combustible and non-toxic. Emits toxic sulfur oxides when heated to decomposition. Can act as an oxidizing agent, but usually does not. Reacts with reducing agents such as potassium, phosphorus or aluminum (heating with aluminum can cause an explosion).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NIOSH, 2003)		2876	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4488	O-CHLOROBENZALMALONONITRILE														(USCG, 1999)		2.05		100.4		(USCG, 1999)		1022		760															PPA	Corrosive			0.0	0.0	0.0	0.0	0.0
4489	OCTACHLOROSTYRENE																																								Poison	C6H3ClN2O4	Cellulose-Based Absorbents;Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4490	OCTADIENE	(NTP, 1992)	Negligible												(NTP, 1992)		1.329				(NTP, 1992)	approximately	644		760		(NTP, 1992)			25000 to 300000					(NTP, 1992)	Soluble					(C2H4O)x	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4491	OCTOLITE, [DRY OR WET WITH < 15% WATER]	(NTP, 1992)	; 20 mm Hg at 60.8Â° F	40		85.5		mm Hg	(NTP, 1992)		4.94				(NTP, 1992)		1.7392		68		(NTP, 1992)		225		760		(NTP, 1992)			143.42					(NTP, 1992)	at 70Â° F		5 to 10	mg/mL		Poison	C2H4BrCl		0.0	0.0	0.0	0.0	0.0
4492	OCTONAL	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)			4.25 to 4.5			(NIOSH, 2003)	(Decomposes)	2912		760		(NIOSH, 2003)			233.4					(NIOSH, 2003)	at 64Â° F	0.0002		%		Poison	BaSO4		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4493	OCTYL DECYL PHTHALATE	1,2-BENZENEDICARBOXYLIC ACID|DECYL OCTYL ESTER|DECYL OCTYL PHTHALATE|DINOPOL 235|N-DECYL N-OCTYL PHTHALATE|N-OCTYL N-DECYL PHTHALATE|N-OCTYL-N-DECYL PHTHALATE|OCTYL DECYL PHTHALATE|PHTHALIC ACID, DECYL OCTYL ESTER|POLYCIZER 532|POLYCIZER 562|STAFLEX 500	119-07-3	Colorless liquid with a mild, characteristic odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2038.0	217.0	710.0	369.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing, promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
4494	OCTYL EPOXY TALLATE	EPOXIDIZED TALL OIL, OCTYL ESTER|OCTYL EPOXY TALLATE	61789-01-3	Pale yellow liquid with a mild odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2038.0	217.0	710.0	369.0	218.0	EYES or SKIN: flush with water; treat caustic burns. (USCG, 1999)	Combustible. IGNITES WHEN EXPOSED TO WATER OR MOISTURE. Flammable gas is produced on contact with water. Reacts violently with water, forming flammable and explosive hydrogen gas. May ignite spontaneously in air. (USCG, 1999)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
4495	OCTYL NITRATE, [LIQUID]	N-OCTYL NITRATE|OCTYL NITRATE|OCTYL NITRATE, [LIQUID]|1-OCTYL NITRATE	629-39-0	A clear light-colored liquid. May be toxic by ingestion. May severely irritate skin upon contact.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2038.0	217.0	710.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4496	O-D,L-SARCOLYSIN	ALANINE, 3-(O-{BIS(2-CHLOROETHYL)AMINO}PHENYL)-, DL-|ALANINE, 3-[O-[BIS(2-CHLOROETHYL)AMINO]PHENYL)-, DL-|T29 C, B,|DL-PHENYLALANINE, 2-(BIS(2-CHLOROETHYL)AMINO)-|DL-PHENYLALANINE, 2-[BIS(2-CHLOROETHYL)AMINO)-|MEROPHAN(NSC 57199)|NSC-57199|3-(O-{BIS(BETA-CHLOROETHYL)AMINO}PHENYL)-D,L-ANALINE|O-D,L-SARCOLYSIN|O-DI-2-CHLOROETHYLAMINO-DL-PHENYLALANINE|(.+-.)-O-PHENYLALANINE MUSTARD|O-SARCOLYSIN|ORTHO-PHENYLALANINE MUSTARD	342-95-0	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2038.0	217.0	710.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably not flammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4497	OFFSET NEWS BLACK NEWSPRINT INK	COMPONENT 1 (52-65%): MINERAL OIL|COMPONENT 2 (16-18%): CARBON BLACK|COMPONENT 3 (12-15%): HYDROCARBON VARNISH|COMPONENT 4 (5-10%): HIGH BOILING ALIPHATIC OIL|COMPONENT 5 (2-5%): FLOW AGENT OR BLACK INK OIL|OFFSET NEWS BLACK NEWSPRINT INK	33391-22-9	A viscous to semisolid suspension of finely-divided carbon black particles in oil. Practically odorless and tasteless. Floats on water.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2039.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4493	OCTYL DECYL PHTHALATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air Reaction with water with evolution of heat	Sets in an exothermic reaction to a solid of low strength within hours after mixing with water. Continuing slower exothermic reactions harden the product to a tough gray stony mass. Incompatible with acids, acid chlorides, and acid anhydrides when set. Incompatible with ammonium salts and aluminum metal when wet and unset.							0																							
4494	OCTYL EPOXY TALLATE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts vigorously with oxygen. Reacts very vigorously with water [Merck 11th ed. 1989]. Water (to give a caustic solution and gaseous hydrogen). The oxidation of potassium in air is so rapid that the heat generated by the reaction melts and ignites the metal. This is particularly the case when pressure is applied at ordinary temperatures [Sidgwick 1950]. Potassium burns in moist air at room temperature [Mellor 2:468. 1946-47]. The higher oxides of potassium formed in air react explosively with pure potassium, sodium, sodium-potassium alloys, or organic matter [Mellor 2, Supp. 3:1559. 1963].	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	3	2	5	No Water	(USCG, 1999)	Not Applicable. Combustible solid.																	(USCG, 1999)		145	
4495	OCTYL NITRATE, [LIQUID]	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Reacts as a basic organic salt.							0																							
4496	O-D,L-SARCOLYSIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BEMEGRIDE is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																				(NTP, 1992)		259 to 261	
4497	OFFSET NEWS BLACK NEWSPRINT INK	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	BENDIOCARB is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_temp1Deg1	vp_range_temp1Deg1	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_temp1Deg1	vd_range_temp1Deg1	sg_source	sg_note	sg_value	sg_range	sg_value_temp1Deg1	sg_range_temp1Deg1	bp_source	bp_note	bp_value	bp_range	bp_value_pressMMHG	bp_range_pressMMHG	motwgt_source	motwgt_note	motwgt_value	motwgt_range	motwgt_solubility_unit	solbty_va lue	solbty_no te	solbty_so urce	tdln_unit	tdln_value	tdln_note	tdln_source	chris_code s	doc_labels	formulas	incompatible_ab sorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4493	OCTYL DECYL PHTHALATE	(NIOSH, 2023)	(approx)	0			mm Hg																													5000	(NIOSH, 2003)											
4494	OCTYL EPOXY TALLATE																			68		(USCG, 1999)		1425			760			(USCG, 1999)		39									PTM	Dangerou s When Wet	K		0.0	0.0	0.0	0.0	0.0
4495	OCTYL NITRATE, [LIQUID]																					(NTP, 1992)										257.79											C6H5CH2 C6H3(C) O.K		0.0	0.0	0.0	0.0	0.0
4496	O-DI.-SARCOL.YSIN																					(NTP, 1992)		155.2													(NIOSH, 2003)	mg/mL			C8H13N O2		0.0	0.0	0.0	0.0	0.0
4497	OFFSET NEWS BLACK NEWSPRINT INK																																					Poison			C11H13N O4		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4498	OIL, [CASHEW]	ANACARDIC ACID|CASHEW NUTSHELL LIQUID|CASHEW NUTSHELL OIL|O-PENTADECADIENYL SALICYLIC ACID|OIL OF CASHEW NUTSHELL|OIL, MISC: CASHEW NUT SHELL|OIL, [CASHEW]	18654-17-6	Black liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2040.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4499	OIL, [SPRAY]	DORMANT OIL|FOLIAGE OIL|KEROSENE, HEAVY|OIL, [SPRAY]|OILS, MISCELLANEOUS: SPRAY|PLANT SPRAY OIL	64741-89-5	Oily light brown liquid with the odor of kerosene. Less dense than water and insoluble in water. Hence floats on water . (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2041.0	217.0	710.0	369.0	218.0	EYES: flush with water for at least 15 min. SKIN: wash with soap and water. INGESTION: dilute by drinking soapy or salty water to induce vomiting; call physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic fumes are formed in fires. Behavior in Fire: Decomposes when hot to form oxygen, which increases severity of fire. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4500	OILS, MISCELLANEOUS: TALL	LIQUID ROSIN|OILS, MISCELLANEOUS: TALL|TALLOL	8002-26-4	Oily yellow liquid. Less dense than water and insoluble in water. Hence floats on water. Obtained by acidifying the alkaline liquors obtained from digesting pine pulp.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2042.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4501	OXYDISULFOTON	BAY 23323|DEPD|DISULFOTON SULFOXIDE|DISYSTON S|DISYSTON SULFOXIDE|DISYSTON SULPHOXIDE|ETHYLTHIOMETON SULFOXIDE|O,O-DIETHYL S-(2-ETHYLSULFINYL)ETHYL PHOSPHORODITHIOATE|O,O-DIETHYL S-(2-ETHYLTHIONYLETHYL) PHOSPHORODITHIOATE|OXYDEMETON-ETHYL|OXYDISULFOTON|PHOSPHORODITHOIC ACID, O,O-DIETHYL S-((ETHYLSULFINYL)ETHYL)ESTER|PHOSPHORODITHIOIC ACID, O,O-DIETHYL S-[2-(ETHYLSULFINYL) ETHYL) ESTER	2497-07-6	Liquid. Used as an agricultural insecticide. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2043.0	217.0	710.0	369.0	218.0	Act promptly! INHALATION: remove victim to fresh air; if exposure to dust is severe, get medical attention. INGESTION: call physician immediately; have victim drink dilute calcium lactate, lime water, chalk soln., or even milk; large amounts of calcium are required; administer gastric lavage with dilute lime water; watch for edema of the glottis and delayed constriction of esophagus. EYES: flush with water and seek medical attention. SKIN: flush with water. (USCG, 1999)	Behavior in Fire: Loses water at about 160Â° and decomposes to carbonate with no charring. The reaction is not hazardous. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4502	P,P'-DDE	2,2-BIS(4-CHLOROPHENYL)-1,1-DICHLOROETHENE|2,2-BIS(4-CHLOROPHENYL)-1,1-DICHLOROETHYLENE|2,2-BIS(P-CHLOROPHENYL)-1,1-DICHLOROETHENE|2,2-BIS[P-CHLOROPHENYL)-1,1-DICHLOROETHYLENE|1,1-BIS(P-CHLOROPHENYL)-2,2-DICHLOROETHYLENE|DDE|4,4'-DDE|DDT DEHYDROCHLORIDE|2,2-DICHLORO-1,1-BIS(4-CHLOROPHENYL)ETHYLENE|1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)ETHYLENE|1,1-DICHLORO-2,2-DI(P-CHLOROPHENYL)ETHYLENE|DICHLORODIPHENYLDICHLOROETHYLENE|1,1'-DICHLOROETHENYLIDENE) BIS(4-CHLOROBENZENE)ETHYLENE, 1,1-DICHLORO-2,2-BIS(P-CHLOROPHENYL)-|NCI-C00555|P,P'-DDE|P,P'-DICHLORODIPHENYL DICHLOROETHYLENE|P,P'-DICHLORODIPHENYLDICHL	72-55-9	PHYSICAL DESCRIPTION: White crystalline solid or white powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2044.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4498	OIL, [CASHEW]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble giving strongly acidic solutions.	Acidic salts, such as POTASSIUM BIFLUORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4499	OIL, [SPRAY]	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; rubber gloves; goggles; protective clothing to prevent contact with skin. (USCG, 1999)	Soluble in water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(USCG, 1999)		680	
4500	OILS, MISCELLANEOUS: TALL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble.	Salts, basic, such as POTASSIUM FLUOROACETATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4501	OXYDISULFOTON	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Approved dust respirator; chemical goggles; rubber or plastic-coated gloves (USCG, 1999)	Water soluble.	POTASSIUM OXALATE gives basic aqueous solutions. Reacts as a base to neutralize acids in reactions that generate heat, but less than is generated by neutralization of the bases in reactivity group 10. Can serve as a reducing agent in reactions that generate carbon dioxide.	Explosive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4502	P,P'-DDE	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	May ignite on contact with air or moist air. May burn rapidly with flare-burning effect. Water insoluble. Decomposed exothermically by water with the evolution of toxic chlorine gas.	TERT-BUTYL HYPOCHLORITE decomposes exothermically when exposed to UV light to give acetone and chloromethane. Glass containers have burst because of pressure buildup after exposure to fluorescent lighting or daylight. Reacts violently with rubber. Should not be heated to its boiling point.	Strong Oxidizing Agent; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4498	OIL, [CASHEW]																																								Corrosive|Poison	F2HK	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4499	OIL, [SPRAY]														(USCG, 1999)		2.34		68								(USCG, 1999)		122.6											PCR	Oxidizer	KClO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4500	OILS, MISCELLANEOUS: TALL																																								Poison	C2H2FO2.K		0.0	0.0	0.0	0.0	0.0
4501	OXYDISULFOTON														(USCG, 1999)		2.13		65.3								(USCG, 1999)	(monohydrate)	184.24											PTS	Poison|Corrosive	K2C2O4.H2O		0.0	0.0	0.0	0.0	0.0
4502	P,P'-DDE																																								Spontaneously Combustible|Corrosive	C4H9ClO	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4503	P,P'-ETHYL DDD	A,A-DICHLORO-2,2-BIS(P-ETHYLPHENYL)ETHANE|2,2-BIS(P-ETHYLPHENYL)-1,1-DICHLOROETHANE|1,1-BIS(P-ETHYLPHENYL)-2,2-DICHLOROETHANE|DI(P-ETHYLPHENYL)DICHLOROETHANE|2,2-DICHLORO-1,1-BIS(P-ETHYLPHENYL)ETHANE|1,1-DICHLORO-2,2-BIS(4-ETHYLPHENYL)ETHANE|1,1-DICHLORO-2,2-BIS(P-ETHYLPHENYL)ETHANE|DICHLORO-BIS(P-ETHYLPHENYL)ETHANE|1,1'-(2,2-DICHLOROETHYLIDENE)BIS(4-ETHYLBENZENE)|DIETHYL-DIPHENYL DICHLOROETHANE|DIETHYLDIPHENYLDICHLOROETHANE|ENT 17082|ETHANE, 1,1-DICHLORO-2,2-BIS(P-ETHYLPHENYL)-|ETHYLAN|ETHYLAN (INSECTICIDE)|NCI-C02868|P,P'-ETHYL DDD|P,P-ETHYL DDD|P,P-DDD	72-56-0	PHYSICAL DESCRIPTION: Crystals when pure. Technical grade a light yellow waxy solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2045.0	217.0	710.0	369.0	218.0	INHALATION: Move victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. EYES OR SKIN: Flush with running water for at least 15 minutes; hold eyelids open if necessary. Wash skin with soap and water. INGESTION: If victim is conscious, have victim drink water or milk and induce vomiting. If victim is unconscious or having convulsions, do nothing except keep victim warm. (USCG, 1999)	Behavior in Fire: Heat can induce polymerization with rapid release of energy. Sealed contawiners may rupture explosively. (USCG, 1999)	Fire Extinguishing Agents: Foam, CO 2 , or dry chemical (USCG, 1999)
4504	PARAQUAT METHOSULFATE	4,4'-BIPYRIDINIUM, 1,1'-DIMETHYL-, BIS(METHYL SULFATE)|1,1'-DIMETHYL-4,4'-BIPYRIDYNIUM DIMETHYLSULFATE|1,1'-DIMETHYL-4,4'-BIPYRIDINIUM BIS(METHYL SULFATE)|1,1'-DIMETHYL-4,4'-BIPYRIDINIUM DIMETHOSULFATE|1,1'-DIMETHYL-4,4'-BIPYRIDYLIUM DIMETHYLSULFATE|1,1'-DIMETHYL-4,4'-DIPYRIDINIUM DI(METHYL SULFATE)|1,1'-DIMETHYL-4,4'-DIPYRIDINIUM DIMETHOSULFATE|GRAMOXONE METHYL SULFATE|N,N'-DIMETHYL-4,4'-BIPYRIDINIUM METHOSULFATE|OK 621|PARAQUAT BIS(METHYL SULFATE)|PARAQUAT DIMETHOSULFATE|PARAQUAT DIMETHYL SULFATE|PARAQUAT DIMETHYL SULPHATE|PARAQUAT	2074-50-2	White crystalline solid or yellow solid. Used as a contact herbicide and desiccant. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2046.0	217.0	710.0	369.0	218.0	INHALATION: remove from exposure; support respiration; call physician if needed. EYES: flush with water for 15 min.; obtain medical attention immediately. SKIN: flush with water; obtain medical attention if skin is burned. INGESTION: if victim is conscious, give large amounts of water, then milk or milk of magnesia. (USCG, 1999)	Special Hazards of Combustion Products: Hydrochloric acid and phosgene fumes may form in fires. Behavior in Fire: Difficult to extinguish; re-ignition may occur. Contact with water applied to adjacent fires produces irritating hydrogen chloride fumes. (USCG, 1999)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4505	PCB-1016	AROCHLOR 1016|AROCLOR 1016|PCB 1016|PCB-1016|POLYCHLORINATED BIPHENYL 1016	12674-11-2	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2047.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Produce flammable and toxic gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	(BLOB)
4506	PCB-1221	AROCHLOR 1221|AROCLOR 1221|CHLORODIPHENYL (21 PERCENT CL)|PCB 1221|PCB-1221|POLYCHLORINATED BIPHENYL 1221	11104-28-2	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2047.0	217.0	710.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4507	PCB-1232	AROCHLOR 1232|AROCLOR 1232|CHLORODIPHENYL (32 PERCENT CL)|PCB 1232|PCB-1232|POLYCHLOEINATED BIPHENYL 1232	11141-16-5	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2048.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4503	P,P'-ETHYL DDD		Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Insoluble in water.	DODECYL/PENTADECYL METHACRYLATE reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by interaction with caustic solutions. Flammable hydrogen is generated by mixing with alkali metals and hydrides. Tends to polymerize. Oxidizing and reducing agents may initiate polymerization. Polymerization may also occur when heated (USCG, 1999).	Polymerizable						0																						
4504	PARAQUAT METHOSULFATE	(BLOB)	Acid-vapor type respiratory protection; rubber gloves; chemical worker's goggles; other protective equipment as necessary to protect eyes and skin. (USCG, 1999)	Reacts violently with water, steam, moist air, alcohols, acetone, light metals with generation of heat and combustible (H2) and corrosive (HCl) gases. on contact with moist air it gives off HCl gas. REF [Handling Chemicals Safely, 1980 p. 924]. Dodecyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 1.1 minutes. After mixing particular chemicals into water, there may be a delay of <1-10 minutes before gas generation may be observed. For this chemical, a 23 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as DODECYLTRICHLOROSILANE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1771 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		greater than 150																				
4505	PCB-1016	(BLOB)	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposed by water or moisture in air evolving toxic phosphine which often ignites [NFPA 1991]. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	POTASSIUM PHOSPHIDE is a reducing agent. They slowly generate flammable or noxious gases in contact with water. Phosphides react quickly upon contact with moisture or acids to give the very toxic gas phosphine; phosphides also can react vigorously with oxidizing materials. In general, materials in this group are incompatible with oxidizers such as atmospheric oxygen. They are violently incompatible with acids, particularly oxidizing acids.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2012 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4506	PCB-1221	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Reacts as a basic organic salt.						0																						
4507	PCB-1232	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	POTASSIUM SELENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive. Salt		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4503	P,P'-ETHYL DDD														(USCG, 1999)	(approx)	0.87		77																						DDP		C16H30O2 (dodecyl methacrylate)C19H36O2 (pentadecyl methacrylate)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4504	PARAQUAT METHOSULFATE														(USCG, 1999)		1.03		68		(USCG, 1999)			greater than 300	760		(USCG, 1999)		303.7										DTC	Corrosive	C12H25Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4505	PCB-1016																																							Dangerous When Wet|Poison	K3P		0.0	0.0	0.0	0.0	0.0
4506	PCB-1221																										(NTP, 1992)		203.35													(CH3)2(CH2CH3)C-C6H4O.K		0.0	0.0	0.0	0.0	0.0
4507	PCB-1232																																							Poison	H2O7Se2.2K		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4508	PCB-1242	AROCHLOR 1242|AROCLOR 1242|PCB 1242|PCB-1242|POLYCHLORINATED BIPHENYL 1242	53469-21-9	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2049.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4509	PCB-1248	A 1248|AROCHLOR 1248|AROCLOR 1248|CHLORODIPHENYL (48 PERCENT CL)|PCB 1248|PCB-1248|POLYCHLORINATED BIPHENYL 1248	12672-29-6	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2049.0	217.0	710.0	369.0	218.0	(BLOB)	When heated to decomposition, potassium silver cyanide emits very toxic fumes of cyanide and nitrogen oxides. Avoid light. (EPA, 1998)	(Non-Specific -- Cyanide, Inorganic, n.o.s.) Isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Fight fire from maximum distance. Dike fire control water for later disposal. Do not scatter the material. (Non-Specific -- Cyanide, Inorganic, n.o.s.) Use dry chemical, carbon dioxide, water spray, or foam for small fire, and water spray, fog, or foam for large fires. Move containers of this material away from fire area if this can be done without risk. (EPA, 1998)
4510	PCB-1260	AROCHLOR 1260|AROCLOR 1260|CHLORODIPHENYL (60 PERCENT CL)|PCB 1260|PCB-1260|POLYCHLORINATED BIPHENYL 1260	11096-82-5	PHYSICAL DESCRIPTION: Viscous oily liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2050.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
4511	PCB-1262	AROCHLOR 1262|CHLOROBIPHENYL (62% CL)|CHLORODIPHENYL (62% CL)|PCB-1262|POLYCHLORINATED BIPHENYL 1262|POLYCHLORINATED DIPHENYL 1262	37324-23-5	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2051.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Flammable/combustible material. May ignite on contact with moist air or moisture. May burn rapidly with flare-burning effect. Some react vigorously or explosively on contact with water. Some may decompose explosively when heated or involved in a fire. May re-ignite after fire is extinguished. Runoff may create fire or explosion hazard. Containers may explode when heated. (ERG, 2012)	(BLOB)
4512	PCB-1268	AROCHLOR 1268|CHLOROBIPHENYL (68% CL)|CHLORODIPHENYL (68% CL)|PCB-1268|POLYCHLORINATED BIPHENYL 1268|POLYCHLORINATED DIPHENYL 1268	11100-14-4	PHYSICAL DESCRIPTION: Clear colorless viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2052.0	217.0	710.0	369.0	218.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4508	PCB-1242	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Salts, basic, such as POTASSIUM SELENITE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4509	PCB-1248	Avoid inhalation or skin contact. (Non-Specific - Cyanide, Inorganic, n.o.s.) Do not touch spilled materials; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Water soluble [Merck].	POTASSIUM SILVER CYANIDE is light sensitive. Acids precipitate silver cyanide from its aqueous solution. Fusion with metal chlorates, perchlorates, nitrates or nitrites can cause violent explosions [Bretherick 1979 p. 101].		Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4510	PCB-1260	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Reacts violently with certain extinguishing agents: water, sodium bicarbonate, carbon tetrachloride [NFPA 10th ed. 1991]. With water (caustic solution of potassium hydroxide (KOH), and hydrogen gas (H2). The heat from this reaction may be sufficient to ignite the hydrogen.	(BLOB)	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for potassium sodium alloys, CAS number 11135-81-2	3	3	2	5	No Water																								
4511	PCB-1262	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: EXCEPTION: For spills of Xanthates, UN3342 and for Dithionite (Hydrosulfite/Hydrosulphite), UN1384, UN1923 and UN1929, dissolve in 5 parts water and collect for proper disposal. CAUTION: UN3342 when flooded with water will continue to evolve flammable Carbon disulfide/Carbon disulphide vapors. Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	May spontaneously ignite in air. Deliquescent. Water soluble	POTASSIUM SULFIDE is a reducing agent. So readily oxidized as to be pyrophoric in air [Bretherick 1979 p. 120]. It is incompatible with chloroform and nitrogen oxide.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 135 [Substances - Spontaneously Combustible]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for anhydrous potassium sulfide, CAS number 1312-73-8.	3	1	0	1																								
4512	PCB-1268	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	May spontaneously ignite with exposure to air. Deliquescent. Water soluble	A reducing agent. So readily oxidized as to be pyrophoric in air [Bretherick 1979 p. 120]. It is incompatible with chloroform and nitrogen oxide.	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	1	0	1																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_prescMMHG	bp_range_prescMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbity_source	solbity_note	solbity_value	solbity_range	solbity_unit	chem_codes	dot_Labels	formulas	incompatible_ab sorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4508	PCB-1242																																																	
4509	PCB-1248														(EPA, 1998)		2.36		77								(EPA, 1998)		199.01		(NIOSH, 2003)	(as Ag)	10	mg/m3							Poison	KAg(CN)2		0.0	0.0	0.0	0.0	0.0
4510	PCB-1260																																											Dangerous When Wet	KNa		0.0	0.0	0.0	0.0	0.0
4511	PCB-1262																																										Spontaneously Combustible	K2S4 (potassium polysulfide)(K2S (potassium sulfide)		0.0	0.0	0.0	0.0	0.0
4512	PCB-1268																																										Corrosive	K2S		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4513	P-CUMYLPHENYL GLYCIDYL ETHER	((4-(1-METHYL-1-PHENYLETHYL)PHENOXY) METHYL)OXIRANE|P-CUMYLPHENYL GLYCIDYL ETHER|PROPANE, 1-(P-ALPHA,ALPHA-DIMETHYLBENZYLPHENOXY)-2,3-EPOXY-	61578-04-9		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2052.0	217.0	710.0	369.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4514	PEBULATE	BUTYLETHYLCARBAMOTHIOIC ACID S-PROPYL ESTER|PEBULATE	1114-71-2	Colorless to yellow liquid with aromatic odor. Non corrosive. Used as an herbicide.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2053.0	217.0	710.0	369.0	218.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4515	PELARGONYL PEROXIDE	DIPELARGONYL PEROXIDE|NONANOYL PEROXIDE|PELARGONOYL PEROXIDE|PELARGONYL PEROXIDE|PELARGONYL PEROXIDE, [TECHNICALLY PURE]	762-13-0	This solid peroxide is particularly sensitive to temperature rises and contamination. Above a given "Control Temperature" they decompose violently. It is generally stored or transported as a mixture, with an inert solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2053.0	217.0	710.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this chemical can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4516	PENTABORANE	BORANE (B5H9)|BORON HYDRIDE (B5H9)|NONAHYDROPENTABORANE|PENTABORANE|PENTABORANE (B5H9)|PENTABORANE(9)|PENTABORON NONAHYDRIDE|(9)-PENTABORON NONAHYDRIDE	19624-22-7	A clear colorless liquid with a pungent odor like sour milk. Freezing point -52.9Â°F (-46.6Â°C). Boiling point 136.4Â°F (58Â°C). Decomposition temperature 302Â°F (150Â°C). Vapors toxic both under prolonged exposure to low concentrations and short exposure to high concentrations. Density 0.61 g / cm3. Under prolonged exposure to intense heat the containers may rupture violently and rocket.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2053.0	217.0	710.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4517	PENTACHLOROANISOLE	ANISOLE, 2,3,4,5,6-PENTACHLORO-|BENZENE, PENTACHLOROMETHOXY-|METHYL PENTACHLOROPHENATE|METHYL PENTACHLOROPHENYL ESTER|METHYL PENTACHLOROPHENYL ETHER|NCI-C56520|PCP METHYL ETHER|PENTACHLOROANISOLE|2,3,4,5,6-PENTACHLOROANISOLE|PENTACHLOROMETHOXYBENZENE|PENTACHLOROPHENOL METHYL ETHER|PENTACHLOROPHENYL METHYL ETHER	1825-21-4	PHYSICAL DESCRIPTION: Needles or white crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2053.0	217.0	710.0	369.0	218.0	(BLOB)	Special Hazards of Combustion Products: Contain irritating and toxic fumes, including carbon dioxide and carbon monoxide. Behavior in Fire: Cylinder may explode in heat of fire. In powder form, it is capable or producing a dust explosion. (USCG, 1999)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4518	PENTACHLORONAPHTHALENE	HALOWAXÅ® 1013|PENTACHLORONAPHTHALENE|1,2,3,4,5-PENTACHLORONAPHTHALENE	1321-64-8	Pale-yellow to white solid or powder with an aromatic odor. Bp: 327-371Â°C; mp: 120Â°C. Density 1.7 g cm-3. Used in lubricants and in the manufacture of insulation for electrical wire. Presents an environmental danger. If released into the environment, bioaccumulation takes place, specifically in fish. Will persist in the environment causing long-term adverse effects. The halowaxes are technical-grade chlorinated naphthalenes containing pentachloronaphthalene in its various isomers together with (mainly) trichloro- tetrachloro- and hexa-chloronapthalenes in their various isomers.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2053.0	217.0	711.0	369.0	218.0	(BLOB)		

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4513	P-CUMYLPHENYL GLYCIDYL ETHER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-CHLORONAPHTHALENE is incompatible with strong oxidizing agents. (NTP, 1992)			(NFPA, 2010)		2	1	0	1		(NTP, 1992)		250																	(NTP, 1992)		-9 to -4
4514	PEBULATE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Oxidizes on exposure to air. The finely powdered base if suspended in air poses a significant dust explosion hazard. Soluble in water. Even as a solid will spot downwind areas purple/black (Roger Patrick, DuPont Engineer).	P-PHENYLENEDIAMINE is the stongest of the weak aromatic bases. It neutralizes acids in weak exothermic reactions to form salts. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Reacts readily with oxidizing agents (NTP, 1992).		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(NTP, 1992)		311																	(NTP, 1992)		284	
4515	PELARGONYL PEROXIDE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZO[B]FLUORANTHENE can react with strong oxidizing agents. May react with electrophiles, peroxides, nitrogen oxides and sulfur oxides (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)		325 to 329
4516	PENTABORANE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	P-QUINONE DIOXIME is incompatible with strong oxidizers and strong acids. (NTP, 1992)		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																			(NTP, 1992)	(decomposes)	464	
4517	PENTACHLOROANISOLE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Soluble in water and denser than water. If moist it may decompose spontaneously above 140Â°F. This has occurred in drums, causing over-pressurization.	BENZOQUINONE acts as an oxidizing agent (NTP, 1992).	Strong Oxidizing Agent	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		559															(USCG, 1999)		1040		(NTP, 1992)		240.3	
4518	PENTACHLORONAPHTHALENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Partially decomposes on heating in water; hydrolyzes in 0.1 N acetic acid. Slightly water soluble (NTP, 1992).	DULCIN is an example of an amide. Amides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).	Water-Reactive					0																			(NTP, 1992)		343 to 345

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4513	P-CUMYLPHENYL GLYCIDYL ETHER	(NTP, 1992)	; 100 mm Hg at 356.7Â° F; 760 mm Hg at 498.7Â° F	1		177.1		mm Hg							(NTP, 1992)		1.1938		68		(NTP, 1992)		505		760		(NTP, 1992)		162.62						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H7Cl		0.0	0.0	0.0	0.0	0.0
4514	PEBULATE	(NIOSH, 2003)			less than 1			mm Hg	(NTP, 1992)		3.72										(NTP, 1992)		513		760		(NTP, 1992)		108.15		(NIOSH, 2003)		25	mg/m3	(NIOSH, 2003)	at 75Â° F	4		%		Poison	C6H8N2		0.0	0.0	0.0	0.0	0.0
4515	PELARGONYL PEROXIDE																										(NTP, 1992)		252.32						(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Poison	C20H12		0.0	0.0	0.0	0.0	0.0
4516	PENTABORANE																										(NTP, 1992)		138.13						(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL		Flammable Solid	C6H6N2O2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4517	PENTACHLOROANISOLE	(NIOSH, 2003)		0.1		77		mm Hg							(USCG, 1999)		1.318		68		(NTP, 1992)	SUBLIMES					(NTP, 1992)		108.1		(NIOSH, 2003)		100	mg/m3	(NTP, 1992)	Slightly soluble				BZQ	Poison	C6H4O2		0.0	0.0	0.0	0.0	0.0
4518	PENTACHLORONAPHTHALENE																				(NTP, 1992)	Decomposes					(NTP, 1992)		180.21						(NTP, 1992)	Slightly soluble						C9H12N2O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4519	PENTAMETHYLHEPTANE	PENTAMETHYL HEPTANE|PENTAMETHYLHEPTANE	30586-18-6	A colorless liquid. Insoluble in water and less dense than water. Vapors heavier than air. Contact may irritate skin, eyes and mucous membranes. Used as a solvent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	711.0	369.0	218.0	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Combustible material: may burn but does not ignite readily. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles, if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4520	PENTOLITE, [DRY]	ANZOMEX POWERPLUS P|BENZENE, 2-METHYL-1,3,5-TRINITRO-, MIXT. CONTAINING|PENTOLITE|PENTOLITE, [DRY]	8066-33-9	A highly explosive solid. Composed of equal parts pentaerythritol tetranitrate and trinitrotoluene (TNT). Very sensitive to heat and shock. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Used as a detonating fuse.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	711.0	369.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fire Extinguishing Agents: Water spray, carbon dioxide, dry chemical, alcohol foam. (USCG, 1999)
4521	PERMANGANATE, N.O.S.	PERMANGANATE|PERMANGANATE (MNO4-) ION|PERMANGANATE ANION|PERMANGANATE ION|PERMANGANATE ION(1-)|PERMANGANATE(1-)|PERMANGANATE, N.O.S.|PERMANGANATES, INORGANIC, N.O.S.|PERMANGANIC ACID (HMNO4), ION(1-)	14333-13-2	Generally purplish colored. Soluble in water. Noncombustible, but accelerate the burning of combustible material. If the combustible material is finely divided, the mixture may be explosive. May spontaneously ignite in contact with liquid combustible materials. Contact with sulfuric acid may cause fire or explosion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	711.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4522	PEROXIDES, INORGANIC, N.O.S.	DIATOMIC OXYGEN ION(2-)|DIOXYGEN ION(2-)|OXYGEN ION(O22-)|OXYGEN MOLECULE(2-)|PEROXIDE|PEROXIDE ION|PEROXIDE ION(2-)|PEROXIDE(2-)|PEROXIDE, [INORGANIC]|PEROXIDES, INORGANIC, N.O.S.	14915-07-2	Peroxides, inorganic, n.o.s., are colorless liquids or crystalline solids. They are slightly soluble in water and weigh more than water. Contact with the material may cause irritation to skin, eyes, and mucous membranes. It may be toxic by ingestion. It is used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	711.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4523	PETROLEUM NAPHTHA, [SOLVENT]	AMSCO H-J|AMSCO H-SB|EXXON NAPHTHA 5|HI-FLASH NAPHTHA|HIGH SOLVENT NAPHTHA|KWICK DRY|NAPHTESOL H|NAPHTESOL M|NAPHTHA|NAPHTHA 5|NAPHTHA, PETROLEUM|NAPHTHA, SOLVENT|NAPTHA, [SOLVENT]|PETROLEUM NAPHTHA|PETROLEUM NAPHTHA, [SOLVENT]	64741-68-0	A clear colorless to dark brownish colored liquid with an aromatic odor. Less dense (6.1-6.3 lb/gal) than water and insoluble in water. Hence floats on water. Vapors heavier than air. Used in cleaning preparations, as a solvent, and as a raw material for making various chemicals. Flash point above 100Â° F	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	712.0	369.0	218.0	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Silane will ignite spontaneously in air. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Vapors from liquefied gas are initially heavier than air and spread along ground. Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: DO NOT EXTINGUISH A LEAKING GAS FIRE UNLESS LEAK CAN BE STOPPED. SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray or fog. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4519	PENTAMETHYLHEPTANE	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed under alkaline conditions.	Organophosphates are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4520	PENTOLITE, [DRY]	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under refrigerated temperatures. (NTP, 1992)	Self-contained breathing apparatus, rubber boots and heavy rubber gloves. (USCG, 1999)	Insoluble in water.	BENZYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This chemical is incompatible with strong oxidizing agents. It is also incompatible with acids, bases and reducing agents. (NTP, 1992)			(NFPA, 2010)		1	2	0	2		(NTP, 1992)		216											(NTP, 1992)		862		(NTP, 1992)		-60.7	
4521	PERMANGANATE, N.O.S.	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: If this chemical makes direct contact with your gloves, or if a tear, puncture or hole develops, replace them at once. Glove Type Model Number Thickness Bkthru Time Butyl rubber North B-174 0.61 mm 480 min PVC Edmont 34-100 0.20 mm 480 min Latex Ackwell 5.109 0.18 mm 480 min Neoprene Edmont 29-870 0.48 mm 480 min (NTP, 1992)	Slowly oxidizes in air, acquiring a blue color. Also turns blue on exposure to moisture. Water soluble.	PROMETHAZINE HYDROCHLORIDE is sensitive to light. In aqueous solution, it is degraded by heat and light (more rapidly in air or oxygen). Incompatible with alkalis and alkaline solutions such as those of aminophylline, soluble barbiturates and phenytoin sodium. Iron(III) and copper(III) accelerate the degradation (NTP, 1992).					0																								(NTP, 1992)	(decomposes)		446 to 450
4522	PEROXIDES, INORGANIC, N.O.S.	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	TRIADIMEFON is incompatible with strong oxidizing agents and acids. Reacts with acid halides and anhydrides. Also reacts with most active hydrogen compounds (NTP, 1992).					0																								(NTP, 1992)		180.1	
4523	PETROLEUM NAPHTHA, [SOLVENT]	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Stop leak if you can do it without risk. Do not touch or walk through spilled material. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Isolate area until gas has dispersed. (ERG, 2012)	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable.	The unsaturated aliphatic hydrocarbons, such as PROPADIENE, are generally much more reactive than the alkanes. Strong oxidizers may react vigorously with them. Reducing agents can react exothermically to release gaseous hydrogen. In the presence of various catalysts (such as acids) or initiators, compounds in this class can undergo very exothermic addition polymerization reactions. Many of these compounds undergo autoxidation upon exposure to the air to form explosive peroxides. Violent explosions have occurred at low temperatures in ammonia synthesis gas units. These explosions have been traced to the addition products of dienes and oxides of nitrogen, produced from the interaction of nitrogen oxide and oxygen [Bretherick, 1995].	Highly Flammable; Polymerizable	Excerpt from GUIDE 116P [Gases - Flammable (Unstable)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4519	PENTAMETHYLHEPTANE																																								Poison	C11H15BrClO3PS		0.0	0.0	0.0	0.0	0.0
4520	PENTOLITE, [DRY]	(NTP, 1992)	; 10 mm Hg at 189.7Â° F	1		113		mm Hg	(NTP, 1992)		5.1				(USCG, 1999)		1.04				(NTP, 1992)		419.9		760		(NTP, 1992)		150.18						(NTP, 1992)	at 73Â° F		less than 1	mg/mL	BZE		C9H10O2		0.0	0.0	0.0	0.0	0.0
4521	PERMANGANATE, N.O.S.																										(NTP, 1992)		320.91						(NTP, 1992)	at 72Â° F		greater than or equal to 100	mg/mL			C17H20N2S.ClH	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4522	PEROXIDES, INORGANIC, N.O.S.	(NTP, 1992)		1.50E-08		68		mm Hg							(NTP, 1992)		1.22		68								(NTP, 1992)		293.78						(NTP, 1992)	at 72Â° F		less than 1	mg/mL			C14H16ClN3O2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4523	PETROLEUM NAPHTHA, [SOLVENT]																																								Flammable Gas	C3H4	Mineral-Based & Clay-Based Absorbents(Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4524	PHENBENZAMINE	ANTERGAN|BRIDAL|DIMETINA|ETHYLENEDIAMINE, N-BENZYL-N',N'-DIMETHYL-N-PHENYL-|LERGITIN|N,N-DIMETHYL-N'-PHENYL-N'-PHENYLMETHYL-1,2-ETHANEDIAMINE|N-(2-DIMETHYLAMINOETHYL)-N-BENZYLANILINE|N-BENZYL-N',N-DIMETHYL-N-PHENYLETHYLENEDIAMINE|PHENBENZAMINE|PM 245|PM245|2339 RB|RP 2339|2339 RP	961-71-7	PHYSICAL DESCRIPTION: Liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	713.0	369.0	218.0	Eye: If eye tissue is frozen, seek medical attention immediately; if tissue is not frozen, immediately and thoroughly flush the eyes with large amounts of water for at least 15 minutes, occasionally lifting the lower and upper eyelids. If irritation, pain, swelling, lacrimation, or photophobia persist, get medical attention as soon as possible. Skin: If frostbite has occurred, seek medical attention immediately; do NOT rub the affected areas or flush them with water. In order to prevent further tissue damage, do NOT attempt to remove frozen clothing from frostbitten areas. If frostbite has NOT occurred, immediately and thoroughly wash contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth	Behavior in Fire: Containers may explode. Vapor is heavier than air and may travel a long distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)
4525	PHENBENZAMINE HYDROCHLORIDE	ANTERGAN HYDROCHLORIDE|COMPOUND 2339 RP|ETHYLENEDIAMINE, N-BENZYL-N',N'-DIMETHYL-N-PHENYL-, HYDROCHLORIDE|N-BENZYL-N',N'-DIMETHYL-N-PHENYLETHYLENEDIAMINE HYDROCHLORIDE|N-BENZYL-N-DIMETHYLAMINOETHYLANILINE HYDROCHLORIDE|N-DIMETHYLAMINOETHYLBENZYLANILINE HYDROCHLORIDE|N-PHENYL-N-BENZYL-N',N'-DIMETHYLETHYLENEDIAMINE HYDROCHLORIDE|PHENBENZAMINE CHLORIDE|PHENBENZAMINE HYDROCHLORIDE|2339 RP HYDROCHLORIDE	2045-52-5	PHYSICAL DESCRIPTION: Beige crystals. pH (25 mg/ml solution) 5.72. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2054.0	217.0	713.0	369.0	218.0	(BLOB)	It burns but does not ignite readily. It may ignite combustibles. When heated to decomposition, it emits toxic and corrosive fumes. Some organic chlorides decompose to yield phosgene. Incompatible with active metals such as copper, aluminum, magnesium, iron, zinc, and tin and keep from strong oxidizing agents. Avoid contact with acids or acid fumes. Keep separate from oxidizing materials. May become unstable at elevated temperatures and pressures; may react with water resulting in some nonviolent release of energy. Polymerizes with evolution of heat and hydrogen chloride when in contact with all common metals except nickel and lead. (EPA, 1998)	Areas may be entered freely with full-faced mask, self-contained breathing apparatus which provides eye protection, rubber gloves, and hand and arm protection. Use water spray, dry chemical, foam, or carbon dioxide. Use water to keep fire-exposed containers cool. (EPA, 1998)
4526	PHENESTRIN	ACETIC ACID, [P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]-, CHOLESTERYL ESTER|(3-BETA)-CHOLEST-5-EN-3-OL 4-(BIS(2-CHLOROETHYL)AMINO)BENZENEACETATE|(4-(BIS(2-CHLOROETHYL)AMINO)PHENYL)ACETIC ACID CHOLESTERYL ESTER|CHOLEST-5-EN-3BETA-OL 4-(BIS(2-CHLOROETHYL)AMINO)BENZENEACETATE|5-CHOLESTEN-3-BETA-OL 3-(P-BIS(2-CHLOROETHYL)AMINO)PHENYLACETATE|CHOLESTEROL, [P-[BIS(2-CHLOROETHYL)AMINO]PHENYL]ACETATE|CHOLESTERYL P-BIS(2-CHLOROETHYL)AMINOPHENYLACETATE|DAL 25|FENESTERIN|FENESTRIN|NCI-C01558|NSC 104469|NSC-104,469|(P-(BIS(2-CHLOROETHYL)AMINO)PHENYL) ACETATE	3546-10-9	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2055.0	217.0	713.0	369.0	218.0	INHALATION: remove from exposure; support respiration; call physician. EYES: irrigate with copious amounts of water for 15 min. SKIN: flush with large quantities of water; wash with soap and water. INGESTION: give large amounts of water; do NOT induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Toxic phosgene, hydrogen chloride, and benzyl chloride vapors may form. Behavior in Fire: Containers may explode. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4527	PHENETIDINES	ETHOXYANILINE|PHENETIDINE|PHENETIDINES	1321-31-9	A colorless oily liquid which becomes red or brown upon exposure to air. Insoluble in water and denser than water Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2055.0	217.0	714.0	369.0	218.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4528	PHENOL, 2,2'-THIOBIS-4-CHLORO-6-METHYL-	CHLORBISAN|2,2'-DIHYDROXY-3,3'-DIMETHYL-5,5'-DICHLORODIPHENYL SULFIDE|O-CRESOL, 6,6'-THIOBIS|4-CHLORO-6-METHYL-|ORBISAN|ORBISAN 1/3|PHENOL, 2,2'-THIOBIS-4-CHLORO-6-METHYL-|PHENOL, 2,2'-THIOBIS[4-CHLORO-6-METHYL-|2,2'-THIOBIS[4-CHLORO-6-METHYLPHENOL)	4418-66-0	Solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2055.0	217.0	714.0	369.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4524	PHENBENZAMINE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	PROPANE is incompatible with strong oxidizing agents.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4		(USCG, 1999)	(gas)	-156		(USCG, 1999)		2.1		%	(USCG, 1999)		9.5		%	(USCG, 1999)		842		(USCG, 1999)		-305.9	
4525	PHENBENZAMINE HYDROCHLORIDE	(BLOB)	(BLOB)	A lachrymator. Slightly soluble in water.	Halogenated aliphatic compounds, such as BENZYL CHLORIDE, are moderately or very reactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group are incompatible with strong oxidizing and reducing agents. Also, they are incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3		(EPA, 1998)		153		(EPA, 1998)		1.1		%						(USCG, 1999)		1161		(EPA, 1998)		-54 to -45	
4526	PHENESTRIN	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Self-contained breathing apparatus or acid-type canister mask; goggles or face shield; rubber gloves; protective clothing. (USCG, 1999)	Decomposes in moist air. Decomposes slowly in water to give corrosive hydrochloric acid and organic acids.	BENZYL CHLOROFORMATE decomposes slowly in water forming benzyl alcohol, HCl, and CO2. Gives off HCl fumes in moist air. Reacts with bases, both organic and inorganic. Attacks many metals especially in humid atmosphere [Handling Chemicals Safely 1980. p. 476]. Catalytic impurity incidents involving the iron catalyzed decomposition of benzoyl chloroformate have caused several explosions. The iron presumably comes from corrosion of steel storage tanks [Loss Prev. Bull., 1975, (003), 2]. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)	Vigorous decomposition occurs at these temperatures; thus these values are anomalous due to the effect of the decomp. products (benzyl chloride and CO 2).	227																					
4527	PHENETIDINES	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Easily ignited by heat, sparks or flames. Will form explosive mixtures with air.	PROPANE is incompatible with strong oxidizing agents such as nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings, mostly unreactive. Not affected by aqueous solutions of nonoxidizing acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																								
4528	PHENOL, 2,2'-THIOBIS-4-CHLORO-6-METHYL-	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BENZYL VIOLET 4B neutralizes acids in weakly exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate hydrogen, a flammable gas, in combination with strong reducing agents such as hydrides.						0																						(NTP, 1992)	(decomposes)		473 to 482

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4524	PHENBENZAMINE	(USCG, 1999)		9823				mm Hg	(USCG, 1999)		1.5				(USCG, 1999)		0.59		-58		(USCG, 1999)		-43.8		760		(USCG, 1999)		44.09		(NIOSH, 2003)	(as Propane). Based on 10% of lower explosive limit.	2100	ppm	(NIOSH, 2003)		0.01		%	PRP	Flammable Gas	C3H8		0.0	0.0	0.0	0.0	0.0
4525	PHENBENZAMINE HYDROCHLORIDE	(EPA, 1998)		1		71.6		mm Hg	(EPA, 1998)		4.4				(EPA, 1998)		1.1		68		(EPA, 1998)		354		760		(EPA, 1998)		126.58		(NIOSH, 2003)		10	ppm	(NTP, 1992)	Reaction				BCL	Poison|Corrosive	C7H7Cl		0.0	0.0	0.0	0.0	0.0
4526	PHENESTRIN														(USCG, 1999)		1.22		68		(USCG, 1999)	(decomposes)	306		760		(USCG, 1999)		170.6											BCF	Corrosive	C8H7ClO2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4527	PHENETIDINES																														(NIOSH, 2003)	(as Propane). Based on 10% of lower explosive limit.	2100	ppm							Flammable Gas	C3H8		0.0	0.0	0.0	0.0	0.0
4528	PHENOL, 2,2'-THIOBIS-4-CHLORO-6-METHYL-																										(NTP, 1992)		734.94						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C39H41N3O6S2.Na	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4529	PHENYLDICHLOROARSINE	ARSINE, DICHLORO(PHENYL)-|ARSINE, DICHLOROPHENYL|ARSONOUS DICHLORIDE, PHENYL-|DICHLOROPHENYLARSINE|PD[PFIFFIKUS]PHENYL DICHLOROARSINE|PHENYL ARSENIC DICHLORIDE|PHENYLARSINEDICHLORIDE|PHENYLDICHLOROARSINE|TL 69	696-28-6	A colorless odorless liquid. Density 1.654 g / cm3. Used as a lachrymator poison gas. Toxic by inhalation and skin absorption.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2055.0	217.0	714.0	369.0	218.0	INGESTION: give gastric lavage, cathartics, and demulcents. EYES: flush with plenty of water; get medical attention. SKIN: flush with plenty of water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4530	PHENYLSILATRANE	PHENYLSILATRANE|1-PHENYLSILATRANE|SILATRANE, PHENYL-|2,8,9-TRIOXA-5-AZA-1-SILABICYCLO[3.3.3]UNDECANE, PHENYL-	2097-19-0	Solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2055.0	217.0	714.0	369.0	218.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and hydrochloric acid fumes may form in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective on fire. (USCG, 1999)
4531	PHOSACETIM	BAY 38819|BAYER 38819|DRC 714|DRC-714|GOPHACIDE|O,O-BIS(P-CHLOROPHENYL) ACETIMIDOYLAMIDOTHIOPHOSPHATE|O,O-BIS(P-CHLOROPHENYL) ACETIMIDOYLPHOSPHORAMIDOTHIOATE|PHOSACETIM|PHOSAZETIM|PHOSPHORAMIDOTHIOIC ACID, ACETIMIDOYL-, O,O-BIS(P-CHLOROPHENYL) ESTER|PHOSPHORAMIDOTHIOIC ACID,(1-IMINOETHYL)-, O,O-BIS(4-CHLOROPHENYL) ESTER	4104-14-7	Solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2056.0	217.0	714.0	369.0	218.0	INHALATION: take chest x-ray immediately to check for pneumonitis. INGESTION: induce vomiting; get medical attention. EYES: flush with water for at least 15 min.; get medical attention. SKIN: cuts or puncture wounds in which beryllium may be embedded under the skin should be thoroughly cleansed immediately by a physician. (USCG, 1999)	Special Hazards of Combustion Products: Toxic beryllium oxide fume may form in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4532	PHOSGENE OXIME	PHOSGENE OXIME	1794-86-1	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2057.0	217.0	714.0	369.0	218.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4533	PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(4-(METHYLTHIO)PHENYL) ESTER	BAY 29952|BAYER 29,952|BAYER 29952|ENT 25,612|O-ETHYL O-[4-(METHYLTHIO)PHENYL] METHYLPHOSPHONOTHIOATE|PHENOL, P-(METHYLTHIO)-O-ESTER WITH O-ETHYL METHYLPHOSPHONOTHIOATE|PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL|PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(4-(METHYLTHIO)PHENYL) ESTER|PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(P-(METHYLTHIO)PHENYL) ESTER|PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-[P-(METHYLTHIO)PHENYL] ESTER	2703-13-1	Liquid. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2058.0	217.0	714.0	369.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4534	PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(BIS(1-METHYLETHYL)AMINO)ETHYL) O-ETHYL ESTER	A 4|ETHYL S-DIMETHYLAMINO- ETHYL METHYLPHOSPHONOTHIOLATE|ETHYL-S-DIISOPROPYLAMINOETHYL METHYLTHIOPHOSPHONATE|MPT|O-ETHYL S-(2-DIISOPROPYLAMINOETHYL) METHYLPHOSPHONOTHIOATE|O-ETHYL S-(2-DIISOPROPYLAMINOETHYL) METHYLTHIOPHOSPHONATE|O-ETHYL S-DIISOPROPYLAMINOETHYL METHYLPHOSPHONOTHIOATE|PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(BIS(1-METHYLETHYL|PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(BIS(1-METHYLETHYL)AMINO)ETHYL) O-ETHYL ESTER|PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(DIISOPROPYLAMINO)ETHYL) O-ETHYL ESTER|S-(2-DIISOPROPYLAMINOETHYL) O-ETHYL METHYLPHOSPHONOTHIOL	50782-69-9	Odorless liquid, with an amber color. Used as a quick-acting military chemical nerve agent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2059.0	217.0	714.0	370.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Special Hazards of Combustion Products: Toxic sulfur dioxide is generated. (USCG, 1999)	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4529	PHENYLDICHLOROARSINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves; safety glasses or face shield (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Acidic inorganic salts, such as ZINC FLUOROBORATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
4530	PHENYLSILATRANE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	Goggles and rubber gloves (USCG, 1999)	Water soluble.	BENZYLTRIMETHYLAMMONIUM CHLORIDE can react with oxidizing materials (NTP, 1992). Toxic oxides of nitrogen and hydrochloric acid fumes may form in fire (USCG, 1999). Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics. Unlike the ammonium ion, [NH4]+, and the primary, secondary, or tertiary ammonium cations, the quaternary ammonium cations are permanently charged, independent of the pH of their solution.							0																								(NTP, 1992)		469	
4531	PHOSACETIM	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Respiratory protection; gloves; freshly laundered clothing; chemical safety goggles (USCG, 1999)	The amount of heat generated by hydrolysis may be large.	BERYLLIUM OXIDE is incompatible with the following: Acids, caustics, chlorinated hydrocarbons, oxidizers, molten lithium, magnesium (NIOSH, 1997).	Water-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																										
4532	PHOSGENE OXIME	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	4'-AMINOPROPIOPHENONE is a ketone- and amine-substituted aromatic compound. Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(EPA, 1998)		284	
4533	PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(4-(METHYLTHIO)PHENYL) ESTER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and keep it away from oxidizing materials. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	PROPYL GALLATE can react with oxidizing agents. Incompatible with strong acids, strong bases and strong reducing agents. Darkens in the presence of iron and iron salts. Contact with metals should be avoided (NTP, 1992).						0	(NTP, 1992)		368																		(NTP, 1992)		302	
4534	PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(BIS(1-METHYLETHYL)AMINO)ETHYL) O-ETHYL ESTER	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Highly flammable. Vapors explosive when exposed to heat, flame or sparks. Slightly soluble in water.	PROPYL MERCAPTAN emits toxic fumes of oxides of sulfur when heated to decomposition. Reacts violently on contact with calcium hypochlorite [Chem. Eng. News, 1973, 51(26), p. 14].	Highly Flammable	Excerpt from GUIDE 130 [Flammable Liquids (Non-Polar / Water-Immiscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0	(USCG, 1999)		5																		(USCG, 1999)		-171	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4529	PHENYLDICHLOROARSINE														(USCG, 1999)		1.45		68		(USCG, 1999)	(approx.)	212		760		(USCG, 1999)	(solute only)	238.98											ZFB	Corrosive	BF4 . 1|2 Zn		0.0	0.0	0.0	0.0	0.0
4530	PHENYLSILATRANE														(USCG, 1999)		1.07		68		(NTP, 1992)	(decomposes)		greater than 275	760		(NTP, 1992)		185.7						(NTP, 1992)	at 65.3Â° F		greater than or equal to 100	mg/mL	BMA		C10H16N.Cl		0.0	0.0	0.0	0.0	0.0
4531	PHOSACETIM														(USCG, 1999)		3		68								(USCG, 1999)		25		(NIOSH, 2003)	As Be; A potential human carcinogen.	4	mg/m3						BEO	Poison	BeO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4532	PHOSGENE OXIME																										(EPA, 1998)		149.21											Poison	C9H11NO		0.0	0.0	0.0	0.0	0.0
4533	PHOSPHONOTHIOIC ACID, METHYL-, O-ETHYL O-(4-(METHYLTHIO)PHENYL) ESTER								(NTP, 1992)		7.3				(NTP, 1992)		1.21				(NTP, 1992)	Decomposes					(NTP, 1992)		212.2						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C10H12O5		0.0	0.0	0.0	0.0	0.0
4534	PHOSPHONOTHIOIC ACID, METHYL-, S-(2-(BIS(1-METHYLETHYL)AMINO)ETHYL) O-ETHYL ESTER	(NIOSH, 2003)		155		77		mm Hg							(USCG, 1999)		0.841		68		(USCG, 1999)		153		760		(USCG, 1999)		76.2						(NIOSH, 2003)	Slight				PMN	Flammable Liquid	C3H8S		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4535	PHOSPHONOTHIOIC ACID, METHYL-,O-(4-NITROPHENYL) O-PHENYL ESTER	COLEP|CP 40294|ENT 25,787|MONSANTO CP-40294|O-(4-NITROPHENYL) O-PHENYL METHYLPHOSPHONOTHIOATE|O-(P-NITROPHENYL) O-PHENYL METHYLPHOSPHONOTHIOATE|O-(P-NITROPHENYL)-O-PHENYL METHYLPHOSPHONOTHION ATE|PHOSPHONOTHIOIC ACID, METHYL-, O-(4-NITROPHENYL) O-PHENYL ESTER|PHOSPHONOTHIOIC ACID, METHYL-, O-(P-NITROPHENYL) O-PHENYL ESTER|PHOSPHONOTHIOIC ACID, METHYL-,O-(4-NITROPHENYL) O-PHENYL ESTER	2665-30-7	Liquid. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2060.0	217.0	714.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4536	PHOSPHORIC ACID, DIMETHYL 4-(METHYLTHIO) PHENYL ESTER	ALLIED GC 6506|DIMETHYL P-(METHYLTHIO)PHENYL PHOSPHATE|ENT 25734|FENTHION S 2145 OXON|GC 6506|HA-1200|4-METHYLTHIOPHENYL DIMETHYL PHOSPHATE|O,O-DIMETHYL O-(4-METHYLMERCAPTOPHENYL) PHOSPHATE|PHENOL, P-(METHYLTHIO)-, DIMETHYL PHOSPHATE|PHOSPHORIC ACID, DIMETHYL 4-(METHYLTHIO) PHENYL ESTER|PHOSPHORIC ACID, DIMETHYL P-(METHYLTHIO)PHENYL ESTER	3254-63-5	Colorless liquid. Used as a contact and systemic insecticide and acaricide. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2060.0	217.0	715.0	370.0	218.0	(BLOB)	Behavior in Fire: Containers may explode. Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. (USCG, 1999)	(BLOB)
4537	PHOSPHORODITHIOIC ACID ALCOHOL (COMBUSTIBLE LIQUID, N.O.S.)	PHOSPHORODITHIOIC ACID ALCOHOL (COMBUSTIBLE LIQUID, N.O.S.)	15834-33-0	A tan colored liquid with a sulfur-like odor. Insoluble in water and denser than water. Contact may irritate skin, eyes, and mucous membranes. May be toxic by ingestion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2061.0	217.0	716.0	370.0	218.0	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion and poison hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4538	PHOSPHOROTHIOIC ACID, O,O-DIMETHYL S-(2-(METHYLTHIO) ETHYL) ESTER	CEBETOX|CYMETOX|DEMEPHION|DEMEPHION-S|ETHANETHIOL, 2-(METHYLTHIO)-, O,O-DIMETHYL PHOSPHOROTHIOATE|ETHANETHIOL, 2-(METHYLTHIO)-, S-ESTER WITH O,O-DIMETHYL PHOSPHOROTHIOATE|ISONITOX|ISOTINOX|METHYL DEMETON METHYL|2-METHYLTHIOETHYL O,O-DIMETHYL PHOSPHOROTHIOATE|PHOSPHOROTHIOIC ACID,|PHOSPHOROTHIOIC ACID, O,O-DIMETHYL S-(2-(METHYLTHIO) ETHYL) ESTER|TINOX	2587-90-8	A straw-colored liquid. Used as a systemic insecticide and acaricide effective against sucking insects. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2061.0	217.0	716.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4539	PHOSPHORUS HEPTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	PHOSPHORUS HEPTASULFIDE|PHOSPHORUS HEPTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS HEPTASULPHIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|TETRAPHOSPHORUS HEPTASULFIDE	12037-82-0	Light-yellow crystals, light-gray powder, or fused solid. Melting point 310Â°C. Density 2.19 g / cm3. May spontaneously heat and ignite under exposure to moisture. Produces phosphorus pentaoxide and sulfur dioxide during combustion. Phosphorus pentaoxide reacts with water to form phosphoric acid, a corrosive material. Phosphorus heptasulfide reacts with water to form phosphoric acid and hydrogen sulfide, a toxic flammable gas with a rotten-egg smell. Continued exposure to hydrogen sulfide disables the sense of smell.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2061.0	217.0	716.0	370.0	218.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water - FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4535	PHOSPHONOTHIOIC ACID, METHYL-,O-(4-NITROPHENYL) O-PHENYL ESTER	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble [Hawley].	Maximum stability of PROPYL-4-HYDROXYBENZOATE occurs at a pH of 4 to 5. Incompatible with alkalis and iron salts. Also incompatible with strong oxidizing agents and strong acids (NTP, 1992).					0																					(NTP, 1992)		203 to 208
4536	PHOSPHORIC ACID, DIMETHYL 4-(METHYLTHIO) PHENYL ESTER	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Organic vapor canister or air-supplied mask; goggles or face shield (for liquid); protective clothing (for liquid). (USCG, 1999)	Highly flammable.	During an experiment to produce lactic acid by oxidizing PROPYLENE with nitrogen peroxide, a violent explosion occurred. These mixtures (olefins and nitrogen peroxide) form extremely unstable nitrosates or nitrosites (Comp. Rend. 116:756 1893). Contact of very cold liquid propylene with water may result in vigorous or violent boiling of the product and extremely rapid vaporization due to the large temperature differences involved. If the water is hot, there is the possibility that a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if liquid propylene contacts water in a closed container.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NTP, 1992)		-162	(NTP, 1992)		2	%	(NTP, 1992)		11.1		%	(USCG, 1999)		851		(NTP, 1992)		-301.4	
4537	PHOSPHORODITHIOIC ACID, ALCOHOL (COMBUSTIBLE LIQUID, N.O.S.)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Water soluble.	PROPYLENE CHLOROHYDRIN generates flammable and/or toxic gases with alcohols, with alkali metals, nitrides, and other strong reducing agents. Reacts with acids to form esters plus water. Incompatible with strong oxidizing agents. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								
4538	PHOSPHOROTHIOIC ACID, O,O-DIMETHYL S-(2-(METHYLTHIO) ETHYL) ESTER	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Flammable. Soluble in water.	A hydroxylated nitrile. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids). These reactions generate heat. Peroxides convert nitriles to amides. Nitriles can react vigorously with reducing agents. Acetonitrile and propionitrile are soluble in water, but nitriles higher than propionitrile have low aqueous solubility. They are also insoluble in aqueous acids.						0																								
4539	PHOSPHORUS HEPTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Flammable/combustible material. May be ignited by heat, sparks or flames. DRIED OUT material may explode if exposed to heat, flame, friction or shock; Treat as an explosive. Keep material wet with water or treat as an explosive	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4535	PHOSPHONOTHIOIC ACID, METHYL-,O-(4-NITROPHENYL) O-PHENYL ESTER														(NTP, 1992)		1.28		77		(NTP, 1992)		271		1		(NTP, 1992)		180.2						(NTP, 1992)	at 54Â° F		less than 1	mg/mL			C10H12O3		0.0	0.0	0.0	0.0	0.0
4536	PHOSPHORIC ACID, DIMETHYL 4-(METHYLTHIO) PHENYL ESTER	(NTP, 1992)	; 760 mm Hg at -53.9Â° F	1		-205.4		mm Hg	(NTP, 1992)		1.46		32		(USCG, 1999)		0.609		-52.6		(NTP, 1992)		-53.9		760		(NTP, 1992)		42.08						(NTP, 1992)		44.6		mL/100 mL	PPL	Flammable Gas	C3H6	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4537	PHOSPHORODITHIOIC ACID ALCOHOL (COMBUSTIBLE LIQUID, N.O.S.)																																								Poison|Flammable Liquid	C3H7ClO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4538	PHOSPHOROTHIOIC ACID, O,O-DIMETHYL S-(2-(METHYLTHIO) ETHYL) ESTER																										(NTP, 1992)		85.11														C4H7NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4539	PHOSPHORUS HEPTASULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS																														(NIOSH, 2003)	(as Zr)	50	mg/m3							Explosive 1.3C	C24H16N12O20Zr	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4540	PHOSPHORUS TRIOXIDE	DIPHOSPHORUS TRIOXIDE|PHOSPHORUS SESQUIOXIDE|PHOSPHORUS TRIOXIDE	1314-24-5	White crystalline solid or a liquid (melting point 24Â°C). Density 2.14 g / cm3. Toxic and corrosive. May severely irritate skin and eyes. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2061.0	217.0	717.0	370.0	218.0	(BLOB)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Flammable/combustible material. May be ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Some of these materials may react violently with water. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Do not get water inside containers. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4541	PHOSPHORUS TRISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	DIPHOSPHORUS TRISULFIDE|PHOSPHORUS TRISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS|PHOSPHORUS TRISULPHIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	12165-69-4	A grayish yellow solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2061.0	217.0	717.0	370.0	218.0	(BLOB)	Flash point data are not available for this chemical, but it is probably combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4542	PHOTODIELDRIN	1,1,2,3,3A,7A-HEXACHLORO-5,6-EPOXYDECAHYDRO-2,4,7-METHENO-1H-CYCLOPENTA[A]PENTALENE, STEREOISOMER|BL 6623|2,4,7-METHENO-1H-CYCLOPENTA[A]PENTALENE, 1,1,2,3,3A,7A-HEXACHLORO-5,6-EPOXYDECAHYDRO-, STEREOISOMER|2,4,6-METHENO-2H-CYCLOPENTA(4,5)PENTALENO(1,2-B)OXIRENE,-2A,3,-3,4,5,5A-HEXACHLORODECAHYDRO|2,4,6-METHENO-2H-CYCLOPENTA[4,5]PENTALENO[1,2-B]OXIRENE, 2A,3,3,4,5,5A-HEXACHLORODECAHYDRO-, (1AALPHA,1BBETA,2ALPHA,2ABETA,4BETA,5BETA,5ABETA,5BBETA,6ALPHA,6AALPHA,7R*)-|NCI-C00599|PHOTODIELDRIN|(.+-.)-PHOTODIELDRIN	13366-73-9	PHYSICAL DESCRIPTION: Beige crystals or white powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2061.0	218.0	717.0	370.0	218.0	(BLOB)	Shows signs of decomposition when stored for a few days at room temperature. (EPA, 1998)	(Non-Specific -- Medicines, n.o.s.) Move container from fire area if you can do so without risk. Spray cooling water on containers that are exposed to flames until well after fire is out. (Non-Specific -- Medicines, n.o.s.) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4543	P-HYDROXYPENICILLIN V	4-HYDROXYPENICILLIN V|6-(((4-HYDROXYPHENOXY)ACETYL)AMINO)-3,3-DIMETHYL-7-OXO-4-THIA-1-AZABICYCLO[3.2.0]HEPTANE-2-CARBOXYLIC ACID[2S-(2ALPHA5ALPHA6.BETA)]|(4-HYDROXYPHENOXY)METHYLPENICILLIN|P-HYDROXYPENICILLIN V|6-(2-(P-HYDROXYPHENOXY)ACETAMIDO)-3,3-DIMETHYL-7-OXO 4-THIA-1-AZABICY-CLO(3.2.0)HEPTANE-2-CARBOXYLIC ACID(P-HYDROXYPHENOXY)METHYLPENICILLIN|P-HYDROXYPHENOXYMETHYLPENICILLIN|4-THIA-1-AZABICYCLO[3.2.0]HEPTANE-2-CARBOXYLIC ACID, 6-[2-(P-HYDROXYPHENOXY)ACETAMIDO]-3,3-DIMETHYL-7-OXO	20880-67-5		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2062.0	218.0	717.0	370.0	218.0	INHALATION: remove victim to fresh air. INGESTION: do NOT induce vomiting] Do NOT lavage] Give vegetable oil and demulcents; call physician. EYE CONTACT: flush with water for 15 min. SKIN CONTACT: wash with soap and water. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents: Foam, dry chemical, carbon dioxide (USCG, 1999)
4544	PIPERONYL SULFOXIDE	ALPHA-METHYL-3,4-(METHYLENEDIOXY)PHENETHYL OCTYL SULFOXIDE|BENZENE, 1,2-(METHYLENEDIOXY)-4-[2-(OCTYLSULFINYL)PROPYL]-|2-(1,3-BENZODIOXOL-5-YL)ETHYL OCTYL SULFOXIDE|ENT 16,634|ISOSAFROLE N-OCTYLSULFOXIDE|ISOSAFROLE OCTYL SULFOXIDE|ISOSAFROLE, OCTYL SULFOXIDE|1-METHYL-2-(3,4-METHYLENEDIOXYPHENYL)ETHYL OCTYL SULFOXIDE|1,2-(METHYLENEDIOXY)-4-(2-(OCTYLSULFINYL)PROPYL) BENZENE|1,2-(METHYLENEDIOXY)-4-[2-(OCTYLSULFINYL)PROPYL] BENZENE|N-OCTYLISOSAFROLE SULFOXIDE|N-OCTYLSULFOXIDE OF ISOSAFROLE|NCI-C02824|5-(2-(OCTYLSULFINYL)PROPYL)-	120-62-7	PHYSICAL DESCRIPTION: Clear pale yellow to amber viscous liquid with a sweetish smell. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2062.0	218.0	717.0	370.0	218.0	(BLOB)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. (EPA, 1998)	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Move containers from fire area if you can do it without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Wear positive pressure breathing apparatus and special protective clothing. (Non-Specific -- Organophosphorus Pesticide, n.o.s.) This material may burn, but does not ignite readily. For small fires, use dry chemical, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4540	PHOSPHORUS TRIOXIDE	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers (except for Hydrazine). Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	TRIALLYLAMINE is a strong reducing agent that reacts violently with oxidizing agents. Corrosive towards Al and Zn [Handling Chemicals Safely 1980 p. 912] . Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.	Strong Reducing Agent	Excerpt from GUIDE 132 [Flammable Liquids - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		103														(NTP, 1992)		-94	
4541	PHOSPHORUS TRISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS	SMALL SPILLS AND LEAKAGE: You should dampen the solid spill material with acetone, then transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the adsorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	BETA-(2-FURYL)ACROLEIN is an aldehyde. May become involved in exothermic self-condensation or polymerization reactions that are often catalyzed by acid. May generate flammable and/or toxic gases with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents. Can react with air to give first peroxo acids, and ultimately carboxylic acids. These autoxidation reactions are activated by light, catalyzed by salts of transition metals, and are autocatalytic (catalyzed by the products of the reaction). The addition of stabilizers (antioxidants) to shipments of aldehydes retards autoxidation.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(NTP, 1992)		129	
4542	PHOTODIELDRIN	(Non-Specific -- Medicines, n.o.s.) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Shut off ignition sources; no flares, smoking or flames in hazard area. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch spilled material. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)			239 to 244
4543	P-HYDROXYPENICILLIN V	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective gloves; goggles or face shield (USCG, 1999)	Insoluble in water.	1-DODECENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. In the presence of various catalysts (such as acids) or initiators, may undergo exothermic addition polymerization reactions.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		212														(USCG, 1999)		491		(USCG, 1999)		-31	
4544	PIPERONYL SULFOXIDE	(Non-Specific -- Organophosphorus Pesticide, n.o.s.) Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do it without risk. Use water spray to reduce vapors. Small spills: take up with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	Organothiophosphates, such as PROTHOATE, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																		(EPA, 1998)		Technical product solidifies at 70-75Â° F.		83.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4540	PHOSPHORUS TRIOXIDE														(NTP, 1992)		0.809		68		(NTP, 1992)			311 to 313	760		(NTP, 1992)		137.23						(NTP, 1992)		2.5		g/ml		Flammable Liquid|Corrosive	C9H15N	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4541	PHOSPHORUS TRISULFIDE, FREE FROM YELLOW AND WHITE PHOSPHORUS																				(NTP, 1992)		275		14		(NTP, 1992)		122.12						(NTP, 1992)	Insoluble (<1 mg/ml at 68.0Â° F)					Corrosive	C7H6O2	Cellulose-Based Absorbents|Dirt/ Earth	0.0	0.0		0.0	0.0
4542	PHOTODIELDRIN																										(EPA, 1998)		396.63												Poison	C28H44O	Cellulose-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4543	P-HYDROXYPENICILLIN V	(USCG, 1999)		0.52				mm Hg							(USCG, 1999)		0.758		68		(USCG, 1999)		415		760		(USCG, 1999)		168.31												DDC	Flammable Liquid	C12H24	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4544	PIPERONYL SULFOXIDE	(EPA, 1998)		0.0001		104		mm Hg							(EPA, 1998)		1.151		89.6								(EPA, 1998)		285.4												Poison	C9H20NO3PS2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4545	P-ISOPROPOXYDIPHENYLAMINE	AGERITE 150|AGERITE ISO|BENZENAMINE, 4-(1-METHYLETHOXY)-N-PHENYL-|DIPHENYLAMINE, 4-ISOPROPOXY-|4-ISOPROPOXY-N-PHENYLANILINE|4-ISOPROPOXYDIPHENYLAMINE|ISOPROPOXYPHENYL-4-ANILINE|4-(ISOPROPYLOXY)DIPHENYLAMINE|4-(1-METHYLETHOXY)-N-PHENYLBENZENAMINE|N-(4-ISOPROPOXYPHENYL)ANILINE|P-HYDROXYDIPHENYLAMINE ISOPROPYL ETHER|P-ISOPROPOXYDIPHENYLAMINE	101-73-5	PHYSICAL DESCRIPTION: Dark gray flakes or flaky black solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2062.0	218.0	717.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4546	PLASTER OF PARIS	CALCIUM SULFATE HEMIHYDRATE|CRYSTACAL|DENSITE|DENSITE (GYPSUM)|DRIED CALCIUM SULFATE|DRIED GYPSUM|FGR|GYPSUM HEMIHYDRATE|HEMIHYDRATE GYPSUM|PH 200|PH 200 (FILLER)|PLASTER OF PARIS|SAKURA PLASTER OF PARIS B GRADE|TA 20|TIGER STONE	26499-65-0	White or yellowish, finely divided, odorless powder consisting mostly or entirely of calcium sulfate hemihydrate, CaSO4*1/2H2O. Forms a paste when it is mixed with water that soon hardens into a solid. Used in making casts, molds, and sculpture. Generally non-toxic.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2062.0	218.0	718.0	370.0	218.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4547	POLY(2-HYDROXYPROPYL METHACRYLATE)	2-HYDROXYPROPYL METHACRYLATE HOMOPOLYMER|2-HYDROXYPROPYL METHACRYLATE POLYMER|METHACRYLIC ACID, 2-HYDROXYPROPYL ESTER, POLYMERS|2-METHYL-2-PROPENOIC ACID, 2-HYDROXYPROPYL ESTER, HOMOPOLYMER|POLY(2-HYDROXYPROPYL METHACRYLATE)|1,2-PROPANEDIOL, 1-METHACRYLATE, POLYMERS|2-PROPENOIC ACID, 2-METHYL-, 2-HYDROXYPROPYL ESTER, HOMOPOLYMER	25703-79-1	PHYSICAL DESCRIPTION: Crystals or white crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2063.0	218.0	719.0	370.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4548	POLYBROMINATED BIPHENYL	BROMINATED BIPHENYL|FIREMASTER FF-1|2,4,5,2',4',5'-HEXABROMOBIPHENYL|PBB|POLYBROMINATED BIPHENYL|POLYBROMINATED BIPHENYL (FF-1)	67774-32-7	PHYSICAL DESCRIPTION: A white chalky solid. Softens at 162Â°F. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2064.0	218.0	719.0	370.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4549	POLYETHYLBENZENE	BENZENE, ETHYL-, POLYMERS|ETHYLBENZENE HOMOPOLYMER|ETHYLBENZENE POLYMER|POLY(ETHYLBENZENE)|POLYETHYLBENZENE	27536-89-6	A clear colorless liquid with a petroleum-like odor. Less dense than water and insoluble in water. Hence floats on water. Vapors are heavier than air.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2064.0	218.0	719.0	370.0	218.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4545	P-ISOPROPOXYDIPHENYLAMINE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]							0																		(NTP, 1992)			381 to 383
4546	PLASTER OF PARIS	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	A colorless cold liquid. Contact with water may result in vigorous or violent boiling of the product and extremely rapid vaporization. If the water is hot, there a liquid "superheat" explosion may occur. Pressures may build to dangerous levels if the liquid contacts water in a closed container, [Handling Chemicals Safely 1980].	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)	Note: NFPA ratings shown are for propane, CAS number 74-98-6.	2	4	0	4																							
4547	POLY(2-HYDROXYPROPYL METHACRYLATE)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	May be highly flammable. Water soluble.	(BLOB)	Highly Flammable	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	0	3		(NIOSH, 2003)		55		(NIOSH, 2003)		3.3		%	(NIOSH, 2003)		19		%						(NIOSH, 2003)		-173	
4548	POLYBROMINATED BIPHENYL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	Bis (2-(dimethylamino)ethyl)ether reacts as a base. Reacts exothermically with acids. May form explosive peroxides upon exposure to the air.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2927 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)							0																							
4549	POLYETHYLBENZENE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that polyvinyl chloride gloves may provide protection to contact with this compound. Polyvinyl chloride over latex gloves is recommended. However, if this chemical makes direct contact with your gloves remove them at once. (NTP, 1992)	Slightly soluble in hot water.	P-TOLYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).							0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4545	P-ISOPROPOXYDIPHENYLAMINE																									(NTP, 1992)		176.16						(NTP, 1992)	Insoluble						C10H8O3		0.0	0.0	0.0	0.0	0.0
4546	PLASTER OF PARIS																																								Flammable Gas	C2H6 (ethane)	C3H8 (propane)		0.0	0.0	0.0	0.0	0.0
4547	POLY(2-HYDROXYPROPYL METHACRYLATE)	(NIOSH, 2003)		44				mm Hg							(NIOSH, 2003)		0.79				(NIOSH, 2003)		173		760		(NIOSH, 2003)		46.1		(NIOSH, 2003)	Based on 10% of the lower explosive limit.	3300	ppm	(NIOSH, 2003)	Miscible						Flammable Liquid	C2H6O (aqueous)	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4548	POLYBROMINATED BIPHENYL																				(NIOSH, 2003)		372		760		(NIOSH, 2003)		160.3													Poison	Corrosive	C8H20N2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4549	POLYETHYLBENZENE																											(NTP, 1992)		150.2						(NTP, 1992)	Slighly soluble in hot water							C8H10N2O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4550	PONCEAU 3R	A.F. RED NO. 1|C.I. 16155|C.I. FOOD RED 6|C.I. FOOD RED 6, DISODIUM SALT|D AND C RED 15|DISODIUM 3-HYDROXY-4-((2,4,5-TRIMETHYLPHENYL)AZO)-2,4-NAPHTHALENEDISULPHONATE|DISODIUM 3-HYDROXY-4-((2,4,5-TRIMETHYLPHENYL)AZO)-2,7-NAPHTHALENEDISULFONATE|DISODIUM 3-HYDROXY-4-((2,4,5-TRIMETHYLPHENYL)AZO)-2,7-NAPHTHALENEDISULFONIC ACID|DISODIUM 3-HYDROXY-4-((2,4,5-TRIMETHYLPHENYL)AZO)-2,7-NAPHTHALENEDISULPHONIC ACID|DISODIUM 3-HYDROXY-4-[(2,4,5-TRIMETHYLPHENYL)AZO]-2,7-NAPHTHALENEDISULFONATE|DOLKWAL PONCEAU	3564-09-8	PHYSICAL DESCRIPTION: Dark red crystals or red powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2064.0	218.0	719.0	370.0	218.0	(BLOB)	The flash point data for this compound are not available. It is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinquisher. (NTP, 1992)
4551	POTASSIUM 2-BENZYL-4-CHLOROPHENATE	4-CHLORO-2-(PHENYLMETHYL)PHENOL POTASSIUM SALT|POTASSIUM 2-BENZYL-4-CHLOROPHENATE	35471-49-9		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
4552	POTASSIUM ARSENITE	ARSENENOUS ACID, POTASSIUM SALT|ARSENIOUS ACID (H3ASO3), POTASSIUM SALT|ARSENIOUS ACID, POTASSIUM SALT|ARSENOUS ACID, POTASSIUM SALT|ARSONIC ACID, POTASSIUM SALT|FOWLER'S SOLUTION|FOWLERS SOLUTION|NSC 3060|POTASSIUM ARSENITE|POTASSIUM ARSENITE, SOLID|POTASSIUM ARSENITE, [SOLID]|POTASSIUM METAARSENITE	10124-50-2	A white powder. Toxic by ingestion and by inhalation.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	(BLOB)	Literature sources indicate that this chemical is flammable. (NTP, 1992)	Fires involving this compound can be controlled using a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4553	POTASSIUM DITHIONITE	DIPOTASSIUM DITHIONITE|POTASSIUM DITHIONITE|POTASSIUM DITHIONITE (K2S2O4)|POTASSIUM HYDROSULFITE|POTASSIUM HYDROSULPHITE	14293-73-3	A light yellow colored powdered or flaked solid. Used to make dyes and other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4554	POTASSIUM FLUOROACETATE	POTASSIUM FLUOROACETATE	23745-86-0	A fine, white odorless powder. Toxic by ingestion, inhalation and/or skin absorption. Used as a rodenticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	(BLOB)	Flash point data for this compound are not available, however, it is probably combustible. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4555	POTASSIUM MONOXIDE	DIPOTASSIUM MONOXIDE|DIPOTASSIUM OXIDE|POTASH|POTASSIUM MONOXIDE|POTASSIUM OXIDE	12136-45-7	A white-colored crystalline solid. Denser than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	Flush eyes with water for at least 15 min. Wash skin well with water. Get medical attention. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Fire Extinguishing Agents: Carbon dioxide or dry chemical for small fires; alcohol foam and water for large fires. (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4550	PONCEAU 3R	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from light and air and store it under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Air and light sensitive (NTP, 1992). Insoluble in water.	ETHINYLESTRADIOL may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to generate gaseous hydrogen.								0																				(NTP, 1992)			288 to 295
4551	POTASSIUM 2-BENZYL-4-CHLOROPHENATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. RECOMMENDED GLOVE MATERIALS: Permeation data indicate that butyl rubber gloves may provide protection to contact with this compound. Butyl rubber over latex gloves is recommended. However, if this chemical makes direct contact with your gloves, or if a tear, hole or puncture develops, remove them at once. (NTP, 1992)	Insoluble in water.	Simple aromatic halogenated organic compounds, such as 1-FLUORONAPHTHALENE, are very unreactive. Halogenated organics generally become less reactive as more of their hydrogen atoms are replaced with halogen atoms. Materials in this group may be incompatible with strong oxidizing and reducing agents. Also, they may be incompatible with many amines, nitrides, azo/diazo compounds, alkali metals, and epoxides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		16	
4552	POTASSIUM ARSENITE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it in a freezer. All handling of this compound should done under an inert atmosphere. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	This compound is very sensitive to exposure to air and moisture (decomposition is not vigorous). Decomposes in water (NTP, 1992).	BIS(CYCLOPENTADIENYL)CHROMIUM reacts with water and alcohols. (NTP, 1992). Its reaction with alcohols produces pyrophoric metal alkoxides (dialkoxychromium and cyclopentadiene).	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								(NTP, 1992)		343	
4553	POTASSIUM DITHIONITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	(BLOB)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		208																							
4554	POTASSIUM FLUOROACETATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and away from all organic compounds. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	BIS(TERT-BUTYLDIOXYISOPROPYL)BENZENE may polymerize and/or decompose if heated. (NTP, 1992)	Explosive; Polymerizable; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4555	POTASSIUM MONOXIDE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Plastic gloves; goggles. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	ETHOXYLATED TETRADECANOL is a ethoxy-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		470																						(USCG, 1999)		59	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4550	PONCEAU 3R																									(NTP, 1992)		296.4						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C20H24O2	Cellulose-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4551	POTASSIUM 2-BENZYL-4-CHLOROPHENATE														(NTP, 1992)		1.1322		68		(NTP, 1992)		419		756		(NTP, 1992)		146.17											Poison	C10H7F		0.0	0.0	0.0	0.0	0.0
4552	POTASSIUM ARSENITE																				(NTP, 1992)	under vacuum (sublimes)		167 to 194	760		(NTP, 1992)		182.19		(NIOSH, 2003)	[as Cr(II)]	250	mg/m3	(NTP, 1992)	Decomposes					Flammable Solid	C10H10Cr		0.0	0.0	0.0	0.0	0.0
4553	POTASSIUM DITHIONITE														(NTP, 1992)		1.1021		68		(NTP, 1992)			403 to 405	760		(NTP, 1992)		104.11						(NTP, 1992)	Soluble					Corrosive	C4H8O3		0.0	0.0	0.0	0.0	0.0
4554	POTASSIUM FLUOROACETATE																									(NTP, 1992)		338.49						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Organic Peroxide	C20H34O4	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Expanded Polymeric Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4555	POTASSIUM MONOXIDE														(USCG, 1999)		1.007		59		(USCG, 1999)	Very high					(USCG, 1999)		660											EOT	Class 9	C16H34O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4556	POTASSIUM N-METHYLDITHIOCARBAMATE	METAM-POTASSIUM|POTASSIUM N-METHYLDITHIOCARBAMATE	137-41-7	A concentrated aqueous solution. Clear orange liquid with a pungent rotten-egg odor.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2065.0	218.0	719.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4557	POTASSIUM PEROXIDE	DIPOTASSIUM PEROXIDE|POTASSIUM OXIDE (K2(O2))|POTASSIUM PEROXIDE|POTASSIUM SUPEROXIDE	17014-71-0	A yellow granular solid. Mixtures of potassium peroxide and combustible material readily ignited by friction, heat or contact with moisture. Prolonged exposure to fire or heat may cause vigorous decomposition of the material and rupture of the container. Used as a bleach.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2066.0	218.0	719.0	370.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4558	POTASSIUM PHOSPHIDE	POTASSIUM PHOSPHIDE|TRIPOTASSIOPHOSPHINE|TRIPOTASSIUM PHOSPHIDE	20770-41-6	Potassium phosphide is a white crystalline or powdered solid. When exposed to water it may react violently and start a fire. It is toxic by ingestion, inhalation and skin absorption. It is used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2066.0	218.0	719.0	370.0	218.0	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: May explode from heat, contamination or loss of temperature control. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May ignite combustibles (wood, paper, oil, clothing, etc.). May ignite spontaneously if exposed to air. May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. BEWARE OF POSSIBLE CONTAINER EXPLOSION. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.
4559	POTASSIUM P-T-AMYLPHENATE	4-(1,1-DIMETHYLPROPYL)PHENOL POTASSIUM SALT|POTASSIUM P-T-AMYLPHENATE|POTASSIUM P-TERT-AMYLPHENATE	53404-18-5		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2066.0	218.0	719.0	370.0	218.0	EYES: flush with water for at least 15 min.; get medical attention. SKIN: wipe off and wash with soap and water; get medical attention if irritation occurs. INGESTION: induce vomiting; get medical attention. (USCG, 1999)	Behavior in Fire: May explode (USCG, 1999)	Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
4560	POTASSIUM SULFIDE, ANHYDROUS	DIPOTASSIUM MONOSULFIDE|DIPOTASSIUM MONOSULFIDE (K2S)|DIPOTASSIUM SULFIDE|DIPOTASSIUM TETRASULFIDE|POTASSIUM MONOSULFIDE|POTASSIUM POLYSULFIDE (K2S4)|POTASSIUM SULFIDE|POTASSIUM SULFIDE (K2S4)|POTASSIUM SULFIDE, ANHYDROUS|POTASSIUM SULFIDE, WITH LESS THAN 30% WATER OF CRYSTALLIZATION|POTASSIUM SULFIDE, WITH LESS THAN 30% WATER OF HYDRATION|POTASSIUM SULPHIDE, ANHYDROUS|POTASSIUM SULPHIDE, WITH LESS THAN 30% WATER OF CRYSTALLIZATION|POTASSIUM SULPHIDE, WITH LESS THAN 30% WATER OF HYDRATION	12136-49-1	A yellow-red to red crystalline mass or fused solid with an odor of rotten eggs.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2066.0	218.0	719.0	370.0	218.0	EYES: flush with water for 15 min. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4556	POTASSIUM N-METHYLDITHIOCARBAMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May be sensitive to light. Insoluble in water.	PYRILAMINE neutralizes acids to form salts plus water in exothermic reactions. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. May generate flammable gaseous hydrogen in combination with strong reducing agents, such as hydrides.					0																										
4557	POTASSIUM PEROXIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	No rapid reaction with air No rapid reaction with water	BISMUTH TELLURIDE may emit toxic fumes of tellurium when heated to decomposition. Incompatible with strong oxidizing agents such as nitric acid or bromine, chlorine or fluorine. Moderate fire hazard by reaction with such materials. May react with strong acids to evolve toxic gases; may react slowly with water to evolve toxic gases. Slight explosion hazard with moisture.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																								(NIOSH, 2003)		1063	
4558	POTASSIUM PHOSPHIDE	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	TERT-BUTYL PEROXY-2-ETHYLHEXANOATE explodes with great violence when rapidly heated to a critical temperature; pure form is shock sensitive and detonable [Bretherick 1979 p. 602]. Decomposes violently or explosively at temperatures 0-10A°C owing to self- accelerating exothermic decomposition; Several explosions were due to shock, heat or friction; amines and certain metals can cause accelerated decomposition [Bretherick 1979 p. 156]. Danger of explosion when dry.	Strong Oxidizing Agent	Excerpt from GUIDE 148 [Organic Peroxides (Heat and Contamination Sensitive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4559	POTASSIUM P-T-AMYLPHENATE	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Goggles or face shield; rubber gloves; protective clothing. (USCG, 1999)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 1-HYDROXY-1'-HYDROPEROXY DICYCLOHEXYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Behavior in Fire: May explode (USCG, 1999).	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0		(USCG, 1999)	Combustible solution) (dibutyl phthalate)	315													(USCG, 1999)		757					
4560	POTASSIUM SULFIDE, ANHYDROUS	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Flammable.	ETHYL ACETOACETATE, a beta-keto ester, is more reactive than many esters. Undergoes an exothermic cleavage reaction in the presence of concentrated base. Reacts with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Mixing with 2,2,2-tris(bromomethyl)ethanol and zinc led to an explosion [US Patent 3 578 619, Crotonaldehyde may rapidly polymerize with ethyl acetoacetate (Soriano, D.S. et al. 1988. Journal of Chemical Education 65:637.).1971].	Highly Flammable; Polymerizable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		135	(USCG, 1999)		1.4		%	(USCG, 1999)		9.5		%	(USCG, 1999)		563		(USCG, 1999)		less than -112

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4556	POTASSIUM N-METHYLDITHIOCARBAMATE														(NTP, 1992)		1.074		70.5		(NTP, 1992)			334 to 342	0.06		(NTP, 1992)		285.43						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C17H23N3O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4557	POTASSIUM PEROXIDE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		7.7										(NIOSH, 2003)		800.8						(NIOSH, 2003)	Insoluble					Poison	Bi2Te3		0.0	0.0	0.0	0.0	0.0
4558	POTASSIUM PHOSPHIDE																																									Organic Peroxide	C12H24O3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4559	POTASSIUM P-T-AMYLPHENATE														(USCG, 1999)		1.05		68								(USCG, 1999)	Mixture													CHP	Organic Peroxide	C12H22O5	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4560	POTASSIUM SULFIDE, ANHYDROUS														(USCG, 1999)		1.028		68		(USCG, 1999)			363		760	(USCG, 1999)		130.1												EAA	Flammable Liquid	C6H10O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4561	PROFLAVINE DIHYDROCHLORIDE	ACRIDINE, 3,6-DIAMINO-, DIHYDROCHLORIDE|3,6-ACRIDINEDIAMINE DIHYDROCHLORIDE|3,6-DIAMINOACRIDINE DIHYDROCHLORIDE|2,8-DIAMINOACRIDINIUM CHLORIDE HYDROCHLORIDE|3,6-DIAMINOACRIDINIUM CHLORIDE HYDROCHLORIDE|PROFLAVINE DIHYDROCHLORIDE	531-73-7	PHYSICAL DESCRIPTION: Orange-red to brown-red crystalline powder. pH (0.1% aqueous solution) 2.5-3.0.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2067.0	218.0	719.0	370.0	218.0	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4562	PROFLAVINE HYDROCHLORIDE	ACRIDINE, 3,6-DIAMINO-, MONOHYDROCHLORIDE|3,6-ACRIDINEDIAMINE MONOHYDROCHLORIDE|3,6-DIAMINOACRIDINE HYDROCHLORIDE|3,6-DIAMINOACRIDINE MONOHYDROCHLORIDE|3,6-DIAMINOACRIDINIUM CHLORIDE|PROFLAVINE HYDROCHLORIDE|PROFLAVINE MONOHYDROCHLORIDE	952-23-8	PHYSICAL DESCRIPTION: Brown powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2067.0	218.0	719.0	370.0	218.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides and sulfur oxides. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4563	PROMECARB	CARBAMIC ACID, METHYL-, M-CYM-5-YL ESTER|CARBAMIC ACID, N-METHYL-, 3-METHYL-5-ISOPROPYLPHENYL ESTER|CARBAMIC ACID,(3-METHYL-5-(1-METHYLETHYL)PHENYL)-, METHYL ESTER|CARBAMULT|CARBANILIC ACID, 3-ISOPROPYL-5-METHYL-, METHYL ESTER|ENT 27300|ENT 27300-A|EP 316|3-ISOPROPYL-5-METHYLPHENYL METHYLCARBAMATE|3-ISOPROPYL-5-METHYLPHENYL METHYLCARBAMATE|3-ISOPROPYL-5-METHYLPHENYL N-METHYLCARBAMATE|5-ISOPROPYL-M-TOLYL METHYL-CARBAMATE|ITC|M-CYM-5-YL METHYLCARBAMATE|3-METHYL-5-(1-METHYLETHYL)PHENYL METHYLCARBAMATE|3-	2631-37-0	Almost odorless, colorless crystalline solid. Used as a non-systemic contact insecticide. Not for sale or use in the USA. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	720.0	370.0	218.0	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4564	PROPANETHIOLS	PROPANETHIOL|PROPANETHIOLS	79869-58-2		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	720.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4565	PROPIONITRITE	PROPIONITRITE|PROPYLNITRITE	543-67-9	A colorless liquid with a sweet, ethereal odor. Highly toxic by inhalation and ingestion. A dangerous fire risk. Used as a solvent and as a dielectric fluid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	720.0	370.0	218.0	(BLOB)	This compound is probably combustible. (NTP, 1992)	
4566	PROPYLENE CHLOROHYDRIN	CHLOROPROPANOL|PROPYLENE CHLOROHYDRIN	28064-81-5	A colorless liquid with a mild odor. Toxic upon prolonged exposure to low concentrations of the vapor or to short exposure to high concentrations of the vapor by inhalation. Used in the manufacture of various organic chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	721.0	370.0	218.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. Behavior in Fire: Heat exposure may cause pressure build-up in closed containers. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4561	PROFLAVINE DIHYDROCHLORIDE	(BLOB)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Flammable. Insoluble in water.	ETHYL BROMOACETATE is a halogenated ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	1	3																								
4562	PROFLAVINE HYDROCHLORIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	BITOSCANATE reacts readily with amines [Noller]. These reactions may generate significant amounts of heat. Emits very toxic fumes of nitrogen oxides and sulfur oxides when heated to decomposition [EPA, 1998].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(EPA, 1998)		270	
4563	PROMECARB	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Slightly soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick 1979. p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously [MCA Case History 616. 1960].	Ethers, such as ETHYL BUTYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 127 [Flammable Liquids (Polar / Water-Miscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	1	4		(NFPA, 2010)		40																			
4564	PROPANETHIOLS	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-METHYL-3,3-DIPHENYLUREA is an amide. Amides/imides react with azo and diazo compounds to generate toxic gases. Flammable gases are formed by the reaction of organic amides/imides with strong reducing agents. Amides are very weak bases (weaker than water). Imides are less basic yet and in fact react with strong bases to form salts. That is, they can react as acids. Mixing amides with dehydrating agents such as P2O5 or SOCl2 generates the corresponding nitrile. The combustion of these compounds generates mixed oxides of nitrogen (NOx).					0																				(NTP, 1992)		339.6 to 342.5
4565	PROPIONITRITE			Slightly soluble in water.	QUINALDINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides. Keep tightly closed and protected from light (NTP, 1992).						0		(NTP, 1992)		175																(NTP, 1992)		28	
4566	PROPYLENE CHLOROHYDRIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	U. S. Bu. Mines approved vapor unit; chemical safety goggles; face shield; rubber gloves; coveralls and/or rubber apron; rubber shoes and boots. (USCG, 1999)	Hygroscopic. Soluble in water.	QUINOLINE is hygroscopic. It absorbs as much as 22% water. It is sensitive to light and moisture. It darkens on storage. This chemical is a weak base. A potentially explosive reaction may occur with hydrogen peroxide. It reacts violently with dinitrogen tetraoxide. It also reacts violently with perchromates. It is incompatible with (linseed oil + thionyl chloride) and maleic anhydride. It is also incompatible with strong oxidizers and strong acids. This chemical can be unpredictably violent. It dissolves sulfur, phosphorus and arsenic trioxide. It may attack some forms of plastics. It is a preparative hazard. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(NTP, 1992)		214								(USCG, 1999)		1.2		%	(USCG, 1999)		896		(NTP, 1992)		5	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4561	PROFLAVINE DIHYDROCHLORIDE																																								Poison|Flammable Liquid	C4H7BrO2		0.0	0.0	0.0	0.0	0.0
4562	PROFLAVINE HYDROCHLORIDE																										(EPA, 1998)		192.26													Poison|Corrosive	C8H4N2S2	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4563	PROMECARB																																								Flammable Liquid	C6H14O		0.0	0.0	0.0	0.0	0.0
4564	PROPANETHIOLS																				(NTP, 1992)	(decomposes)		397 to 401	760		(NTP, 1992)		226.28						(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C14H14N2O		0.0	0.0	0.0	0.0	0.0
4565	PROPIONITRITE														(NTP, 1992)		1.0585		68		(NTP, 1992)		477.7		760		(NTP, 1992)		143.19												C10H9N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4566	PROPYLENE CHLOROHYDRIN	(NTP, 1992)	; 5 mm Hg at 193.3Â° F	1		139.5		mm Hg	(NTP, 1992)		4.45				(USCG, 1999)		1.095		68		(NTP, 1992)		460		760		(NTP, 1992)		129.16						(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL	QNL	Poison	C9H7N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4567	PROPYLENE CYANOHYDRIN	BETA-HYDROXYISOBUTYRONITRILE|HYDRACRYLONITRILE, 2-METHYL-|3-HYDROXY-2-METHYLPROPANENITRILE|2-METHYLHYDRACRYLONITRILE|PROPYLENE CYANOHYDRIN	2567-01-3	Colorless liquid with a mild odor. Used in organic synthesis.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	721.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4568	PROTHOATE	AC 18682|ACETAMIDE, N-ISOPROPYL-2-MERCAPTO-, S ESTER WITH O,O-DIETHYL PHOSPHORODITHIOATE|AMERICAN CYANAMID 18,682|EI 18682|ENT 24,652|FAC|FAC (PESTICIDE)|FAC 20|FAK 40|FAK-40|FOSTION|ISOPROPYL DIETHYLDITHIOPHOSPHORYLACETAMIDE|L 343|N-MONOISOPROPYLAMIDE OF O,O-DIETHYLDITHIOPHOSPHORYLACETIC ACID|O,O-DIETHYL PHOSPHORODITHIOATE S-ESTER WITH N-ISOPROPYL-2-MERCAPTOACETAMIDE|O,O-DIETHYL S-(N-ISOPROPYLCARBAMOYL-METHYL) DITHIOPHOSPHATE|O,O-DIETHYL S-(N-ISOPROPYLCARBAMOYLMETHYL) PHOSPHORODITHIOATE|O,O-DIETHYL S-	2275-18-5	Colorless crystalline solid, with a camphor-like odor. Technical product is an amber to yellow semi-solid. Used as an insecticide and an acaricide. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	721.0	370.0	218.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as sulfur oxides, hydrogen chloride, and carbon monoxide, may be formed when involved in fire. Behavior in Fire: Vapors can flow along surfaces to distant ignition source and flash back. (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4569	PYROLAN	CARBAMIC ACID, DIMETHYL-, 3-METHYL-1-PHENYLPYRAZOL-5-YL ESTER|DIMETHYL 5-(3-METHYL-1-PHENYLPYRAZOL) CARBAMATE|DIMETHYLCARBAMIC ACID 3-METHYL-1-PHENYL-1H-PYRAZOL-5-YL ESTER|DIMETHYLCARBAMIC ACID, 3-METHYL-1-PHENYLPYRAZOL-5-YL ESTER|ENT 17,588|G 22008|G-22008|GEIGY G-22008|3-METHYL-1-PHENYL-5-PYRAZOLYL DIMETHYL CARBAMATE|3-METHYL-1-PHENYLPYRAZOL-5-YL DIMETHYL CARBAMATE|OMS 20|1-PHENYL-3-METHYL-5-PYRAZOLYL N,N-DIMETHYL CARBAMATE|PYRALAN|PYRAZOL-5-OL, 3-METHYL-1-PHENYL-, DIMETHYL CARBAMATE (ESTER)|PYROLAN	87-47-8	PHYSICAL DESCRIPTION: Crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	722.0	370.0	218.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)
4570	PYROSULFURYL CHLORIDE	CHLOROSULFONIC ANHYDRIDE|DISULFUR PENTOXYDICHLORIDE|PYROSULFURYL CHLORIDE|PYROSULFURYL CHLORIDE (S2O5CL2)|PYROSULPHURYL CHLORIDE|SULFUR PENTOXYDICHLORIDE	7791-27-7	A colorless fuming liquid with a pungent odor. Irritates the eyes and mucous membranes. Corrosive to metals and tissue.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2068.0	218.0	722.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4571	PYRVINIUM PAMOATE	ALNOXIN|ALTOLAT|BIS[6-(DIMETHYLAMINO)-2-[2-(2,5-DIMETHYL-1-PHENYLPYRROL-3-YL)VINYL]-1-METHYLQUINOLINIUM] 4,4'-METHYLENEBIS[3-HYDROXY-2-NAPHTHOATE]|MOLEVAC|2-NAPHTHALENECARBOXYLIC ACID, 4,4'-METHYLENEBIS[3-HYDROXY-, ION(2-), BIS[6-(DIMETHYLAMINO)-2-[2-(2,5-DIMETHYL-1-PHENYL-1H-PYRROL-3-YL)ETHENYL]-1-METHYLQUINOLINIUM]|2-NAPHTHOIC ACID, 4,4'-METHYLENEBIS[3-HYDROXY-, ION(2-), BIS[6-(DIMETHYLAMINO)-2-[2-(2,5-DIMETHYL-1-PHENYLPYRROL-3-YL)VINYL]-1-METHYLQUINOLINIUM]|NEO-OXYPAAT|PAMOVIN|POVAN|POVANYL|PYRCON|PYRVINIUM 4,4'-METHYLENEBIS(3-	3546-41-6	PHYSICAL DESCRIPTION: Odorless bright orange or orange-red to brownish red or almost black fluffy powder. Melting point 210-215Â°C. Insoluble in water. Tasteless.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2069.0	218.0	722.0	370.0	218.0	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: These substances will accelerate burning when involved in a fire. May explode from heat or contamination. Some may burn rapidly. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4572	QUINACRINE MUSTARD	ACRIDINE, 9-[[4-[BIS(2-CHLOROETHYL)AMINO]-1-METHYLBUTYL]AMINO]-6-CHLORO-2-METHOXY-|9-(4-BIS(2-CHLOROETHYL)AMINO)-1-METHYLBUTYLAMINO)-6-CHLORO-2-METHOXYACRIDINE|9-(4-(BIS-BETA-CHLOROETHYLAMINO)-1-METHYLBUTYLAMINO-6-CHLORO-2-METHOXYACRIDINE|N1,N1-BIS(2-CHLOROETHYL-N4-(6-CHLORO-2-METHOXY-9-ACRIDINYL)-1,4-PENTANEDIAMINE|NSC-3424|QUINACRINE MUSTARD	64046-79-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2069.0	218.0	722.0	370.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4567	PROPYLENE CYANOHYDRIN	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Slightly soluble in water.	QUINOLINE SULFATE behaves as an acid. Materials in this group are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.							0																						(NTP, 1992)		325 to 327
4568	PROTHOATE	(BLOB)	Full impervious protective clothing, including boots and gloves. Where splashing is possible wear full face shield or chemical safety goggles. Use approved respirator to protect against vapors. (USCG, 1999)	Flammable. Insoluble in water. On contact with moisture it produces highly corrosive and toxic fumes of hydrogen chloride gas.	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as sulfur oxides, hydrogen chloride, and carbon monoxide, may be formed when involved in fire.	Water-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2826 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		87																						
4569	PYROLAN	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable.	ETHYL FLUORIDE is incompatible with strong oxidizing and reducing agents. Also, may be incompatible with many amines, nitrides, azo/diazo compounds, with alkali metals, and with epoxides.	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	0	4																								
4570	PYROSULFURYL CHLORIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	RHEIN forms a red potassium salt and a pink sodium salt.						0																				(NTP, 1992)		610	
4571	PYRVINIUM PAMOATE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Slightly soluble in water.	INORGANIC BROMATES are oxidizing agents. May cause ignition in contact with organic materials. A combination of finely divided aluminum with finely divided metal bromates can explode by heat, percussion, or friction [Mellor 2:310 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4572	QUINACRINE MUSTARD	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic hydrocarbons, such as 1-METHYL PYRENE, and strong oxidizing agents. They can react exothermically with bases and with diazo compounds. Substitution at the benzene nucleus occurs by halogenation (acid catalyst), nitration, sulfonation, and the Friedel-Crafts reaction. This chemical may be sensitive to prolonged exposure to light.						0																						(NTP, 1992)		158 to 160

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4567	PROPYLENE CYANOHYDRIN																										(NTP, 1992)		227.24						(NTP, 1992)	at 68Â° F		1 to 5	mg/mL			C9H7N. H2SO4		0.0	0.0	0.0	0.0	0.0
4568	PROTHOATE	(NTP, 1992)		111		77		mm Hg							(USCG, 1999)		1.195				(NTP, 1992)		270		760		(NTP, 1992)		124.59						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	ECT	Corrosive|Poison Inhalation Hazard|Flammable Liquid	C3H5ClO2S	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4569	PYROLAN																																								Flammable Gas	C2H5F		0.0	0.0	0.0	0.0	0.0
4570	PYROSULFURYL CHLORIDE																				(NTP, 1992)	Sublimes					(NTP, 1992)		284.23						(NTP, 1992)	at 63Â° F		less than 1	mg/mL			C15H8O6		0.0	0.0	0.0	0.0	0.0
4571	PYRVINIUM PAMOATE																																								Oxidizer	BrO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4572	QUINACRINE MUSTARD																				(NTP, 1992)		770		760		(NTP, 1992)		216.28						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C17H12		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4573	RESCINNAMINE	(BLOB)	24815-24-5	PHYSICAL DESCRIPTION: Odorless white to cream colored crystalline powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2070.0	218.0	722.0	370.0	218.0	INHALATION: remove victim to fresh air. EYES and SKIN: flush well with water. INGESTION: induce vomiting: get medical attention. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. (ERG, 2012)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4574	RESMETHRIN	5-(PHENYLMETHYL)-3-FURANYL)METHYL|RESMETHRIN	10453-86-8	Colorless crystals or waxy solid. Insoluble in water. Used as an insecticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2071.0	218.0	722.0	371.0	218.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: Irritating fumes of sulfur dioxide are generated. Behavior in Fire: Vapor is heavier than air and may travel long distance to a source of ignition and flash back; containers may explode in a fire; offensive fumes are released when heated. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4575	RESORCINE BLUE	C.I. 51400|LACMOID|RESORCIN BLUE|RESORCINE BLUE|RESORCINOL BLUE	87495-30-5	PHYSICAL DESCRIPTION: Dark brown powder. Lustrous dark-violet crystalline scales. Soluble in alcohol, ether, acetone, phenol and glacial acetic acid. Used as an indicator in analytical chemistry.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2071.0	218.0	722.0	371.0	218.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4576	RIDDELLINE	13,19-DIDEHYDRO-12,18-DIHYDROXYSENECIONAN-11,16-DIONE|1,6]DIOXACYCLODODECINO[2,3,4-GH]PYRROLIZINE-2,7-DIONE, 3-ETHYLIDENE-3,4,5,6,9,11,13,14,14A,14B-DECAHYDRO-6-HYDROXY-6-(HYDROXYMETHYL)-5-METHYLENE-, [6S-(3Z,6R*,14AS*,14BS*)]-|RIDDELINE|RIDDELLIIN|RIDDELLIINE|RIDDELLINE|SENECIONAN-11,16-DIONE, 13,19-DIDEHYDRO-12,18-DIHYDROXY-|STEREOISOMER OF 3-ETHYLIDENE-3,4,5,6,9,11,13,14,14ALPHA,14BETA-DECAHYDRO-6-HYDROXY-6-(HYDROXYMETHYL)-5-METHYLENE(1,6)DIOXACYCLODODECINO[2,3,4-GH]-PYRROLIZIDINE-2,7-DIONE/TRANS-15-ETHYLIDENE-12BETA-HYDROXY-12ALPHA-	23246-96-0	PHYSICAL DESCRIPTION: Colorless to off-white crystalline solid. Starts turning brown at approximately 329Â°F; is blackish-brown at melting point. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2071.0	218.0	722.0	371.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4577	RONNEL	BLITEX|DERMAFOS|DOW ET 14|DOW ET 57|ECTORAL|ENT 23,284|ET 14|ET 57|ETROLENE|FENCHLORFOS|FENCHLOROPHOS|FENCHLORPHOS|FENCLOFOS|FENCLORVUR|GESEKTIN K|KORLAN|KORLANE|MOORMAN'S MEDICATED RID-EZY|NANCHOR|NANKOR|NSC 8926|O,O-DIMETHYL O-(2,4,5-TRICHLOROPHENYL) PHOSPHOROTHIOATE|O,O-DIMETHYL O-(2,4,5-TRICHLOROPHENYL) PHOSPHOROTHIONATE|O,O-DIMETHYL O-(2,4,5-TRICHLOROPHENYL) THIOPHOSPHATE|OMS 123|PHENCHLORFOS|REMELT|RONNEL|ROVAN|TRICHLORMETAPHOS|TRICHLOROMETAPHOS|TROLEN|TROLENE|VIOZENE	299-84-3	White to light-tan crystalline solid. Mp: 41Â° C, Density :1.49 g cm-3 at 25Â°C. Biocidal (toxic to all animal life in differing degrees) by its action as a cholinesterase inhibitor. Used as an insecticide. Degrades readily in the environment by hydrolysis and oxidation.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2071.0	218.0	723.0	371.0	218.0	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Clothing frozen to the skin should be thawed before being removed. In case of contact with liquefied gas, thaw frosted parts with lukewarm water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4573	RESCINNAMINE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield; rubber gloves. (USCG, 1999)	Flammable. Soluble in water.	ETHYL LACTATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.		Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	2	0	2		(USCG, 1999)		115		(USCG, 1999)		1.5		%	(USCG, 1999)		11.4		%	(USCG, 1999)		752					
4574	RESMETHRIN	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. A very dangerous fire hazard. Very slightly soluble in water.	ETHYL MERCAPTAN reacts violently with calcium hypochlorite, May react vigorously with other oxidizing reagents. On contact with strong acids or when heated to decomposition it emits highly toxic fumes of sulfur oxides [Sax, 9th ed., 1996, p. 1575].	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	4	1	5		(USCG, 1999)		less than 0		(USCG, 1999)		2.8		%	(USCG, 1999)		18		%	(USCG, 1999)		572			(USCG, 1999)		-234	
4575	RESORCINE BLUE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from light and store it under ambient temperatures. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	ETHYL MERCURY CHLORIDE is sensitive to prolonged exposure to light. Incompatible with strong oxidizers such as chlorine (NTP, 1992).		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		378	
4576	RIDDELLINE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Water soluble.	ETHYL METHANESULFONATE alkylates nucleophiles such as hydroxy, amino and sulfhydryl groups in model and biological materials. Is hydrolyzed by excess aqueous alkali to non-corrosive and non-toxic products. Is hydrolyzed by water to a highly corrosive product (NTP, 1992).						0		(NTP, 1992)		212																					
4577	RONNEL	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. Always wear thermal protective clothing when handling refrigerated/cryogenic liquids. (ERG, 2012)	Highly flammable. Soluble in water. Oxidizes readily in air to form unstable peroxides that may explode spontaneously [Bretherick, 1979 p.151-154, 164]. A mixture of liquid air and diethyl ether exploded spontaneously, [MCA Case History 616(1960)].	Ethers, such as ETHYL METHYL ETHER, can act as bases. They form salts with strong acids and addition complexes with Lewis acids. The complex between diethyl ether and boron trifluoride is an example. Ethers may react violently with strong oxidizing agents. In other reactions, which typically involve the breaking of the carbon-oxygen bond, ethers are relatively inert.	Highly Flammable; Peroxidizable Compound	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(NFPA, 2010)		-35																					

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_value	molwgt_unite	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solbility_source	solbility_note	solbility_value	solbility_range	solbility_unit	chris_codes	dot_labels	formulas	incompatible_abl	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4573	RESCINNAMINE														(USCG, 1999)		1.03		68		(USCG, 1999)		309		760		(USCG, 1999)	118.1												ELT	Flammable Liquid	C5H10O3	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0
4574	RESMETHRIN	(NIOSH, 2003)		442				mm Hg							(USCG, 1999)		0.826		68		(USCG, 1999)		913		760		(USCG, 1999)				(NIOSH, 2003)		500	ppm	(NIOSH, 2003)		0.7		%	EMC	Flammable Liquid	C24H26S		0.0	0.0	0.0	0.0
4575	RESORCINE BLUE														(NTP, 1992)		3.482				(NTP, 1992)	Sublimes					(NTP, 1992)						2	mg/m3	(NIOSH, 2003)	(as Hg)	at 68Â° F	less than 1	mg/mL		Poison	C2H5ClHg		0.0	0.0	0.0	0.0
4576	RIDDELLINE														(NTP, 1992)		1.1452		72		(NTP, 1992)			415 to 416	761		(NTP, 1992)	124.17									at 81Â° F	50 to 100	mg/mL			C5H8O3S		0.0	0.0	0.0	0.0
4577	RONNEL																																									Flammable Gas	C8H8O		0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4578	SARIN	GB|GB (CHEMICAL WARFARE AGENT)|MPF|ISOPROPOXY METHYLPHOSPHORYL FLUORIDE|ISOPROPYL METHANEFLUOROPHOSPHO NATE|ISOPROPYL METHYLFLUOROPHOSPHAT E|ISOPROPYL METHYLFLUOROPHOSPHON ATE|ISOPROPYL METHYLPHOSPHONOFLUOR IDATE|ISOPROPYL-METHYL-PHOSPHORYL FLUORIDE|1-METHYLETHYL METHYLPHOSPHONOFLUOR IDATE|METHYLFLUOROPHO SPHORIC ACID ISOPROPYL ESTER|METHYLPHOSPHONO FLUORIDIC ACID ISOPROPYL ESTER|MFI|O-ISOPROPYL METHYLFLUOROPHOSPHON ATE|O-ISOPROPYL METHYLPHOSPHONOFLUOR IDATE|PHOSPHINE OXIDE, FLUOROISOPROPOXYMETH YL|PHOSPHONOFLUORIDIC ACID, METHYL-, ISOPROPYL	107-44-8	A colorless, odorless liquid. Almost no odor in pure state. Used as a quick-acting military chemical nerve agent. Chemical warfare agent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2072.0	218.0	723.0	371.0	218.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4579	SELENATES (Selenium Tetraoxide)	SELENATE (SEO42-)|SELENATE AND SELENITE|SELENATE ION|SELENATE ION (SEO42-)|SELENATE ION(2-)|SELENATES|SELENITES	14124-68-6	Generally white crystalline solids. Toxic by dust ingestion, inhalation or skin contact.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2073.0	218.0	723.0	371.0	218.0	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Combustible material: may burn but does not ignite readily. Substance will react with water (some violently) releasing flammable, toxic or corrosive gases and runoff. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapors may travel to source of ignition and flash back. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4580	SELENIOUS ACID, DITHALLIUM(1+) SALT	SELENIOUS ACID, DITHALLIUM(1+) SALT|SELENOUS ACID	12039-52-0	Solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2074.0	218.0	724.0	371.0	218.0	(BLOB)	Behavior in Fire: May decompose to produce toxic gases and vapor such as hydrogen bromide and bromine. (USCG, 1999)	Excerpt from GUIDE 159 [Substances (Irritating)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4581	SELENIUM TRIOXIDE	SELENIC ANHYDRIDE|SELENIUM TRIOXIDE	13768-86-0	White Solid. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2075.0	218.0	724.0	371.0	218.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4582	SENECIPHYLLINE	ALPHA-LONGILOBINE|13,19-DIDEHYDRO-12-HYDROXYSENECIONIN-11,16-DIONE|[1,6]DIOXACYCLODO DECINO[2,3,4-GH]PYRROLIZINE-2,7-DIONE, 3-ETHYLIDENE-3,4,5,6,9,11,13,14,14A,14B-DECAHYDRO-6-HYDROXY-6-METHYL-5-METHYLENE-, [6R-(3Z,6R*,14AR*,14BR*)]-|JACODINE|NCI-C61165|NSC 30622|SENECIONAN-11,16-DIONE, 13,19-DIDEHYDRO-12 HYDROXY-|SENECIOPHYLLINE|SENECI PHYLLIN|SENECIPHYLLINE| TRANS-15-ETHYLIDINE-12 BETA-HYDROXY-12 ALPHA-METHYL-13-METHYLENESENEC-1-ENINE	480-81-9	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2075.0	218.0	724.0	371.0	218.0	(BLOB)	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: EXTREMELY FLAMMABLE. Will be easily ignited by heat, sparks or flames. Will form explosive mixtures with air. Vapors from liquefied gas are initially heavier than air and spread along ground. CAUTION: Hydrogen (UN1049), Deuterium (UN1957), Hydrogen, refrigerated liquid (UN1966) and Methane (UN1971) are lighter than air and will rise. Hydrogen and Deuterium fires are difficult to detect since they burn with an invisible flame. Use an alternate method of detection (thermal camera, broom handle, etc.) Vapors may travel to source of ignition and flash back. Cylinders exposed to fire may vent and release flammable gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	(BLOB)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4578	SARIN	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Absorbs carbon dioxide from the air. May generate large amounts of heat when diluted with water.	A strong base. Forms caustic solution in water [Merck 11th ed. 1989].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4579	SELENATES (Selenium Tetraoxide)	(BLOB)	Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water.	ETHYL OXALATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides		Excerpt from GUIDE 156 [Substances - Toxic and/or Corrosive (Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	1	3	(NFPA, 2010)		168																				
4580	SELENIOUS ACID, DITHALLIUM(1+) SALT	Excerpt from GUIDE 159 [Substances (Irritating)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Slightly soluble in water.	Heating BROMOFORM to decomposition produces highly toxic fumes of carbon oxybromide (carbonyl bromide) and hydrogen bromide [Sax, 9th ed., 1996, p. 519]. Reaction with powdered potassium or sodium hydroxide, Li or Na/K alloys, is violently exothermic [Weizmann, C. et al., J. Am Chem. Soc., 1948, 70, p. 1189]. Explosive reaction with crown ethers in the presence of potassium hydroxide [Le Goaller, R. et al., Synth. Comm., 1982, 12, p. 1163].		Excerpt from GUIDE 159 [Substances (Irritating)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		48	
4581	SELENIUM TRIOXIDE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	BROMOXYNIL is a weak acid. [[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4582	SENECIPHYLLINE	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Do not direct water at spill or source of leak. Prevent spreading of vapors through sewers, ventilation systems and confined areas. Isolate area until gas has dispersed. CAUTION: When in contact with refrigerated/cryogenic liquids, many materials become brittle and are likely to break without warning. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin from becoming frozen from contact with the liquid or from contact with vessels containing the liquid. Eyes: Wear appropriate eye protection to prevent eye contact with the liquid that could result in burns or tissue damage from frostbite. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. Provide: Quick drench facilities and/or eyewash fountains should be provided within the immediate work area for emergency use where there is any possibility of exposure to liquids that are extremely cold or rapidly evaporating. (NIOSH, 2003)	Highly flammable.	BUTANE can explode when exposed to flame or when mixed with (nickel carbonyl + oxygen). It can also react with oxidizers. Strong acids and alkalis should be avoided. (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 115 [Gases - Flammable (Including Refrigerated Liquids)]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 800 meters (1/2 mile). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	0	4		(NTP, 1992)	-76		(NTP, 1992)		1.9		%	(NTP, 1992)		8.5		%	(USCG, 1999)		550		(NTP, 1992)		-217.1	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4578	SARIN																																								Corrosive	RbOH (aqueous)	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4579	SELENATES (Selenium Tetraoxide)																																								Poison	C6H10O4		0.0	0.0	0.0	0.0	0.0
4580	SELENIOUS ACID, DITHALLIUM(1+) SALT	(NTP, 1992)	; 5.6 mm Hg at 77Â° F	5		68		mm Hg	(NTP, 1992)		8.7				(USCG, 1999)		2.8912		68		(NTP, 1992)		301.1		760		(NTP, 1992)		252.75		(NIOSH, 2003)		850	ppm	(NTP, 1992)	at 72.5Â° F		less than 0.1	mg/mL	BRO	Poison	CHBr3		0.0	0.0	0.0	0.0	0.0
4581	SELENIUM TRIOXIDE																																								Poison	C7H3Br2NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4582	SENECIPHYLLINE	(NTP, 1992)	; 1823 mm Hg at 77Â° F	760		31.1		mm Hg	(NTP, 1992)		2.046				(USCG, 1999)		0.6		32		(NTP, 1992)		31.1		760		(NTP, 1992)		58.12						(NTP, 1992)	at 68Â° F	61		mg/L	BUT	Flammable Gas	C4H10		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4583	SILANE, (4-AMINOBUTYL)DIETHOXYMETHYL-	4-AMINOBUTYL(METHYL)DIETHOXYSILANE|(4-AMINOBUTYL)DIETHOXYMETHYLSILANE|BUTYLAMINE, 4-(DIETHOXYMETHYLSILYL)-|(DELTA-AMINOBUTYL)METHYLDIETHOXYSILANE|DELTA-AMINOBUTYLMETHYLDIETHOXYSILANE|4-(DIETHOXYMETHYLSILYL)BUTYLAMINE|SILANE, (4-AMINOBUTYL)DIETHOXYMETHYL-|SILANE,(4-AMINOBUTYL)-DIETHOXYMETHYL|SILANE, (4-AMINOBUTYL)DIETHOXYMETHYL-|Y 1902	3037-72-7	Liquid. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2076.0	218.0	724.0	371.0	218.0	INHALATION: move to fresh air. INGESTION: induce vomiting and get medical attention promptly. EYES: promptly flush with water for 15 min. and get medical attention. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Irritating vapors of unburned material and phenol may form in fire. Behavior in Fire: Sublimes and forms vapor or dust that may explode (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Water, foam, dry chemical, carbon dioxide (USCG, 1999)
4584	SILVER ARSENITE	ARSENIOUS ACID (H3ASO3), TRISILVER(1+) SALT|SILVER ARSENITE|SILVER ARSENITE (AG3ASO3)	7784-08-9	A fine yellow powder. Sensitive to light. Irritating to skin, eyes, and mucous membranes. Highly toxic by ingestion and inhalation. Used to make dyes and insecticides.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2076.0	218.0	724.0	371.0	218.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4585	SODIUM ARSENATE	ARSENIC ACID SODIUM SALT|ARSENIC ACID, SODIUM SALT|DISODIUM ARSENATE HEPTAHYDRATE|FATSCOANT POISON|SODIUM ARSENATE|SODIUM ARSENATE, DIBASIC|SODIUM METAARSENATE|SODIUM ORTHOARSENATE|SWEENEY'S ANT-GO	7631-89-2	Sodium arsenate is a colorless to white crystalline solid. It is soluble in water. It is toxic by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2077.0	218.0	725.0	371.0	218.0	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Wash skin with soap and water. In case of burns, immediately cool affected skin for as long as possible with cold water. Do not remove clothing if adhering to skin. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4586	SODIUM ARSENATE HEPTAHYDRATE	ARSENIC ACID, DISODIUM SALT, HEPTAHYDRATE|DIBASIC SODIUM ARSENATE|DIBASIC SODIUM ARSENATE (NA2HASO4.7H2O)|DISODIUM ACID ARSENATE HEPTAHYDRATE (NA2HASO4.7H2O)|DISODIUM ARSENATE HEPTAHYDRATE|DISODIUM ARSENATE, HEPTAHYDRATE|DISODIUM HYDROGEN ARSENATE (NA2HASO4) HEPTAHYDRATE|DISODIUM MONOHYDROGEN ARSENATE HEPTAHYDRATE|HYDROGEN DISODIUM ARSENATE (HNA2ASO4) HEPTAHYDRATE|SODIUM ACID ARSENATE, HEPTAHYDRATE|SODIUM ARSENATE (NA2HASO4) HEPTAHYDRATE|SODIUM ARSENATE HEPTAHYDRATE|SODIUM	10048-95-0	PHYSICAL DESCRIPTION: Odorless white crystals. Becomes anhydrous at 212Â°F. Aqueous solution is alkaline to litmus. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2078.0	218.0	725.0	371.0	218.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound should be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4587	SODIUM CUPROCYANIDE, SOLID	SODIUM CUPROCYANIDE, SOLID|SODIUM CUPROCYANIDE, [SOLID]|SODIUM CYANOCUPRATE(I) (NA2CU(CN)3)|SODIUM TRICYANOCUPRATE(I)	14264-31-4	A white powder. Decomposes at 212Â°F. Toxic by inhalation, ingestion and skin absorption through open wounds. Reacts with acids to evolve hydrogen cyanide, which is a highly toxic and flammable. Used for preparing and maintaining copper plating baths.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2079.0	218.0	725.0	371.0	218.0	Seek medical attention after all exposures to this compound. INHALATION: remove to fresh air; apply artificial respiration if required. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: do NOT induce vomiting; give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Hydrogen chloride, chlorine, or phosgene may be formed. Behavior in Fire: Difficult to extinguish. Re-ignition may occur (USCG, 1999)	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: Note: Most foams will react with the material and release corrosive/toxic gases. CAUTION: For Acetyl chloride (UN1717), use CO2 or dry chemical only. SMALL FIRE: CO2, dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. FOR CHLOROSILANES, DO NOT USE WATER; use AFFF alcohol-resistant medium expansion foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4583	SILANE, (4-AMINOBUTYL)DIETHOXYMETHYL-		Gloves; goggles; respirator for dust; clean body-covering clothing (USCG, 1999)	Sublimes and forms vapor or dust that may explode (USCG, 1999).	(BLOB)			(NFPA, 2010)		1	1	0	1																					(USCG, 1999)		315	
4584	SILVER ARSENITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Sensitive to air and light. Insoluble in water. This compound will hydrolyze under high and low pH conditions. (NTP, 1992).	BUTYL ANTHRANILATE is an aminophenyl ester derivative. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																								(NTP, 1992)		less than 32
4585	SODIUM ARSENATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Insoluble in water.	ETHYL-2-METHYL BUTYRATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)			3	0	0	0																								
4586	SODIUM ARSENATE HEPTAHYDRATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, you should dampen the solid spill material with alcohol, then transfer the dampened material to a suitable container. Use absorbent paper dampened with alcohol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with alcohol followed by washing with a strong soap and water solution. Do not reenter the contaminate area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures and keep it away from all oxidizing materials. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	(BLOB)			(NFPA, 2010)		2	0	0	0		(NTP, 1992)		260															(NTP, 1992)		156 to 160
4587	SODIUM CUPROCYANIDE, SOLID	(BLOB)	Acid-vapor-type respiratory protection; rubber gloves, chemical worker's goggles, and other protective equipment as necessary to protect skin and eyes. (USCG, 1999)	Flammable. Emits fumes of hydrogen chloride on contact with air [Handling Chemicals Safely 1980 p. 924]. Reacts exothermically, possibly violently, with water and steam, to generate flammable and corrosive gases. Butyltrichlorosilane reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 12 minutes. After mixing particular chemicals into water, there may be a delay of 1-10 minutes before gas generation may be observed. For this chemical, a 120 second induction time was observed. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	BUTYLTRICHLOROSILANE reacts with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride and flammable butane. Can serve as a chlorination agent. Reacts vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases. Reacts with alcohols, acetone and light metals.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 155 [Substances - Toxic and/or Corrosive (Flammable / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 25 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1747 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	0	0		(USCG, 1999)		126																				

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4583	SILANE, (4-AMINOBUTYL)DIETHOXYMETHYL-														(USCG, 1999)		1.44		68								(USCG, 1999)		138.13														C7H6O3		0.0	0.0	0.0	0.0	0.0
4584	SILVER ARSENITE																				(NTP, 1992)		360		760		(NTP, 1992)		193.25						(NTP, 1992)	Insoluble						C11H15NO2		0.0	0.0	0.0	0.0	0.0
4585	SODIUM ARSENATE																																								Flammable Liquid	C7H14O2		0.0	0.0	0.0	0.0	0.0
4586	SODIUM ARSENATE HEPTAHYDRATE	(NIOSH, 2003)		0.01				mm Hg							(NTP, 1992)		1.048		68		(NTP, 1992)		509		760		(NTP, 1992)		220.36						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C15H24O		0.0	0.0	0.0	0.0	0.0
4587	SODIUM CUPROCYANIDE, SOLID														(USCG, 1999)		1.16		68		(USCG, 1999)		288		760		(USCG, 1999)		191.5										BCS	Corrosive|Flammable Liquid	C4H9Cl3Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4588	SODIUM CUPROCYANIDE, SOLUTION	SODIUM CUPROCYANIDE SOLUTION|SODIUM CUPROCYANIDE, SOLUTION|SODIUM CYANOCUPRATE(I) (NA2CU(CN)3)|SODIUM TRICYANOCUPRATE(I)	14264-31-4	A colorless to light yellow liquid. Denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2080.0	219.0	725.0	371.0	219.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, flush the contaminated skin with water promptly. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water promptly. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Special Hazards of Combustion Products: When heated emits acrid fumes. Behavior in Fire: When exposed to flames can react vigorously with oxidizing material. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Water fog in conjuction with alcohol foam, dry chemical or carbon dioxide. (USCG, 1999)
4589	SODIUM CYANURATE	ACOVENOSIDE B|CYANURIC ACID SODIUM SALT (1:1)|CYANURIC ACID, SODIUM DERIV.|MONOSODIUM CYANURATE|MONOSODIUM ISOCYANURATE|NCI-C56542|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, MONOSODIUM SALT|SODIUM CYANURATE|SODIUM ISOCYANURATE|SODIUM, [(4,6-DIHYDROXY-S-TRIAZIN 2-YL)OXY]-|SODIUN ISOCYANURATE	2624-17-1	PHYSICAL DESCRIPTION: Colorless powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2081.0	219.0	725.0	371.0	219.0	(BLOB)	Behavior in Fire: Vapors are heavier than air and may travel considerable distance to a source of ignition and flash back. Fires are difficult to control due to ease of reignition. (USCG, 1999)	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. SMALL FIRE: Dry chemical, CO2, water spray or alcohol-resistant foam. Do not use dry chemical extinguishers to control fires involving nitromethane or nitroethane. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4590	SODIUM DICAMBA	3,6-DICHLORO-2-METHOXYBENZOIC ACID, SODIUM SALT|SODIUM DICAMBA	1982-69-0	Solid crystals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2081.0	220.0	725.0	371.0	219.0	(BLOB)	Special Hazards of Combustion Products: Toxic gases are generated when heated. Behavior in Fire: Decomposes, generating toxic gases (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water or foam may cause frothing. Fire Extinguishing Agents: Carbon dioxide or dry chemical for small fires; alcohol- type foam for large fires. (USCG, 1999)
4591	SODIUM DINITRO-O-CRESOLATE, WETTED WITH NOT LESS THAN 15% WATER	SODIUM DINITRO-O-CRESOLATE, WETTED WITH NOT LESS THAN 15% WATER|SODIUM DINITRO-O-CRESOLATE, [WET WITH >= 15% WATER]|SODIUM DINITRO-O-CRESYLATE|SODIUM DINITRO-ORTHO-CRESOLATE, WETTED|SODIUM, [(DINITRO-O-TOLYL)OXY]-	25641-53-6	Sodium dinitro-o-cresolate, division 1.3C, is a solid or liquid which has a primary hazard of fire and either a blast hazard or a minor projection hazard or both, but not a mass explosion hazard. Under prolonged exposure to fire or heat they may explode.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2081.0	220.0	725.0	371.0	219.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4592	SODIUM METHOHEXITAL	5-ALLYL-1-METHYL-5-(1-METHYL-2-PENTENYL)BARBITURIC ACID, SODIUM SALT|BARBITURIC ACID, 5-ALLYL-1-METHYL-5-(1-METHYL-2-PENTYNYL)-, SODIUM DERIV.|BARBITURIC ACID, 5-ALLYL-1-METHYL-5-(1-METHYL-2-PENTYNYL)-, SODIUM SALT|BREVIMYTAL|BREVITAL|BREVITAL SODIUM|BRIETAL SODIUM|MEN ALLYNYMAL SODIUM|METHOHEXITAL|METHOHEXITAL SODIUM|METHOHEXITONE SODIUM|SODIUM A-DL-1-METHYL-5-ALLYL-5-(1-METHYL-2-PENTYNYL)BARBITURATE|SODIUM DL-5-ALLYL-1-METHYL-5-(1-METHYL-2-PENTENYL)BARBITURATE|SODIUM METHOHEXITAL|SODIUM METHOHEXITONE	309-36-4	PHYSICAL DESCRIPTION: White powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2081.0	220.0	725.0	371.0	219.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4593	SODIUM MONOXIDE	SODIUM MONOXIDE|SODIUM MONOXIDE, [SOLID]	12401-86-4	A white granular material. It reacts with water to give sodium hydroxide with the evolution of heat. It is corrosive to metals and tissue. It is used in chemical manufacture.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2082.0	220.0	725.0	371.0	219.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4588	SODIUM CUPROCYANIDE, SOLUTION	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Slightly water soluble.	SEC-AMYL ACETATE is an ester. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. This compound is incompatible with the following: Nitrates; strong oxidizers, alkalis & acids (NIOSH, 1997).	Highly Flammable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	3	0	3		(USCG, 1999)		89		(USCG, 1999)		1		%	(USCG, 1999)		7.5		%					(USCG, 1999)		-95.44	
4589	SODIUM CYANURATE	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Protective goggles, gloves, and organic canister gas mask. (USCG, 1999)	Highly flammable. Insoluble in water.	A colorless liquid, BUTYRALDEHYDE can react with oxidizing materials. In contact with strong acids or bases it will undergo an exothermic condensation reaction. The dry aldehyde may undergo some polymerization reaction. Reacts vigorously with chlorosulfonic acid, nitric acid, sulfuric acid (oleum). [Sax, 9th ed., 1996, p. 607].	Highly Flammable; Polymerizable	Excerpt from GUIDE 129 [Flammable Liquids (Polar / Water-Miscible / Noxious)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	0	2	2		(NTP, 1992)		20		(NTP, 1992)		2.5		%	(NTP, 1992)		12.5		%	(USCG, 1999)		446		(NTP, 1992)		-146	
4590	SODIUM DICAMBA	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture. (NTP, 1992)	Air-supplied mask; plastic gloves; rubber clothing; vapor- proof goggles. (USCG, 1999)	Water soluble. Reacts slowly with water and steam to emit highly toxic, flammable vapors.	ETHYLENE CYANOHYDRIN reacts violently with mineral acids, amines and inorganic bases. It also reacts violently with chlorosulfonic acid, sulfuric acid, oleum and sodium hydroxide. It is incompatible with bases, oxidizing agents, moisture and heat. It is corrosive to mild steel. (NTP, 1992)		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	1	2	3		(NTP, 1992)		greater than 265		(NTP, 1992)		2.3		%	(NTP, 1992)		12.1		%	(USCG, 1999)		922		(NTP, 1992)		-51	
4591	SODIUM DINITRO-O-CRESOLATE, WETTED WITH NOT LESS THAN 15% WATER	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slight hygroscopic. Water soluble.	An amine, organosulfide. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.						0																								
4592	SODIUM METHOHEXITAL	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient conditions. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. This organic acid has a moderate soluble in water. The resulting solutions contain concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid.	C.I. ACID ORANGE 10 is an azo compound. Toxic gases are formed by mixing compounds containing azo groups with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This compound becomes redder and more dull when mixed with copper. It is almost destroyed when mixed with iron. (NTP, 1992)	Explosive						0																						(NTP, 1992)	(decomposes)		572 to 707
4593	SODIUM MONOXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-OCTACOSANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																						(NTP, 1992)		181.9	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4588	SODIUM CUPROCYANIDE, SOLUTION	(NIOSH, 2003)		7				mm Hg							(USCG, 1999)			0.861 to 0.866	68		(USCG, 1999)		271.4		760		(USCG, 1999)		130.18		(NIOSH, 2003)		1000	ppm	(NIOSH, 2003)	Slight				AAS	Flammable Liquid	C7H14O2		0.0	0.0	0.0	0.0	0.0
4589	SODIUM CYANURATE	(NTP, 1992)		91.5		68		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		0.803		68		(NTP, 1992)		167		760		(NTP, 1992)		72.11						(NTP, 1992)	at 66Â° F		less than 1	mg/mL	BTR	Flammable Liquid	C4H8O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4590	SODIUM DICAMBA	(NTP, 1992)	; 20 mm Hg at 243Â° F	0.08		77		mm Hg	(NTP, 1992)		2.5				(USCG, 1999)		1.047		68		(NTP, 1992)	(slight decomposition)	442		760		(NTP, 1992)		71.08						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	ETC	Poison	C3H5NO	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4591	SODIUM DINITRO-O-CRESOLATE, WETTED WITH NOT LESS THAN 15% WATER																										(NTP, 1992)		250.29						(NTP, 1992)	Readily soluble						C10H16N2O2S.Na	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4592	SODIUM METHOHEXITAL																										(NTP, 1992)		452.38						(NTP, 1992)	at 74.3Â° F		50 to 100	mg/mL			C16H12N2O7S2.2Na		0.0	0.0	0.0	0.0	0.0
4593	SODIUM MONOXIDE																				(NTP, 1992)	(sublimes)		392 to 482	1		(NTP, 1992)		410.77						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C28H58O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4594	SODIUM PHOSPHIDE	SODIUM PHOSPHIDE|TRISODIUM PHOSPHIDE	12058-85-4	A red solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2082.0	220.0	725.0	371.0	219.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. Dust may form explosive mixtures with air. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4595	SODIUM SUPEROXIDE	SODIUM DIOXIDE|SODIUM OXIDE (NAO2)|SODIUM PEROXIDE|SODIUM SUPEROXIDE	12034-12-7	A solid. Yellowish at room temperatures but may become white when cooled. Prolonged exposure to fire or heat may cause vigorous decomposition and the rupturing of the containers.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2082.0	220.0	725.0	371.0	219.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. Dust may form explosive mixtures with air. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4596	SODIUM TETRATHIOCARBONATE (CORROSIVE LIQUIDS, N.O.S.)	SODIUM TETRATHIOCARBONATE|SODIUM TETRATHIOCARBONATE (CORROSIVE LIQUIDS, N.O.S.)	52345-74-1	A dark amber-colored liquid. Denser than water. Severely burns skin, eyes or mucous membranes on contact. May be combustible but difficult to ignite.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2083.0	220.0	725.0	371.0	219.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4597	SOMAN	GD|SOMAN	96-64-0	Colorless liquid, odorless to fruity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2084.0	220.0	725.0	371.0	219.0	Consult physician after all exposures to this compound. INHALATION: remove victim to fresh air; give oxygen if needed. INGESTION: induce vomiting; follow with gastric lavage and saline cathartics. EYES: flush immediately and thoroughly with water. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Sublimes and forms toxic vapors when heated in fire. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4598	STANNIC PHOSPHIDE	STANNIC PHOSPHIDE|STANNIC PHOSPHIDES|TIN MONOPHOSPHIDE|TIN PHOSPHIDE (PSN)	25324-56-5	A silver-white mass or lump solid.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2084.0	221.0	726.0	371.0	220.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4599	STEARATOCHROMIUM CHLORIDE COMPLEX	CHROME COMPLEX OF STEARIC ACID|CHROMIC CHLORIDE STEARATE|CHROMIUM, HYDROXYTETRACHLORO(STEARATO)DI-|CHROMIUM, TETRACHLORO-MU-HYDROXY(MU-STEARATO)DI-|CHROMIUM, TETRACHLORO-MU-HYDROXY[MU-(OCTADECANOATO-O:O')]DI-|HYDROXYTETRACHLORO(STEARATO)DICHROMIUM|KHROMOLAN|NCI-C60800|OCTADECANOATO CHROMIC CHLORIDE HYDROXIDE (1:2:4:1)|OCTADECANOIC ACID, CHROMIUM COMPLEX|QUILON CHROME COMPLEX|QUILONS|STEARATO CHROMIC CHLORIDE|STEARATO-CHROMIC CHLORIDE COMPLEX|STEARATOCHROMIUM CHLORIDE|STEARATOCHROMIUM CHLORIDE	15242-96-3	PHYSICAL DESCRIPTION: Viscous dark-green liquid. pH of 1% aqueous solution: 2.6-2.7. Alcoholic odor. Forms slight sludge after 3 months. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2084.0	221.0	726.0	371.0	220.0	Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. (NIOSH, 2003)	Excerpt from GUIDE 125 [Gases - Corrosive]: Some may burn but none ignite readily. Vapors from liquefied gas are initially heavier than air and spread along ground. Some of these materials may react violently with water. Cylinders exposed to fire may vent and release toxic and/or corrosive gas through pressure relief devices. Containers may explode when heated. Ruptured cylinders may rocket. (ERG, 2012)	Excerpt from GUIDE 125 [Gases - Corrosive]: SMALL FIRE: Dry chemical or CO2. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Do not get water inside containers. Damaged cylinders should be handled only by specialists. FIRE INVOLVING TANKS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4594	SODIUM PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly water soluble.	C.I. BASIC BROWN 1 is an azo compound. Toxic gases are formed by mixing compounds containing azo groups with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with oxidizing and reducing agents. (NTP, 1992)	Explosive						0																							(NTP, 1992)	Starts decomposing at approximately 428Â° F		
4595	SODIUM SUPEROXIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water soluble. Azo dyes can be explosive when suspended in air at specific concentrations. Slightly soluble in water.	C.I. DIRECT BLACK 80 is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides. This chemical is incompatible with oxidizing and reducing agents. (NTP, 1992)	Explosive						0																							(NTP, 1992)			greater than 572
4596	SODIUM TETRATHIOCARBONATE (CORROSIVE LIQUIDS, N.O.S.)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Very hygroscopic. Soluble in water.	(BLOB)	Known Catalytic Activity	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4597	SOMAN	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	This compound is highly toxic if inhaled or ingested. Dust mask; rubber gloves; protective clothing (USCG, 1999)	In presence of water will corrode most metals (USCG, 1999). Readily soluble in water forming selenious (selenous) acid.	Inorganic oxidizing agents, such as SELENIUM DIOXIDE, react with reducing agents to generate heat and products that may be flammable, combustible, or otherwise reactive. SELENIUM DIOXIDE reacts with water, particularly hot water, to give selenious (selenous) acid, a weak acid that is corrosive. Stable to light and heat. Rapidly absorbs dry hydrogen fluoride, hydrogen chloride, hydrogen bromide to form the corresponding selenium oxohalide. A good oxidizing agent. Reacts oxidatively with ammonia to form dinitrogen gas and selenium [Merck]. Oxidizes many organic substances.	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4598	STANNIC PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Azo dyes can be explosive when suspended in air at specific concentrations. Slightly water soluble.	C.I. DIRECT BROWN 95 is an azo compound. Toxic gases are formed by mixing azo compounds with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive						0																							(NTP, 1992)	Decomposes		
4599	STEARATOCHROMIUM CHLORIDE COMPLEX	Excerpt from GUIDE 125 [Gases - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch or walk through spilled material. Stop leak if you can do it without risk. If possible, turn leaking containers so that gas escapes rather than liquid. Prevent entry into waterways, sewers, basements or confined areas. Do not direct water at spill or source of leak. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Isolate area until gas has dispersed. (ERG, 2012)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Insoluble in water.	SELENIUM HEXAFLUORIDE is a colorless, poison gas, when heated to decomposition it emits very toxic fumes containing metallic selenium and selenium fluorides [Lewis, 3rd ed., 1993, p. 1131].		Excerpt from GUIDE 125 [Gases - Corrosive]: As an immediate precautionary measure, isolate spill or leak area for at least 100 meters (330 feet) in all directions. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2194 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, consider initial evacuation for 1600 meters (1 mile) in all directions. (ERG, 2012)						0																							(NIOSH, 2003)		-59	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4594	SODIUM PHOSPHIDE																										(NTP, 1992)		419.33						(NTP, 1992)	at 68Â° F		1 to 10	mg/mL			C18H18N8.2ClH		0.0	0.0	0.0	0.0	0.0
4595	SODIUM SUPEROXIDE																										(NTP, 1992)		911.81						(NTP, 1992)	at 64Â° F		1 to 10	mg/mL			C36H26N8O11S3.3Na		0.0	0.0	0.0	0.0	0.0
4596	SODIUM TETRATHIOCARBONATE (CORROSIVE LIQUIDS, N.O.S.)																																								Corrosive	H2O4Se	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4597	SOMAN														(USCG, 1999)		3.95		68		(USCG, 1999)	(sublimes)	599		760		(USCG, 1999)		111											SLD	Poison	O2Se	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4598	STANNIC PHOSPHIDE																				(NTP, 1992)	Decomposes					(NTP, 1992)		760.1						(NTP, 1992)	at 67.1Â° F		5 to 10	mg/mL			C31H18CuN6O9S.2Na		0.0	0.0	0.0	0.0	0.0
4599	STEARATOCHROMIUM CHLORIDE COMPLEX	(NIOSH, 2003)			greater than 1			atm													(NIOSH, 2003)		-30	760			(NIOSH, 2003)		193	(NIOSH, 2003)	2	ppm	(NIOSH, 2003)	Insoluble				Poison Gas|Corrosive	F6Se	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4600	STIBINE	ANTIMONY HYDRIDE|ANTIMONY HYDRIDE (SBH3)|ANTIMONY TRIHYDRIDE|HYDROGEN ANTIMONIDE|STIBINE|STIBINE (SBH3)	7803-52-3	A colorless gas with a disagreeable odor. A moderate fire hazard that may yield toxic fumes when heated above 392Â°F. Irritating to skin, eyes, and mucous membranes. Heavier than air. If exposed to prolonged fire or intense heat, the container may rupture violently or rocket.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	2084.0	221.0	726.0	371.0	220.0	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: MAY EXPLODE AND THROW FRAGMENTS 1600 meters (1 MILE) OR MORE IF FIRE REACHES CARGO. For information on "Compatibility Group" letters, refer to Glossary section. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: CARGO FIRE: DO NOT fight fire when fire reaches cargo! Cargo may EXPLODE! Stop all traffic and clear the area for at least 1600 meters (1 mile) in all directions and let burn. Do not move cargo or vehicle if cargo has been exposed to heat. TIRE OR VEHICLE FIRE: Use plenty of water FLOOD it! If water is not available, use CO2, dry chemical or dirt. If possible, and WITHOUT RISK, use unmanned hose holders or monitor nozzles from maximum distance to prevent fire from spreading to cargo area. Pay special attention to tire fires as re-ignition may occur. Stand by with extinguisher ready. (ERG, 2012)
4601	STRONTIUM ARSENITE	STRONTIUM ARSENITE|STRONTIUM ARSENITE, [SOLID]	91724-16-2	Strontium arsenite is a white powder. It is slightly soluble in water. It is toxic by inhalation and by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2084.0	221.0	726.0	371.0	220.0			
4602	STRONTIUM CHLORATE	STRONTIUM CHLORATE|STRONTIUM CHLORATE (SR(CLO3)2)|STRONTIUM CHLORATE, SOLID	7791-10-8	A moist solid or semi-solid slurry of white crystals. May explode under exposure to heat or fire. Used in pyrotechnics.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2085.0	221.0	726.0	371.0	220.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4603	STRONTIUM CHLORATE, SOLUTION	STRONTIUM CHLORATE, SOLUTION|STRONTIUM CHLORATE, [WET]	7791-10-8	A clear colorless aqueous solution.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2085.0	221.0	726.0	371.0	220.0	INHALATION: remove victim from exposure. SKIN: wash with soap and water. EYES: flush with water. (USCG, 1999)	Behavior in Fire: Containers may explode in fire. (USCG, 1999)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective. Fire Extinguishing Agents: Foam, dry chemical, or carbon dioxide. Stop flow of vapor. (USCG, 1999)
4604	STRONTIUM PHOSPHIDE	STRONTIUM MONOPHOSPHIDE|STRONTIUM PHOSPHIDE	12504-13-1	Strontium phosphide is a solid which will evolve flammable and toxic gases on contact with water. It is a highly reactive material used as a laboratory reagent and in the manufacture of chemically reactive devices.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2085.0	221.0	726.0	371.0	220.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4605	SULFOXIDE, 3-CHLOROPROPYL OCTYL	3-CHLOROPROPYL OCTYL SULFOXIDE|3-CHLOROPROPYL-N-OCTYLSULFOXIDE, MGK REPELLENT 1,207|REPELLENT 1207|SULFOXIDE, 3-CHLOROPROPYL OCTYL|SULFOXIDE, 3-CHLOROPROPYL-N-OCTYL-	3569-57-1	A liquid. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2086.0	221.0	726.0	371.0	220.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4600	STIBINE	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. DO NOT OPERATE RADIO TRANSMITTERS WITHIN 100 meters (330 feet) OF ELECTRIC DETONATORS. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Aromatic nitro compounds, such as TRINITRORESORCINOL, range from slight to strong oxidizing agents. If mixed with reducing agents, including hydrides, sulfides and nitrides, they may begin a vigorous reaction that culminates in a detonation. The aromatic nitro compounds may explode in the presence of a base such as sodium hydroxide or potassium hydroxide even in the presence of water or organic solvents. The explosive tendencies of aromatic nitro compounds are increased by the presence of multiple nitro groups.	Strong Oxidizing Agent	Excerpt from GUIDE 112 [Explosives* - Division 1.1, 1.2, 1.3 or 1.5]: Isolate spill or leak area immediately for at least 500 meters (1/3 mile) in all directions. LARGE SPILL: Consider initial evacuation for 800 meters (1/2 mile) in all directions. FIRE: If rail car or trailer is involved in a fire, ISOLATE for 1600 meters (1 mile) in all directions; also, initiate evacuation including emergency responders for 1600 meters (1 mile) in all directions.*For information on "Compatibility Group" letters, refer to the Glossary section. (ERG, 2012)						0																								
4601	STRONTIUM ARSENITE			Very soluble in water. Solution is bluish-red. Dilute solutions are strongly fluorescent.	C.I. FOOD RED 15 is a quaternary ammonium salt and contains conjugated carbon-carbon double bonds. Many compounds with extended conjugated double bond systems are highly colored and used as dyes. Quaternary ammonium salts often serve as catalysts in reactions. They are incompatible with many strong oxidizers and reducing agents, such as metal hydrides, alkali/active metals, and organometallics.						0																								
4602	STRONTIUM CHLORATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light. Keep it away from oxidizing materials and store it under ambient temperatures. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Slightly soluble in water.	ETHYLENE THIOUREA may be sensitive to prolonged exposure to light. Incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. May react with acids to liberate hydrogen sulfide.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		486													(NTP, 1992)		397 to 399
4603	STRONTIUM CHLORATE, SOLUTION	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Goggles or face shield (as for gasoline). (USCG, 1999)	Highly flammable. Insoluble in water.	1-PENTENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas. May undergo exothermic polymerization reactions in the presence of various catalysts (such as acids) or initiators.	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	4	1	5		(USCG, 1999)		-60		(USCG, 1999)		1.4		%	(USCG, 1999)		8.7		%	(USCG, 1999)		527		(USCG, 1999)		-265	
4604	STRONTIUM PHOSPHIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	Epoxides are highly reactive. They polymerize in the presence of catalysts or when heated. These polymerization reactions can be violent. Compounds in this group react with acids, bases, and oxidizing and reducing agents. They react, possibly violently with water in the presence of acid and other catalysts.	Polymerizable						0																				(NTP, 1992)		203 to 208
4605	SULFOXIDE, 3-CHLOROPROPYL OCTYL	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4600	STIBINE																																									Explosive 1.1D	C6H3N3O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4601	STRONTIUM ARSENITE																																									C28H31ClN2O3	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4602	STRONTIUM CHLORATE	(NTP, 1992)			less than 1	68		mm Hg													(NIOSH, 2003)			446 to 595	760		(NTP, 1992)		102.16						(NTP, 1992)	at 64Â° F		1 to 5	mg/mL		Poison	ClH6N2S		0.0	0.0	0.0	0.0	0.0
4603	STRONTIUM CHLORATE, SOLUTION														(USCG, 1999)		0.641		68		(USCG, 1999)		85.8		760		(USCG, 1999)		70.13											PTE	Flammable Liquid	C5H10	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4604	STRONTIUM PHOSPHIDE																				(NTP, 1992)								297.27						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C12H15NO6	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4605	SULFOXIDE, 3-CHLOROPROPYL OCTYL																																								Poison	CH4N2Se		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4606	SULFUR PENTAFLUORIDE	DISULFUR DECAFLUORIDE|DISULFUR DECAFLUORIDE (S2F10)|DISULPHUR DECAFLUORIDE|SULFUR DECAFLUORIDE|SULFUR FLUORIDE|SULFUR PENTAFLUORIDE	5714-22-7	Colorless volatile liquid or gas with an odor like sulfur dioxide. Mp: -92Â°C; bp: 29Â°C. Density: 2.08 g cm-3. Insoluble in water. Very toxic by inhalation.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2087.0	221.0	726.0	371.0	220.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4607	SULPROFOS	BOLSTARÂ®|O-ETHYL O-(4-(METHYLTHIO)PHENYL)PHOSPHORODITHIOIC ACID S-PROPYL ESTER|O-ETHYL O-(4-METHYLTHIO)PHENYL S-PROPYLPHOSPHORODITHIOATE|SULPROFOS	35400-43-2	Tan-colored liquid with a sulfide-like odor. (NIOSH, 1997)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2087.0	221.0	726.0	371.0	220.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	
4608	TABUN	DIMETHYLAMIDOETHOXYPHOSPHORYL CYANIDE|DIMETHYLPHOSPHORAMIDOCYANIDIC ACID, ETHYL ESTER|ETHYL DIMETHYLAMIDOCYANO-PHOSPHATE|ETHYL DIMETHYLAMIDOCYANOPHOSPHATE|ETHYL DIMETHYLPHOSPHORAMIDOCYANIDATE|ETHYL N,N-DIMETHYLAMINO CYANOPHOSPHATE|ETHYL N,N-DIMETHYLPHOSPHORAMIDOCYANIDATE|GA|GA (CHEMICAL WARFARE AGENT)|LE-100|MCE|PHOSPHORAMIDO-CYANIDIC ACID, DIMETHYL-, ETHYL ESTER|T-2104|TABUN|TL 1578	77-81-6	Colorless to brown liquid with a faint fruity odor. Used as a chemical warfare agent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2088.0	221.0	726.0	371.0	220.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. (NIOSH, 2003)		
4609	TAR, LIQUID	BR 45|BROWN COAL, TAR|BROWN-COAL, LIGNITE TAR|COAL TAR|COAL TAR EXTRACT|COAL TAR OINTMENT|COAL TAR, BROWN|COAL, BROWN, TAR|COKE-OVEN TAR|COKING TAR|ESTAR|ESTAR (SKIN TREATMENT)|EX 1500|EX 50|KC 261|LAVATAR|LIGNITE TAR|NAVAL STORES, TAR|PETROLEUM PRODUCTS, TAR|PETROLEUM TAR|PIXALBOL|SOLVEX-TAR|SOLVEX-TAR LIGHT|SUPER SOLVEX-TAR|TAR|TAR, BROWN-COAL, LIGNITE|TAR, COAL, COLORLESS PURIFIED|TAR, COAL, PURIFIED COLORLESS|TAR, COKING|TAR, LIGNITE|TAR, LIQUID|TAR, [FLAMMABLE LIQUID]|TARCRON 180|TARCRON 180L|TARCRON 230|TARMAT|TARS,	101316-83-0	Black syrup-like viscous liquid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2089.0	221.0	726.0	372.0	220.0	Get medical attention at once following any exposure to this compound. INHALATION: remove victim from contaminated atmosphere; if breathing has ceased, start mouth-to-mouth resuscitation; oxygen should only be administered by an experienced person when authorized by a physician; keep patient warm and comfortable. EYES: immediately flush with large quantities of running water for a minimum of 15 min.; continue irrigation for an additional 15 min. if physician is (USCG, 1999)	Behavior in Fire: Contact with water in foam applied to adjacent fires will produce irritating fumes of hydrogen chloride. (USCG, 1999)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4610	T-BUTYL CHROMATE	BIS(1,1-DIMETHYLETHYL) ESTER CHROMIC ACID|CHROMIC ACID (H2CRO4), DI-TERT-BUTYL ESTER|CHROMIC ACID DI-TERT-BUTYL ESTER|DI-TERT-BUTOXODIOXOCHROMIUM|DI-TERT-BUTOXYCHROMYL|DI-TERT-BUTYL CHROMATE|DI-TERT-BUTYL ESTER CHROMIC ACID|DI-TERT-BUTYL ESTER OF CHROMIC ACID|T-BUTYL CHROMATE|TERT-BUTYL CHROMATE|TERT-BUTYL CHROMATE(VI)	1189-85-1	PHYSICAL DESCRIPTION: Liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2090.0	221.0	726.0	372.0	220.0	(BLOB)	Dust is flammable. (NTP, 1992)	A fire in your laboratory involving this chemical should be extinguished with a dry chemical, carbon dioxide or halon extinguisher. (NTP, 1992)
4611	TERT-AMYL ACETATE	TERT - AMYL ACETATE|TERT-AMYL ACETATE|TERT-PENTYL ACETATE	625-16-1	Colorless to yellow watery liquid with a weak odor of bananas. Floats on water. Produces irritating vapor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2091.0	221.0	726.0	372.0	220.0	INHALATION: move to fresh air. INGESTION: get medical attention at once, give large amount of water and induce vomiting. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4606	SULFUR PENTAFLUORIDE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	ZINC SELENATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										
4607	SULPROFOS	Avoid contact with skin. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Highly flammable.	Alkoxy silanes, such as SILANE, (4-AMINO BUTYL)DIETHOXYMETHYL-, have been involved in cases where disproportionation has occurred, generating silane (SiH4) which has a history of being pyrophoric.	Highly Flammable		(NFPA, 2010)		3	2	1	3																									
4608	TABUN		Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: No recommendation is made specifying the need for washing the substance from the skin (either immediately or at the end of the work shift). Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	SILICA, AMORPHOUS is a non-combustible solid. Generally unreactive chemically. Incompatible with fluorine, oxygen difluoride, chlorine trifluoride. Soluble in molten alkalis and reacts with most metallic oxides at high temperature.					0																								(NIOSH, 2003)		3110	
4609	TAR, LIQUID	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Acid-canister-type gas mask or self-contained breathing apparatus; goggles or face shield; rubber gloves; other protective clothing to prevent contact with skin. (USCG, 1999)	Fumes in air. Decomposed by water or moist air with much heat generated and forms silicic acid and hydrochloric acid [Merck 11th ed. 1989]. Silicon tetrachloride reacts vigorously with water to generate gaseous HCl. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Chloride gas will be created in 0.38 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	Chlorosilanes, such as SILICON TETRACHLORIDE, are compounds in which silicon is bonded to from one to four chlorine atoms with other bonds to hydrogen and/or alkyl groups. Chlorosilanes react with water, moist air, or steam to produce heat and toxic, corrosive fumes of hydrogen chloride. They may also produce flammable gaseous H2. They can serve as chlorination agents. Chlorosilanes react vigorously with both organic and inorganic acids and with bases to generate toxic or flammable gases. This material is incompatible with alkali metals and dimethyl sulfoxide.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1818 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	0	2	2	No Water																						(USCG, 1999)		-94	
4610	T-BUTYL CHROMATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with 5% acetic acid, then transfer the dampened material to a suitable container. Use absorbent paper dampened with 5% acetic acid to pick up any remaining material. Your contaminated clothing and the absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with 5% acetic acid followed by washing with a strong soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical in a freezer and away from all mineral acids and bases. (NTP, 1992)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. (AgNO3) Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. Provide: Eyewash fountains should be provided in areas where there is any possibility that workers could be exposed to the substance; this is irrespective of the recommendation involving the wearing of eye protection. (NIOSH, 2003)	Insoluble in water.	(BLOB)	Known Catalytic Activity						0																						(NTP, 1992)		1763.5	
4611	TERT-AMYL ACETATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves. (USCG, 1999)	Water soluble.	Boron reacts explosively when ground with SILVER FLUORIDE; silicon reacts violently [Bretherick 1979 p, 197]. Dimethyl sulfoxide is violently reactive with fluorinating agents such as silver fluoride [Chem. Eng. News 44(24):7 1956]. When silver fluoride is ground with calcium hydride the mass becomes incandescent [Mellor 3:389 1946-1947]. CaH2 reacts incandescently with AgF if subject to friction. (Mellor, 1941, Vol. 3, 389, 651).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																										

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4606	SULFUR PENTAFLUORIDE																																								Poison	O4Se.Zn	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4607	SULPROFOS																										(EPA, 1998)		205.42														C9H23N O2Si	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4608	TABUN	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		2.2				(NIOSH, 2003)		4046		760		(NIOSH, 2003)		60.1		(NIOSH, 2003)		3000	mg/m3	(NIOSH, 2003)	Insoluble							SiO2		0.0	0.0	0.0	0.0	0.0
4609	TAR, LIQUID														(USCG, 1999)		1.48		68		(USCG, 1999)		135.7		760		(USCG, 1999)		169.9											STC	Corrosive	Cl4Si	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4610	T-BUTYL CHROMATE	(NTP, 1992)		1		2475		mm Hg							(NTP, 1992)		10.5		68		(NTP, 1992)		4014		760		(NTP, 1992)		107.93		(NIOSH, 2003)	(as Ag)	10	mg/m3	(NIOSH, 2003)	Insoluble							Ag		0.0	0.0	0.0	0.0	0.0
4611	TERT-AMYL ACETATE														(USCG, 1999)		5.82		68		(USCG, 1999)		2118		760		(USCG, 1999)		126.9		(NIOSH, 2003)	(as Ag)	10	mg/m3						SVF	Corrosive|Poison	AgF.HOH	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4612	TERT-BUTYL ISOPROPYL BENZENE HYDROPEROXIDE	TERT-BUTYL ISOPROPYL BENZENE HYDROPEROXIDE	30026-92-7	This liquid peroxide is sensitive to heat. Storage of this material must be done so with stringent temperature control measures.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2092.0	221.0	726.0	372.0	220.0	(BLOB)	Special Hazards of Combustion Products: Contain very toxic fumes of SOx, NOx, and Na 2 O. Behavior in Fire: May decompose at elevated temperatures to yield toxic fumes. (USCG, 1999)	Fire Extinguishing Agents: Water spray, carbon dioxide, dry chemicals, foam on nearby fires. (USCG, 1999)
4613	TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE	3-PHENYL-3-(TERT-BUTYLPEROXY)PHTHALIDE|PHTHALIDE, 3-(TERT-BUTYLDIOXY)-3-PHENYL-|TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE|3-TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE, [TECHNICALLY PURE]|3-TERT-BUTYLPEROXY-3-PHENYLPHTHALIDE	25251-51-8		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2093.0	221.0	726.0	372.0	220.0	(BLOB)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4614	TERT-BUTYLCYCLOHEXYL CHLOROFORMATE	TERT-BUTYLCYCLOHEXYL CHLOROFORMATE|TERT-BUTYLCYCLOHEXYLCHLOROFORMATE	70042-58-9	A colorless liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2093.0	221.0	726.0	372.0	220.0	(BLOB)		
4615	TETRACHLORONAPHTHALENE	HALOWAXÂ®|NIBREN WAX|SEEKAY WAX|TETRACHLORONAPHTHALENE	1335-88-2	Colorless to pale-yellow solid with an intense aromatic odor. Melting Point :182 C. Presents an environmental danger. Used in lubricants and in the manufacture of insulation for electrical wire. If released into the environment, bioaccumulation takes place in fish. Will persist in the environment causing long-term adverse effects. The halowaxes are technical-grade chlorinated naphthalenes containing tetrachloronaphthalene in its various isomers together with (mainly) trichloro- pentachloro- and hexa-chloronapthalenes in their various isomers.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2094.0	222.0	726.0	372.0	221.0	INHALATION: remove patient to fresh air; seek medical attention. INGESTION: give large amounts of water and induce vomiting; give milk or egg whites; seek medical attention. EYES: flush with copious amounts of water for 15 min.; consult a physician. SKIN: wash with soap and water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen and cadmium oxide fume may form in fires. Behavior in Fire: Will increase intensity of fire when in contact with combustible material (USCG, 1999)	Excerpt from GUIDE 141 [Oxidizers - Toxic]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4616	TETRACHLORO-O-XYLENE, [SOLID]	O-XYLENE, 3,4,5,6-TETRACHLORO-|1,2,3,4-TETRACHLORO-5,6-DIMETHYLBENZENE|TETRACHLORO-O-XYLENE|TETRACHLORO-O-XYLENE, [SOLID]|3,4,5,6-TETRACHLORO-O-XYLENE	877-08-7	A powdered or flaked solid. Insoluble in water. Very strongly irritates skin, eyes or mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2095.0	222.0	727.0	374.0	221.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4612	TERT-BUTYL ISOPROPYL BENZENE HYDROPEROXIDE	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, use absorbent paper to pick up all liquid spill material. Seal the absorbent paper, as well as any of your clothing which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Wash any surfaces you may have contaminated with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should keep this material in a tightly closed container under an inert atmosphere, and store it at refrigerated temperatures. Protect from exposure to oxidizing materials and acids. (NTP, 1992)	For spills of aqueous solutions-wear splash-proof goggles, respirator, and protective rubber clothing. Firefighters should wear full protective clothing and self-contained positive pressure breathing apparatus. (USCG, 1999)	Sensitive to prolonged exposure to air. Water soluble.	SODIUM 2-MERCAPTOBENZOTHIAZOL reacts vigorously with oxidizing materials (e.g. hydroperoxides). Liberates heat in contact with strong mineral acids or acid fumes (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)			greater than 200																	(NTP, 1992)		21	
4613	TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	1-PHENYL-3,3-DIMETHYLTRIAZENE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																											
4614	TERT-BUTYLCYCLOHEXYL CHLOROFORMATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	May absorb moisture from the air. Insoluble in water.	SODIUM ALUMINOSILICATE is generally unreactive. May serve as a catalyst to accelerate the rate of reaction between other substances.						0																								
4615	TETRACHLORONAPHTHALENE	Excerpt from GUIDE 141 [Oxidizers - Toxic]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Dike far ahead of spill for later disposal. (ERG, 2012)	Rubber gloves; safety goggles; dust mask (USCG, 1999)	Water soluble.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109].	Strong Oxidizing Agent	Excerpt from GUIDE 141 [Oxidizers - Toxic]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)		138	
4616	TETRACHLORO-O-XYLENE, [SOLID]	SMALL SPILLS AND LEAKAGE: If you should spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is stored, weighed and diluted, wear an approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	FATTY ACIDS, TALL OIL, POLYMERS WITH GLYCEROL, MALEIC ANHYDRIDE, PHTHALIC ANHYDRIDE, AND SOYBEAN OIL dries and hardens when exposed to the air. May react vigorously with strong oxidizing agents. Stable under normal laboratory conditions. Closed containers may rupture when exposed to extreme heat. Solutions or mixtures with water, DMSO, 95% ethanol or acetone usually stable for 24 hours under normal laboratory conditions (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(NTP, 1992)		111		(NTP, 1992)		0.8		%														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4612	TERT-BUTYL ISOPROPYL BENZENE HYDROPEROXIDE	(NTP, 1992)		24		77		mm Hg							(NTP, 1992)			1.25 to 1.28	77		(NTP, 1992)		217		760		(NTP, 1992)		189.23						(NTP, 1992)	at 68Â° F		greater than or equal to 100	mg/mL	SMB	Corrosive	NaC7H4NS2 (aqueous)		0.0	0.0	0.0	0.0	0.0
4613	TERT-BUTYL PEROXY-3-PHENYLPHTHALIDE																											(NTP, 1992)		149.22						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Poison	C8H11N3	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4614	TERT-BUTYLCYCLOHEXYL CHLOROFORMATE																																			(NTP, 1992)	Insoluble						Na2O:Al2O3:SiO2		0.0	0.0	0.0	0.0	0.0
4615	TETRACHLORONAPHTHALENE														(USCG, 1999)		2.45		68									(USCG, 1999)		308.47											CMN	Oxidizer|Poison	Cd(NO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4616	TETRACHLORO-O-XYLENE, [SOLID]														(NTP, 1992)		0.95				(NTP, 1992)			307 to 388	760										(NTP, 1992)	at 66Â° F		less than 1	mg/mL		Flammable Liquid		Cellulose-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4617	TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)	BIS-O,O-DIETHYLPHOSPHORIC ANHYDRIDE|BLADAN|ETHYL PYROPHOSPHATE (ET4P2O7)|KILLEX|NIFOS|PYRODUST|PYROPHOSPHORIC ACID, TETRAETHYL ESTER|TEP|TEP (PHOSPHATE)|TEPP|TETRAETHYL DIPHOSPHATE|TETRAETHYL PYROPHOSPHATE|TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES|TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)|TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES (LC50 NOT MORE THAN 200 PPM)|TETRAETHYL PYROPHOSPHATE-COMPRESSED GAS MIXTURE|TETRASTIGMINE|	107-49-3	Tetraethyl pyrophosphate and compressed gas mixture is a liquid charged with a gas. It is a colorless liquid. Its vapor is heavier than air. It is soluble in water. It is lethal by skin absorption and inhalation. Prolonged exposure of the containers to fire or heat may result in the violent rupturing and rocketing of the containers.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2096.0	222.0	728.0	374.0	221.0	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4618	TETRAETHYL PYROPHOSPHATE MIXTURE, [LIQUID]	TEPP|TETRAETHYL PYROPHOSPHATE|TETRAETHYL PYROPHOSPHATE MIXTURE, [LIQUID]|TETRAETHYL PYROPHOSPHATE, LIQUID	107-49-3	Water-white to amber liquid, depending on purity.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2097.0	222.0	728.0	374.0	221.0	(BLOB)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4619	TETRAETHYL PYROPHOSPHATE MIXTURE, DRY	BIS-O,O-DIETHYLPHOSPHORIC ANHYDRIDE|BLADAN|ETHYL PYROPHOSPHATE (ET4P2O7)|KILLEX|NIFOS|PYRODUST|PYROPHOSPHORIC ACID, TETRAETHYL ESTER|TEP|TEP (PHOSPHATE)|TEPP|TETRAETHYL DIPHOSPHATE|TETRAETHYL PYROPHOSPHATE|TETRAETHYL PYROPHOSPHATE MIXTURE, DRY|TETRAETHYL PYROPHOSPHATE MIXTURE, [DRY]|TETRAETHYL PYROPHOSPHATE, SOLID|TETRASTIGMINE|TETRON (PESTICIDE)|TETRON 100|VAPOTONE	107-49-3	Tetraethyl pyrophosphate mixture is the solution mixed with an inert solid. Tetraethyl pyrophosphate is itself combustible, but the flammability of the mixture will depend upon the nature of the other materials. Tetraethyl pyrophosphate is soluble in water and is slowly decomposed by water. It is toxic by inhalation and by skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2098.0	223.0	728.0	376.0	221.0	(BLOB)	When heated to decomposition, it emits toxic fumes of cadmium. (Non-Specific -- Cadmium Compounds) Fire may produce irritating or poisonous gases. Runoff from fire control or dilution water may cause pollution. Oxides of cadmium react explosively with magnesium when heated. (EPA, 1998)	(Non-Specific -- Cadmium Compounds) Wear self-contained breathing apparatus and full protective clothing. Move container from fire if you can do so without risk. (Non-Specific -- Cadmium Compounds) Extinguish with dry chemical, carbon dioxide, water fog, spray, or foam. (EPA, 1998)
4620	TETRAETHYL PYROPHOSPHATE, [LIQUID, POISON B LABEL]	BIS-O,O-DIETHYLPHOSPHORIC ANHYDRIDE|BLADAN|DIPHOSPHORIC ACID TETRAETHYL ESTER|DIPHOSPHORIC ACID, TETRAETHYL ESTER|ENT 18,771|ETHYL PYROPHOSPHATE|ETHYL PYROPHOSPHATE (ET4P2O7)|ETHYL PYROPHOSPHATE, TETRA-|ETHYL PYROPHOSPHATE|ET4P2O7||ETHYL PYROPHOSPHATE|FOSVEX|GRISOL|HEPT|HESAMITE|HEXAMITE|KILLAX|KILLEX|KILMITE 40|LETHALAIRE G-52|LIROHEX|MORTOPAL|NIFOS|NIFOS T|NIFOST|NITOS|PYRODUST|PYROPHOSPHORIC ACID, TETRAETHYL ESTER|PYROPHOSPHORIC ACID, TETRAETHYL ESTER(DRY MIXTURE)|T.E.P.|T.E.P.P.|TEP|TEP	107-49-3	Solution of a solid. Combustible. Flammability depends on the solvent. Toxic by inhalation and by skin absorption.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2099.0	223.0	728.0	376.0	221.0	(BLOB)	It emits acrid smoke when heated to decomposition. (EPA, 1998)	(Non-Specific -- Cadmium Compound) Keep upwind; keep out of low areas. Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Cadmium Compound) For small fires, use dry chemicals, carbon dioxide, water spray, or foam. For large fires, use water spray, fog, or foam. (EPA, 1998)
4621	TETRAFLUOROHYDRAZINE	DINITROGEN TETRAFLUORIDE|HYDRAZINE, TETRAFLUORO-|PERFLUOROHYDRAZINE|TETRAFLUOROHYDRAZINE	10036-47-2	A colorless toxic irritant gas. Nonflammable. Prolonged exposure of the container to high heat may cause it to rupture violently and rocket. Used in organic synthesis and as an oxidizing agent in fuel for rockets.	5.0	1.0	1.0	5398.0	546.0	1833.0	960.0	577.0	2099.0	223.0	728.0	376.0	221.0	(BLOB)	This compound is combustible. (NTP, 1992)	Fires involving this chemical can be controlled with dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4617	TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Insoluble in water.	Acidic organic/inorganic salts, such as ZINC SULFATE AND FERRIC SULFATE, are generally soluble in water. The resulting solutions contain moderate to high concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4618	TETRAETHYL PYROPHOSPHATE MIXTURE, [LIQUID]	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	SODIUM ARSENITE solution is basic. Absorbs carbon dioxide from the air. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4619	TETRAETHYL PYROPHOSPHATE MIXTURE, DRY	If dust is released in a hazardous concentration: (1) remove all ignition sources; (2) ventilate area of release; and (3) collect released material and place in sealed containers in secured sanitary landfill. (Non-Specific -- Cadmium Compounds) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind, keep out of low areas. If pollution of water occurs, notify proper authorities. Do not touch spilled material; stop leak if you can do so without risk. Absorb small spills with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move container from spill area. Dike large spills far ahead for later disposal. (EPA, 1998)	Skin: No recommendation is made specifying the need for personal protective equipment for the body. Eyes: No recommendation is made specifying the need for eye protection. Wash skin: The worker should wash daily at the end of each work shift. Remove: No recommendation is made specifying the need for removing clothing that becomes wet or contaminated. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Insoluble in water.	CADMIUM OXIDE reacts violently with magnesium. (NTP, 1992)		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0						(EPA, 1998)	This material may burn but does not ignite readily.					(EPA, 1998)	This material may burn but does not ignite readily.									(EPA, 1998)	Greater than 2732Â° F		
4620	TETRAETHYL PYROPHOSPHATE, [LIQUID, POISON B LABEL]	(Non-Specific -- Cadmium Compounds) Do not touch spilled material. Stay upwind; keep out of low areas. Take up small spills with sand or other noncombustible absorbent material and place into containers for later disposal. Take up small, dry spills with clean shovel and place into clean, dry container. Dike far ahead of large spills for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	CADMIUM STEARATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4621	TETRAFLUOROHYDRAZINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Highly flammable. Insoluble in water.	TRIPHENYL PHOSPHINE reacts vigorously with oxidizing materials. (NTP, 1992).	Strong Reducing Agent; Pyrophoric	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		356																	(NTP, 1992)		176		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4617	TETRAETHYL PYROPHOSPHATE AND COMPRESSED GAS MIXTURES (LC50 MORE THAN 200 PPM BUT NOT MORE THAN 5000 PPM)																																								Class 9	O4SZn.7H2O-Fe2O12S3.5H2O		0.0	0.0	0.0	0.0	0.0
4618	TETRAETHYL PYROPHOSPHATE MIXTURE, [LIQUID]														(NTP, 1992)		1.87		68								(NTP, 1992)		129.91						(NTP, 1992)	Very soluble					Poison	NaAsO2 (aqueous)		0.0	0.0	0.0	0.0	0.0
4619	TETRAETHYL PYROPHOSPHATE MIXTURE, DRY	(EPA, 1998)		1		1832		mm Hg							(EPA, 1998)	8.15 Crystalline form 6.95 Amorphous form					(NTP, 1992)	(sublimes)	2838		760		(EPA, 1998)		128.4		(NIOSH, 2003)	(as Cd); A potential human carcinogen.	9	mg/m3	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	COX	Poison	CdO		0.0	0.0	0.0	0.0	0.0
4620	TETRAETHYL PYROPHOSPHATE, [LIQUID, POISON B LABEL]																										(EPA, 1998)		681.48												Poison	C18H36O2.1[2Cd		0.0	0.0	0.0	0.0	0.0
4621	TETRAFLUOROHYDRAZINE														(NTP, 1992)		1.194		77		(NTP, 1992)			greater than 680	760		(NTP, 1992)		262.29						(NTP, 1992)	Insoluble					Class 9	C18H15P	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4622	TETRALIN HYDROPEROXIDE	ALPHA-TETRALIN HYDROPEROXIDE|ALPHA-TETRALYL HYDROPEROXIDE|HYDROPEROXIDE, 1,2,3,4-TETRAHYDRO-1-NAPHTHYL|1-HYDROPEROXYTETRALIN|NAPHTHALENE, 1,2,3,4-TETRAHYDRO-, 1-HYDROPEROXIDE|1,2,3,4-TETRAHYDRO-1-NAPHTHYL HYDROPEROXIDE|1,2,3,4-TETRAHYDRONAPHTHALENE 1-HYDROPEROXIDE|TETRALIN 1-HYDROPEROXIDE|TETRALIN HYDROPEROXIDE|TETRALIN HYDROPEROXIDE, [TECHNICALLY PURE]|TETRALIN PEROXIDE|TETRALYL HYDROPEROXIDE|1-TETRALYL HYDROPEROXIDE	771-29-9	Hydroperoxide formed by the oxidation of tetralin, a DuPont product, used as a turpentine replacement. The technical grade hydroperoxide is a liquid and will have a residual odor of benzene/menthol.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2099.0	224.0	728.0	376.0	222.0	INGESTION: induce vomiting and follow with gastric lavage, saline cathartics, fluid therapy, and oxygen. EYES: wash thoroughly with water. (USCG, 1999)	Special Hazards of Combustion Products: In fire situations oxygen may be liberated and increase the intensity of the fire. Behavior in Fire: Melts, then decomposes to give oxygen gas that increases the intensity of fire. Reacts explosively, either as a solid or a liquid, with all organic matter and some metals. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4623	TETRANITROANILINE	ANILINE, 2,3,4,6-TETRANITRO-|ANILINE, TETRANITRO-|TETRANITROANILINE|2,3,4,6-TETRANITROANILINE|TNA	3698-54-2	A powerful and sensitive high explosive. May explode under prolonged exposure to heat or fire or sudden shock. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2099.0	224.0	728.0	376.0	222.0	Wash eyes with water for at least 15 min. (USCG, 1999)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Some may burn but none ignite readily. Containers may explode when heated. Some may be transported hot. (ERG, 2012)	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not scatter spilled material with high pressure water streams. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal. FIRE INVOLVING TANKS: Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4624	THALLIUM CHLORATE	THALLIUM CHLORATE|THALLIUM CHLORATE (TLCLO3)	13453-30-0	A white crystalline solid. Denser than water. Contact may cause irritation to skin, eyes, and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2100.0	224.0	728.0	376.0	222.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4625	THENYLDIAMINE HYDROCHLORIDE	2-((2-DIMETHYLAMINO)ETHYL)-3-THENYL-AMINO)-PYRIDINE HYDROCHLORIDE|2-((2-DIMETHYLAMINO)ETHYL)-3-THENYLAMINO)PYRIDINE MONOHYDROCHLORIDE|N,N-DIMETHYL-N'-(3-THENYL)-N'-(2-PYRIDYL)ETHYLENEDIAMINE HYDROCHLORIDE|THENFADIL HYDROCHLORIDE|THENYLDIAMINE CHLORIDE|THENYLDIAMINE HYDROCHLORIDE	958-93-0	White powder with a bitter taste. Melting point 169.5-170Â°C. Used as an antihistamine.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2101.0	224.0	728.0	376.0	222.0	INHALATION: remove to fresh air. EYES: flush with water for 15 min. SKIN: flush with water. INGESTION: induce vomiting and get medical attention. (USCG, 1999)	Behavior in Fire: When involved in a fire, may cause an explosion. Irritating gases may be generated when heated. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4626	THIOBUTABARBITAL SODIUM	BARBITURIC ACID, 5-SEC-BUTYL-5-ETHYL-2-THIO-, SODIUM DERIV.|BARBITURIC ACID, 5-SEC-BUTYL-5-ETHYL-2-THIO-, SODIUM SALT|BREVINARCON|BREVINARCONE|DIHYDRO-5-ETHYL-5-(1-METHYLPROPYL)-2-THIOXO-4,6-(1H,5H)-PYRIMIDINEDIONE SODIUM|5-ETHYL-5-(1-METHYLPROPYL)-2-THIOBARBITURIC ACID SODIUM SALT|5-ETHYLDIHYDRO-5-(1-METHYLPROPYL)-2-THIOXO-4,6(1H,5H)-PYRIMIDINEDIONE MONOSODIUM SALT|INACTIN|INAKTIN|NARKOTHION|5-SEC-BUTYL-5-ETHYL-2-THIOBARBITURIC ACID SODIUM SALT|THIBUTABARBITAL SODIUM|THIOBUTABARBITAL|THIOBUTABARBITAL SODIUM|THIOBUTABARBIT	947-08-0	PHYSICAL DESCRIPTION: Crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2102.0	224.0	728.0	376.0	222.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4622	TETRALIN HYDROPEROXIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Clean work clothing (must be washed well with water after each exposure); rubber gloves and shoes; where dusty, goggles and an approved dust respirator. Do NOT use oils, greases, or protective creams on skin. (USCG, 1999)	Soluble in water.	(BLOB)	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)		478	
4623	TETRANITROANILINE	Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent dust cloud. Avoid inhalation of asbestos dust. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL SPILL: Take up with sand or other non-combustible absorbent material and place into containers for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Goggles or face shield. (USCG, 1999)	Slightly soluble in water.	UNDECANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		Excerpt from GUIDE 171 [Substances (Low to Moderate Hazard)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		200																			(USCG, 1999)		60.6	
4624	THALLIUM CHLORATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Insoluble in water. Rapidly hydrolyzed by alkaline solution.	A pyrethroid. This compound is an ester and nitrile. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides. Nitriles may polymerize in the presence of metals and some metal compounds. They are incompatible with acids; mixing nitriles with strong oxidizing acids can lead to extremely violent reactions. Nitriles are generally incompatible with other oxidizing agents such as peroxides and epoxides. The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolyzed in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															
4625	THENYLDIAMINE HYDROCHLORIDE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Goggles or face shield; dust respirator; coveralls or other protective clothing. (USCG, 1999)	Water soluble.	An oxidizing agent. Liberates explosive chlorine dioxide gas in the presence of strong acid. Heating a moist mixture with a dibasic organic acid liberates chlorine dioxide and carbon dioxide. Mixtures with ammonium salts, powdered metals, silicon, sulfur, or sulfides are readily ignited and potentially explosive [Bretherick 1979 p. 806]. A combination with finely divided aluminum can explode by heat, percussion, or friction [Mellor 2:310 1946-47].	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(USCG, 1999)		644	
4626	THIOBUTABARBITAL SODIUM	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Decomposed by water to calcium hydroxide and chlorine dioxide, an explosive oxidizing gas.	A strong oxidizing agent. Accelerate the burning of combustible materials. Ignites on contact with potassium thiocyanate [Lewis]. Reaction with chlorine yields explosive chlorine dioxide gas. Reaction with ammonia produces ammonium chlorite, which is shock-sensitive. Finely divided mixtures with metallic or organic substances are highly flammable and may be ignited by friction (Lab. Gov. Chemist 1965).	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																															

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4622	TETRALIN HYDROPEROXIDE														(USCG, 1999)		2.49		59								(USCG, 1999)		106.45												SDC	Oxidizer	NaClO3	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4623	TETRANITROANILINE														(USCG, 1999)		0.835		68		(USCG, 1999)		473		760		(USCG, 1999)		172.3										UND	Class 9	C11H24O	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4624	THALLIUM CHLORATE																																								Poison	C25H22ClNO3		0.0	0.0	0.0	0.0	0.0
4625	THENYLDIAMINE HYDROCHLORIDE														(USCG, 1999)		2.71		32								(USCG, 1999)		207										CCC	Oxidizer	Ca(ClO3)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4626	THIOBUTABARBITAL SODIUM																																								Oxidizer	Ca(ClO2)2	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4627	TRIALLYL BORATE	ALLYL BORATE|ALLYL BORATE ((C3H5O)3B)|BORIC ACID (H3BO3), TRIALLYL ESTER|TRIALLYL BORATE|TRIALLYLOXYBORANE|TRIS(ALLYLOXY)BORANE	1693-71-6	Triallyl borate is a colorless liquid. It is insoluble in water and weigh, less than water. Contact with the material may cause mild irritation to skin, eyes, and mucous membranes. It may be slightly toxic by ingestion. It is used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2103.0	224.0	728.0	376.0	222.0	INHALATION: move to fresh air. INGESTION: seek medical attention; administer gastric lavage with lime water, then give lime water or milk at frequent intervals. EYES: flush with water for at least 15 min. SKIN: flush with water; wash with soap and water. (USCG, 1999)	Behavior in Fire: Decomposes at red heat (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4628	TRIAMIPHOS	5-AMINO-1-(BIS(DIMETHYLAMINO)PHOSPHINYL)-3-PHENYL-1,2,4-TRIAZOLE|5-AMINO-1-BIS(DIMETHYLAMIDE)PHOSPHORYL-3-PHENYL-1,2,4-TRIAZOLE|5-AMINO-1-BIS(DIMETHYLAMIDO)PHOSPHORYL-3-PHENYL-1,2,4-TRIAZOLE|5-AMINO-3-PHENYL-1,2,4-TRIAZOLE-1-YL-N,N,N',N'-TETRAMETHYLPHOSPHODIAMIDE|5-AMINO-3-PHENYL-1,2,4-TRIAZOLYL-1-BIS(DIMETHYLAMIDO)PHOSPHATE|5-AMINO-3-PHENYL-1,2,4-TRIAZOLYL-N,N,N',N'-TETRAMETHYLPHOSPHONAMIDE|BIS(DIMETHYLAMINO)-3-AMINO-5-PHENYLTRIAZOLYL PHOSPHINE OXIDE|ENT 27,223|3-PHENYL-5-AMINO-1,2,4-TRIAZOLYL-(1)-(N,N'-TETRAMETHYL) DIAMIDOPHOSPHONATE|PHOSPHONIC DIAMIDE, P-(5-AMINO-3-PHENYL-1H-1,2,4-	1031-47-6	A solid. Used in the control of powdery mildew on apples and ornamentals. Product discontinued by U.S. supplier. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2103.0	224.0	728.0	376.0	222.0	INGESTION: give large amount of water; induce vomiting; get medical attention. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)		
4629	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS|TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, TOXIC|TRIAZINE PESTICIDE, LIQUID, POISONOUS, FLAMMABLE|TRIAZINE PESTICIDE, LIQUID, TOXIC, FLAMMABLE|TRIAZINE PESTICIDE, LIQUID, [FLAMMABLE LIQUID LABEL]	12654-97-6	Any of several related compounds or a mixture thereof. A liquid or solid dissolved in a liquid carrier; the carrier is water emulsifiable (Farm Chemicals Handbook p. C145, 1995). Toxic by inhalation, skin absorption and/or ingestion. The primary hazard is the flammability of the carrier. Obtain the technical name of the material from the shipping paper and contact CHEMTREC, 800-424-9300 for specific response information.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2103.0	224.0	728.0	376.0	222.0	(BLOB)	Special Hazards of Combustion Products: May contain highly toxic fumes of NOx and SOx. Behavior in Fire: When heated to decompoition, it produces very toxic NOx and SOx fumes. (USCG, 1999)	Fire Extinguishing Agents: Small fires: dry chemical, CO 2 , water spray or foam; large fires: water spray, fog or foam. (USCG, 1999)
4630	TRIAZINE PESTICIDE, LIQUID, POISONOUS	4,6-DICHLORO-N-(2-CHLOROPHENYL)-1,3,5-TRIAZIN-2-AMINE|DYRENE|TRIAZINE PESTICIDE, LIQUID, POISONOUS|TRIAZINE PESTICIDE, LIQUID, TOXIC|TRIAZINE PESTICIDE, [LIQUID, POISON B LABEL]	12654-97-6	A colorless to tan crystalline solid dissolved in a water-emulsifiable organic carrier. Carrier may burn though may be difficult to ignite. Toxic by inhalation, skin absorption or ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2104.0	224.0	728.0	376.0	222.0	(must be prompt) INHALATION: move to fresh air; get medical attention if any symptoms persist. INGESTION: give immediately by mouth a dilute solution of any soluble calcium salt (calcium lactate, lime water, chalk solution, or even milk); large amounts of calcium are required; give gastric lavage with dilute lime water; consult physician. Watch for edema of the glottis and delayed constriction of esophagus. EYES: flush with water for at least 15 min. SKIN: flush with water. (USCG, 1999)	Special Hazards of Combustion Products: Iron fume or iron oxide fume may form in fire. (USCG, 1999)	
4631	TRIAZINE PESTICIDE, SOLID, POISONOUS	4,6-DICHLORO-N-(2-CHLOROPHENYL)-1,3,5-TRIAZIN-2-AMINE|DYRENE|TRIAZINE PESTICIDE, SOLID, POISONOUS|TRIAZINE PESTICIDE, SOLID, TOXIC|TRIAZINE PESTICIDE, [SOLID]	12654-97-6	A colorless to tan solid formulated as a wettable powder. Toxic by inhalation, skin absorption or ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2104.0	224.0	728.0	376.0	222.0	INGESTION: give milk immediately and then induce vomiting by stroking the pharynx with a blunt object such as a spoon handle, Gastric lavage with 1 pint of 5% aqueous solution of mono- or disodium phosphate if promptly available; otherwise use water. Get medical attention. (USCG, 1999)		
4632	TRIAZIQUONE	(BLOB)	68-76-8	PHYSICAL DESCRIPTION: Purple needle-like crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2105.0	224.0	728.0	376.0	222.0	Excerpt from GUIDE 140 [Oxidizers]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: These substances will accelerate burning when involved in a fire. Some may decompose explosively when heated or involved in a fire. May explode from heat or contamination. Some will react explosively with hydrocarbons (fuels). May ignite combustibles (wood, paper, oil, clothing, etc.). Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4633	TRIBENZYL ISOCYANURATE	S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRIBENZYL-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIBENZYL-|TRIBENZYL ISOCYANURATE|1,3,5-TRIBENZYL ISOCYANURATE|TRIBENZYL S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIBENZYL-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIS(PHENYLMETHYL)-1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	606-03-1		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2105.0	224.0	728.0	376.0	222.0	(BLOB)	Flash point data for this compound are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4627	TRIALLYL BORATE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Dust respirator; goggles or face shield; protective gloves (USCG, 1999)	Water soluble.	SODIUM FLUOROSILICATE has weak oxidizing or reducing powers. Redox reactions can however still occur. The majority of compounds in this class are slightly soluble or insoluble in water. If soluble in water, then the solutions are usually neither strongly acidic nor strongly basic. These compounds are not water-reactive.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4628	TRIAMIPHOS		Goggles or face shield; rubber gloves (USCG, 1999)	Soluble in water.	Inorganic reducing agents, such as FERROUS FLUOROBORATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive.								0																									
4629	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS	Neutralizing Agents for Acids and Caustics: Neutralize with six normal hydrochloric acid. (USCG, 1999)	Wear self-contained positive pressure breathing apparatus and full protective clothing. (USCG, 1999)	Water soluble.	THIOUREA is a white crystalline material or powder, toxic, carcinogenic. When heated to decomposition it emits very toxic fumes of oxides of sulfur and oxides of nitrogen. Violent exothermic polymerization reaction with acrylaldehyde (acrolein) [MCA SD-85, 1961]. violent decomposition of the reaction product with hydrogen peroxide and nitric acid [Bjorklund G. H. et al., Trans. R. Soc. Can.,1950, 44, p. 28], spontaneous explosion upon grinding with potassium chlorate [Soothill, D., Safety Management, 1992, 8(6), p. 11].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			349 to 352
4630	TRIAZINE PESTICIDE, LIQUID, POISONOUS		Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Insoluble in water.	Inorganic reducing agents, such as FERROUS OXALATE, react with oxidizing agents to generate heat and products that may be flammable, combustible, or otherwise reactive.	Strong Reducing Agent							0																									
4631	TRIAZINE PESTICIDE, SOLID, POISONOUS		Mask if dust is present. (USCG, 1999)	Water soluble	FERROUS SULFATE is a weak reducing agent.								0																			(USCG, 1999)	Not flammable						
4632	TRIAZIQUONE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Excerpt from GUIDE 140 [Oxidizers]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Water soluble.	CALCIUM PERMANGANATE is an oxidizing agent. Noncombustible but it will accelerate the burning of combustible material. If the combustible material is finely divided the mixture may be explosive. Contact with liquid combustible materials may result in spontaneous ignition. Contact with sulfuric acid may cause fires or explosions. Mixtures with acetic acid or acetic anhydride can explode if not kept cold [Von Schwartz 1918 p. 34]. Explosions can occur when calcium permanganate that has been treated with sulfuric acid comes in contact with benzene, carbon disulfide, diethyl ether, ethyl alcohol, petroleum, or other organic matter.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																													
4633	TRIBENZYL ISOCYANURATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	[[Details on specifics of reactivity not yet available.]]		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							(NTP, 1992)			greater than 572

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4627	TRIALLYL BORATE														(USCG, 1999)		2.68		68								(USCG, 1999)		188											SFR	Poison	F6Si.2Na	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4628	TRIAMIPHOS														(USCG, 1999)	(est.)		greater than 1.1	68								(USCG, 1999)	(solute only)	229.5											FFB		BF4 . 1[2 Fe		0.0	0.0	0.0	0.0	0.0
4629	TRIAZINE PESTICIDE, LIQUID, FLAMMABLE, POISONOUS														(USCG, 1999)		1.405		68		(NTP, 1992)	Sublimes in vacuum at 302-320Â° F					(NTP, 1992)		76.12						(NTP, 1992)	at 68Â° F		10 to 50	mg/mL	THC	Poison	CH4N2S		0.0	0.0	0.0	0.0	0.0
4630	TRIAZINE PESTICIDE, LIQUID, POISONOUS														(USCG, 1999)		2.3		68								(USCG, 1999)		179.9											FOX		FeC2O4.2HOH		0.0	0.0	0.0	0.0	0.0
4631	TRIAZINE PESTICIDE, SOLID, POISONOUS														(USCG, 1999)		1.9		59								(USCG, 1999)		169.96											FRS		FeSO4.7H2O		0.0	0.0	0.0	0.0	0.0
4632	TRIAZIQUONE																																							Oxidizer	Ca.2HMnO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4633	TRIBENZYL ISOCYANURATE														(NTP, 1992)												(NTP, 1992)		320.4						(NTP, 1992)	at 72Â° F		less than 1	mg/mL		Poison	C14H12N2O3S2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4634	TRICHLOROBENZENE, POLYMER WITH 1,4-DICHLOROBENZENE AND SODIUM SULFIDE	BENZENE, 1,4-DICHLORO-, POLYMER WITH SODIUM SULFIDE (NA2S) AND TRICHLORO-BENZENE|BENZENE, 1,4-DICHLORO-, POLYMER WITH SODIUM SULFIDE (NA2S) AND TRICHLOROBENZENE|BENZENE, TRICHLORO-, POLYMER WITH 1,4-DICHLOROBENZENE AND SODIUM SULFIDE|P-DICHLOROBENZENE-SODIUM SULFIDE-TRICHLOROBENZENE COPOLYMER|SODIUM SULFIDE (NA2S), POLYMER WITH 1,4-DICHLOROBENZENE AND TRICHLOROBENZENE|TRICHLOROBENZENE, POLYMER WITH 1,4-DICHLOROBENZENE AND SODIUM SULFIDE	72276-00-7	PHYSICAL DESCRIPTION: Tan solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2106.0	224.0	728.0	376.0	222.0	INHALATION: remove to fresh air; call a physician and alert to possibility of phosphine poisoning. EYES or SKIN: flush with water. INGESTION: give large amounts of water; call physician and alert to possibility of phosphine poisoning. (USCG, 1999)	Behavior in Fire: Can cause spontaneous ignition if wet. Contributes dense smoke of phosphoric acid. (USCG, 1999)	(BLOB)
4635	TRICHLOROBUTENE	TRICHLORBUTYLENE|TRICHLOROBUTENE	51023-22-4	A colorless liquid. Insoluble in water and less dense than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2107.0	224.0	728.0	376.0	222.0	(BLOB)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. For UN1796, UN1826, UN2031 at high concentrations and for UN2032, these may act as oxidizers, also consult GUIDE 140. Vapors may accumulate in confined areas (basement, tanks, hopper/tank cars etc.). Substance may react with water (some violently), releasing corrosive and/or toxic gases and runoff. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated or if contaminated with water. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Note: Some foams will react with the material and release corrosive/toxic gases. SMALL FIRE: CO2 (except for Cyanides), dry chemical, dry sand, alcohol-resistant foam. LARGE FIRE: Water spray, fog or alcohol-resistant foam. Move containers from fire area if you can do it without risk. Use water spray or fog; do not use straight streams. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4636	TRICHLORONAPHTHALENE	HALOWAXÂ®|NIBREN WAX|SEEKAY WAX|TRICHLORONAPHTHALENE	1321-65-9	Colorless to pale-yellow solid with an aromatic odor. mp: 93Â°C; bp: 304-354Â°C. Used in lubricants and in the manufacture of insulation for electrical wire. Presents an environmental danger. If released into the environment, bioaccumulation takes place in fish. Will persist in the environment causing long-term adverse effects. The halowaxes are technical-grade chlorinated naphthalenes containing trichloronaphthalene in its various isomers together with (mainly) tetrachloro-, pentachloro-, and hexa-chloronapthalenes in their various isomers.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2108.0	224.0	728.0	376.0	222.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4637	TRICHLORONATE	5082A|AGRISIL|AGRITOX|BAY 37289|BAYER 37289|BAYER 5081|BAYER S 4400|CHEMAGRO 37289|ENT 25,712|ENT-25712|ETHYL TRICHLOROPHENYLETHYLPHOSPHONOTHIOATE|FENOPHOSPHON|FITOSOL|O-ETHYL O-2,4,5-TRICHLOROPHENYL ETHYLPHOSPHONOTHIOATE|PHENOL, 2,4,5-TRICHLORO-, O-ESTER WITH O-ETHYL ETHYLPHOSPHONOTHIOATE|PHOSPHONOTHIOIC ACID, ETHYL-, O-ETHYL O-(2,4,5-TRICHLOROPHENYL) ESTER|PHYTOSOL|RICHLORONATE|S 4400|TRICHLORONAT|TRICHLORONATE	327-98-0	Amber liquid. Used as a non-systemic insecticide. Not sold in the U.S or Canada. Not registered as a pesticide in the U.S. (EPA, 1998)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2109.0	224.0	728.0	376.0	222.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. Behavior in Fire: May increase intensity of fire if in contact with combustible material. May melt and flow at elevated temperatures. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4638	TRICLOPYR TRIETHYLAMMONIUM SALT	TRICLOPYR TRIETHYLAMMONIUM SALT	57213-69-1	Colorless to amber liquid.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2110.0	224.0	728.0	376.0	222.0	Get medical attention. INHALATION: Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. INGESTION: Give patient 2 to 4 glasses of water and induce vomiting. EYES or SKIN: Flush with water, holding lids open occasionally if necessary. (USCG, 1999)	Special Hazards of Combustion Products: Toxic oxides of nitrogen may form in fires. Behavior in Fire: May increase intensity of fire if water evaporates. (USCG, 1999)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4634	TRICHLOROBENZENE, POLYMER WITH 1,4-DICHLOROBENZENE AND SODIUM SULFIDE	(BLOB)	Dust respirator; protective gloves and clothing; goggles. (USCG, 1999)	Decomposed by water or moist air evolving toxic phosphine gas which often ignites [Van Schwartz 1918 p.327]. Calcium phosphide reacts vigorously with water to generate gaseous PH3. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Phosphine gas will be created in 15 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	CALCIUM PHOSPHIDE and hydrochloric acid undergo a very energetic reaction [Mellor 8:841 1946-47]. Calcium and other alkaline earth phosphides incandesce in oxygen when heated.	Strong Reducing Agent; Water-Reactive; Air-Reactive	Excerpt from GUIDE 139 [Substances - Water-Reactive (Emitting Flammable and Toxic Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1360 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																				(USCG, 1999)		2910	
4635	TRICHLOROBUTENE	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. A vapor suppressing foam may be used to reduce vapors. DO NOT GET WATER INSIDE CONTAINERS. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. Prevent entry into waterways, sewers, basements or confined areas. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. (ERG, 2012)	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	The oxides of sodium and potassium react with water vigorously and with enough evolution of heat to cause boiling and spattering of hot caustic solution [Chem. Safety Data Sheets SD-9, SD-10, 1947].	SODIUM MONOXIDE reacts as a base. Sodium monoxide and nitric oxide react vigorously above 100Â°C [Mellor 2, Supp. 2:629 1961].	Water-Reactive	Excerpt from GUIDE 157 [Substances - Toxic and/or Corrosive (Non-Combustible / Water-Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4636	TRICHLORONAPHTHALENE	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Water soluble	(BLOB)		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4637	TRICHLORONATE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Dust mask; goggles or face shield; protective gloves (USCG, 1999)	Soluble in water.	SODIUM NITRITE is an oxidizing agent. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. If contaminated by ammonium compounds, spontaneous decomposition can occur and resulting heat may ignite surrounding combustible material. Reacts with acids to form toxic nitrogen dioxide gas. Mixing with liquid ammonia forms dipotassium nitrite, which is very reactive and easily explosive [Mellor 2, Supp. 3:1566 1963]. Melting together with an ammonium salt leads to a violent explosion [Von Schwartz 1918 p. 299]. A mixture with potassium cyanide may cause an explosion. Noncombustible but accelerates the burning of all combustible material. If large quantities are involved in fire or if the combustible material is finely divided, an explosion may result. When a little ammonium sulfate is added to fused potassium nitrite, a vigorous reaction occurs attended by flame [Mellor 2:702. 1946-47].	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														
4638	TRICLOPYR TRIETHYLAMMONIUM SALT	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Wear impervious protective clothing and goggles. (USCG, 1999)	Very soluble in water.	SODIUM NITRITE SOLUTION is an oxidizing agent. Reacts with reducing agents to generate heat and products that may be gaseous (causing pressurization inside closed containers). The products may themselves be capable of further reactions (such as combustion). Dissolution in water reduces but does not nullify the oxidizing power of nitrites. Reacts with acids to form toxic nitrogen dioxide gas. Mixtures with phosphorus, tin(II) chloride or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. When a mixture with sodium thiosulfate was heated to dryness, a violent explosion occurred [Mellor 10:501 1946-47]. May react with organic amines to give carcinogens (nitrosamines).	Strong Oxidizing Agent	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 3287 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																														

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4634	TRICHLOROBENZENE, POLYMER WITH 1,4-DICHLOROBENZENE AND SODIUM SULFIDE														(USCG, 1999)		2.51		68								(USCG, 1999)		182.2												CPP	Dangerous When Wet|Poison	Ca.P		0.0	0.0	0.0	0.0	0.0
4635	TRICHLOROBUTENE																																									Corrosive	Na2O	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4636	TRICHLORONAPHTHALENE																																									Poison	CaSeO4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4637	TRICHLORONATE														(USCG, 1999)		2.17		68		(NTP, 1992)	Decomposes at 608Â° F					(NTP, 1992)		69						(NTP, 1992)	at 66Â° F		greater than or equal to 100	mg/mL	SNT	Oxidizer|Poison	NO2.Na	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4638	TRICLOPYR TRIETHYLAMMONIUM SALT														(USCG, 1999)		1.32		60.8		(USCG, 1999)		239		760		(USCG, 1999)		69												SNI	Poison	NaNO2 (aqueous)	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4639	TRIDECANOL	ISOTRIDECANOL|ISOTRIDECYL ALCOHOL|OXOTRIDECYL ALCOHOL|TRIDECANOL|1-TRIDECANOL	26248-42-0	Oily liquid; colorless; mild, pleasant odor. Floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2110.0	224.0	729.0	376.0	222.0	(BLOB)	Special Hazards of Combustion Products: Irritating vapors and toxic gases, such as hydrogen chloride, polychlorodibenzodioxins and carbon monoxide, may be formed when involved in fire. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4640	TRIETHYL LEAD CHLORIDE	CHLOROTRIETHYLLEAD|CHLOROTRIETHYLPLUMBANE|LEAD, CHLOROTRIETHYL-|TRIETHYL LEAD CHLORIDE|TRIETHYLCHLOROPLUMBANE|TRIETHYLLEAD CHLORIDE	1067-14-7	PHYSICAL DESCRIPTION: Light peach-colored powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2111.0	224.0	729.0	376.0	222.0	INHALATION: move victim to fresh air; call physician immediately. EYES: flush immediately with clean, cool water; call physician immediately. SKIN: wash with alcohol, follow with soap and water wash. (USCG, 1999)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4641	TRIETHYLBENZENE	SYM-TRIETHYLBENZENE|TRIETHYLBENZENE|1,3,5-TRIETHYLBENZENE	25340-18-5	Colorless liquid with a weak chemical odor. Less dense than water and insoluble in water. Hence floats on water. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2112.0	224.0	729.0	376.0	222.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4642	TRIETHYLENE GLYCOL DI-(2-ETHYLBUTYRATE)	TRIETHYLENE GLYCOL DI-(2-ETHYLBUTYRATE)|TRIGLYCOL DICAPROATE|TRIGLYCOL DIHEXOATE	95-08-9	Light colored liquid. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2113.0	224.0	729.0	377.0	222.0	Get medical aid. INHALATION: Remove from exposure. If needed, give artificial respiration. EYES: Wash with running water for 15 min. Continue irrigation for additional 15 min. if physician is (USCG, 1999)	Behavior in Fire: At fire temperature decomposes to emit highly toxic and irritating phosphorus oxides. (USCG, 1999)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4643	TRIFORINE	N,N'-(1,4-PIPERAZINEDIYLBIS(2,2,2-TRICHLOROETHYLIDENE)) BISFORMAMIDE|TRIFORINE	26644-46-2	Colorless crystals. Non corrosive. Used as a fungicide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2113.0	224.0	729.0	377.0	222.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately wash the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing, wash the skin with soap and water, and get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 133 [Flammable Solids]: Flammable/combustible material. May be ignited by friction, heat, sparks or flames. Some may burn rapidly with flare burning effect. Powders, dusts, shavings, borings, turnings or cuttings may explode or burn with explosive violence. Substance may be transported in a molten form at a temperature that may be above its flash point. May re-ignite after fire is extinguished. (ERG, 2012)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4639	TRIDECANOL	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Full covering clothing, chemical protective gloves and goggles. Where dust is present, use approved dust respirator. (USCG, 1999)	Soluble in water.	SODIUM PENTACHLOROPHENATE is incompatible with strong oxidizing agents.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4640	TRIETHYL LEAD CHLORIDE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Gloves and face shield (USCG, 1999)	No rapid reaction with air No rapid reaction with water	CAMPHENE may react vigorously with strong oxidizing agents. May react exothermically with reducing agents to release hydrogen gas.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0		(USCG, 1999)		92																(USCG, 1999)		122	
4641	TRIETHYLBENZENE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Decomposes in air. Soluble in water. In both cases, a corrosive alkaline solution forms that is a strong irritant to skin and eyes.	Salts, basic, such as SODIUM PHENOLATE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydroxide ions and have pH's greater than 7.0. They react as bases to neutralize acids. These neutralizations generate heat, but less or far less than is generated by neutralization of the bases in reactivity group 10 (Bases) and the neutralization of amines. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4642	TRIETHYLENE GLYCOL DI-(2-ETHYLBUTYRATE)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Rubber gloves and boots, safety goggles or face mask, hooded suit, and respirator with approved canister, or a self-contained breathing apparatus. (USCG, 1999)	Water soluble.	SODIUM PHOSPHATE, [TRIBASIC] corrodes aluminum and zinc [Handling Chemicals Safely 1980 p. 947]. Reacts when heated above about 84ÂºC with aqueous solutions of reducing sugars other than sucrose, to evolve toxic levels of carbon monoxide [Bretherick, 5th Ed., 1995].		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4643	TRIFORINE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Highly flammable. Slightly soluble in water.	Naphthalene, CAMPHOR, glycerol, or turpentine will react violently with chromic anhydride [Haz. Chem. Data 1967 p. 68].	Highly Flammable	Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(NIOSH, 2003)		150		(NIOSH, 2003)		0.6		%	(NIOSH, 2003)		3.5	%					(NIOSH, 2003)		345	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4639	TRIDECANOL																				(USCG, 1999)	Decomposes.					(USCG, 1999)		288.35											SPC	Poison	C6HCl5O.Na		0.0	0.0	0.0	0.0	0.0
4640	TRIETHYL LEAD CHLORIDE														(USCG, 1999)		0.87		59		(USCG, 1999)		310		760		(USCG, 1999)		136											CPH	Flammable Liquid	C10H16	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4641	TRIETHYLBENZENE																																								Corrosive	C6H6O.Na		0.0	0.0	0.0	0.0	0.0
4642	TRIETHYLENE GLYCOL DI-(2-ETHYLBUTYRATE)														(USCG, 1999)	(Hydrate) 2.52 anhydrous	1.62		68		(USCG, 1999)	The hydrate loses 11 moles of water at 212Â° F.					(USCG, 1999)	163.95 (anhydrous); 380.16 (Hydrate, 12H 2 O)										SPH	Corrosive	H3O4P.12H2O.3Na|H3O4P.3Na|H3O4P.10H2O.3Na|H5O10P3.5Na|H3O9P3.3Na		0.0	0.0	0.0	0.0	0.0
4643	TRIFORINE	(NIOSH, 2003)		0.2				mm Hg							(NIOSH, 2003)		0.99				(NIOSH, 2003)		399		760		(NIOSH, 2003)		152.3		(NIOSH, 2003)	(As Camphor)	200	mg/m3	(NIOSH, 2003)	Insoluble					Flammable Solid	C10H16O		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4644	TRIHYDROXYBUTYROPHENONE	BUTYROPHENONE, 2',4',5'-TRIHYDROXY-|BUTYROPHENONE, TRIHYDROXY-|PROPYL 2,4,5-TRIHYDROXYPHENYL KETONE|THBP|TRIHYDROXYBUTYROPHENONE|2',4',5'-TRIHYDROXYBUTYROPHENONE|2,4,5-TRIHYDROXYBUTYROPHENONE	1421-63-2	PHYSICAL DESCRIPTION: Yellow-tan crystals or light yellow powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2113.0	224.0	729.0	377.0	222.0	(BLOB)	Flash point data are not available for this material, but it is probably combustible. (NTP, 1992)	Fires involving this material may be controlled using a dry chem (NTP, 1992)
4645	TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, SOLUTION (70%)	TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, SOLUTION (70%)|TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, [70% SOLUTION]	67873-91-0	A clear to light colored liquid. Exposure to this material should be avoided. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2113.0	224.0	729.0	377.0	222.0	(BLOB)	Literature sources indicate that this compound is noncombustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4646	TRIMETHYL ISOCYANURATE	ISOCYANURIC ACID, TRIMETHYL ESTER|METHYL ISOCYANATE TRIMER|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, 1,3,5-TRIMETHYL-|S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIMETHYL-|TRIMETHYL ISOCYANURATE|1,3,5-TRIMETHYL-1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRIMETHYL-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|1,3,5-TRIMETHYL-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	827-16-7	PHYSICAL DESCRIPTION: Monoclinic prisms (from water or alcohol). (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2113.0	224.0	729.0	377.0	222.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4647	TRIMETHYLCYCLOHEXYLAMINE	CYCLOHEXYLAMINE, TRIMETHYL-|TRIMETHYLCYCLOHEXYLAMINE	34216-34-7	A colorless to light yellow liquid. Insoluble in water and less dense than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2114.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Combustible material: may burn but does not ignite readily. When heated, vapors may form explosive mixtures with air: indoors, outdoors and sewers explosion hazards. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff may pollute waterways. Substance may be transported in a molten form. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4648	TRIMETHYLHEXAMETHYLENE DIISOCYANATE	HEXANE, 1,6-DIISOCYANATO- 2,2,4(2,4,4)-TRIMETHYL-TRIMETHYLHEXAMETHYLENE DIISOCYANATE|TRIMETHYLHEXAMETHYLENE ISOCYANATE|TRIMETHYLHEXAMETHYLENEDI-ISOCYANATE	28679-16-5	A colorless liquid. Insoluble in water and denser than water. Contact may irritate skin, eyes and mucous membranes. May be toxic by ingestion. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2115.0	224.0	729.0	377.0	222.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4649	TRIMETHYLHEXAMETHYLENEDIAMINES	1,6-DIAMINO-2,2,4(OR 2,4,4)-TRIMETHYLHEXANE|1,6-HEXANEDIAMINE, 2,2,4(OR2,4,4)-TRIMETHYL-|1,6-HEXANEDIAMINE, TRIMETHYL-|TRIMETHYL HEXAMETHYLENE DIAMINE|TRIMETHYL-1,6-HEXANEDIAMINE|TRIMETHYLHEXAMETHYLENEDIAMINE|TRIMETHYLHEXAMETHYLENEDIAMINES	25620-58-0	A colorless to light yellow liquid. Insoluble in water and less dense than water. Contact may severely irritate skin, eyes and mucous membranes. May be toxic by ingestion, inhalation and skin absorption. Used to make other chemicals.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2115.0	224.0	729.0	377.0	222.0	Only for burns caused by hot liquid. (USCG, 1999)		Fire Extinguishing Agents: Water (USCG, 1999)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4644	TRIHYDROXYBUTYROPHENONE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	FLUOMETURON is a trifluoromethyl urea derivative. May react with hypochlorites to form nitrogen trichloride which explodes spontaneously in air [J. Am. Chem. Soc. 63:3530 32]. May reacts with azo and diazo compounds to generate toxic gases. Reacts with strong reducing agents to form flammable gases.					0																		(NTP, 1992)				325 to 328
4645	TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, SOLUTION (70%)	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	Dust mask; goggles or face shield. (USCG, 1999)	Soluble in water. Reacts with hot water, steam or acids to produce corrosive material.	SODIUM SULFITE is a reducing agent, particularly under basic conditions. Reacts with oxidizing agents such as peroxides, epoxides, oxoacids. Emits toxic fumes of sodium oxide and oxides of sulfur if heated to decomposition [Lewis, 3rd ed., 1993, p. 1174].	Strong Reducing Agent					0														(USCG, 1999)	Not flammable			(NTP, 1992)	Decomposes		
4646	TRIMETHYL ISOCYANURATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	An amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides.					0																						
4647	TRIMETHYLCYCLOHEXYLAMINE	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Hydrolyzed by water to form hydrogen fluoride and the nontoxic phosphonic acid derivative. It is rapidly hydrolyzed by dilute aqueous sodium hydroxide.	Acidic conditions produce hydrogen fluoride; alkaline conditions produce isopropyl alcohol and polymers. When heated to decomposition or reacted with steam, it emits very toxic fumes of fluorides and oxides of phosphorus. Slightly corrosive to steel. Hydrolyzed by water.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																						
4648	TRIMETHYLHEXAMETHYLENE DIISOCYANATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. Store away from oxidizing materials. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. Splash proof safety goggles should be worn while handling this chemical. Alternatively, a full face respirator, equipped as above, may be used to provide simultaneous eye and respiratory protection. (NTP, 1992)	Soluble in hot water [Handbook of Chemistry and Physics]. May be sensitive to exposure to air and heat. The dust may become explosive, particularly when mixed with free-radical initiators or oxidizing agents. (NTP, 1992).	SORBIC ACID may discolor on exposure to light. Can react with oxidizing agents. Also incompatible with bases and reducing agents. The dust may become explosive, particularly when mixed with free-radical initiators or oxidizing agents (NTP, 1992).					0		(NTP, 1992)		260		(NTP, 1992)		0.02		g/L							(NTP, 1992)		274.1	
4649	TRIMETHYLHEXAMETHYLENEDIAMINES		Goggles or face shield; protective clothing for hot liquid. (USCG, 1999)	Water soluble.	SORBITOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.					0		(USCG, 1999)		542													(USCG, 1999)		230	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4644	TRIHYDROXYBUTYROPHENONE	(NTP, 1992)		5.00E-07		68		mm Hg																			(NTP, 1992)		232.23						(NTP, 1992)	at 70.7Â° F		less than 1	mg/mL			C10H11F3N2O		0.0	0.0	0.0	0.0	0.0
4645	TRIISOCYANATOISOCYANURATE OF ISOPHORONEDIISOCYANATE, SOLUTION (70%)	(NTP, 1992)	Negligible												(USCG, 1999)		2.633		59		(NTP, 1992)	Decomposes					(NTP, 1992)		126.04						(NTP, 1992)	Soluble in 3.2 parts				SSF		Na2SO3		0.0	0.0	0.0	0.0	0.0
4646	TRIMETHYL ISOCYANURATE																										(NTP, 1992)		388.56													C26H32N2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4647	TRIMETHYLCYCLOHEXYLAMINE																																								Poison	CH3PO(FO)OCH(CH3)C(CH3)3		0.0	0.0	0.0	0.0	0.0
4648	TRIMETHYLHEXAMETHYLENE DIISOCYANATE	(NTP, 1992)	; 9.8 mm Hg at 266Â° F		less than 0.01	68		mm Hg	(NTP, 1992)		3.87				(NTP, 1992)		1.204		66		(NTP, 1992)	(decomposes)	442		760		(NTP, 1992)		112.13						(NTP, 1992)	at 68Â° F		less than 1	mg/mL			C6H8O2	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4649	TRIMETHYLHEXAMETHYLENEDIAMINES														(USCG, 1999)		1.49		59		(USCG, 1999)	Very high					(USCG, 1999)		182.17											SBT		C6H14O6	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4650	TRIMETHYLOXONIUM HEXACHLORANTIMONATE	ANTIMONATE(1-), HEXACHLORO-, (OC-6-11)-, TRIMETHYLOXONIUM|ANTIMONATE(1-), HEXACHLORO-, TRIMETHYLOXONIUM|OXONIUM, TRIMETHYL-, HEXACHLOROANTIMONATE(1-)|TRIMETHYLOXONIUM HEXACHLORANTIMONATE| TRIMETHYLOXONIUM HEXACHLOROANTIMONATE|TRIMETHYLOXONIUM HEXACHLOROANTIMONATE(1-)	54075-76-2	PHYSICAL DESCRIPTION: Light brown powder. (NTP, 1992) It is a powerful alkylating agent.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2116.0	224.0	729.0	377.0	222.0	(BLOB)	Special Hazards of Combustion Products: Toxic oxides of nitrogen (USCG, 1999)	
4651	TRINITROANISOLE	METHYL PICRATE|TRINITROANISOLE|2,4,6-TRINITROPHENYL METHYL ETHER	606-35-9	A crystalline structure. Highly toxic. May explode under exposure to intense heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2116.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4652	TRINITROBENZOIC ACID, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	1-CARBOXY-2-4-6-TRINITROBENZENE|SYM-TRINITROBENZOIC ACID|TRINITROBENZOIC ACID|TRINITROBENZOIC ACID, WETTED|TRINITROBENZOIC ACID, WETTED WITH ALCOHOL, ETHER, OR BENZENE|TRINITROBENZOIC ACID, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]|2, 4, 6-TRINITROBENZOIC ACID	35860-50-5	â€œTrinitrobenzoic acid, wetted, with not less than 10% water by massâ€ is a white to yellow moist mass of crystals or a slurry. An explosive, but wetting lowers the risk of detonation. Dangerously explosive if allowed to dry out. The dry compound melts at 229â°C, is slightly denser than water and is insoluble in water. Store tightly sealed (to protect from drying out) in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. May be irritating to skin, eyes and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2116.0	224.0	729.0	377.0	222.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of chloride and nitrogen oxides. The aqueous solution is stable even when heated. (EPA, 1998)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4653	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	2-CHLORO-1,3,5-TRINITROBENZENE|CHLOROTRINITROBENZENE|TNCB|TRINITROCHLOROBENZENE|TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED|TRINITROCHLOROBENZENE (PICRYL CHLORIDE), WETTED IN ALCOHOL OR ETHER|TRINITROCHLOROBENZENE (PICRYL CHLORIDE), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]|TRINITROCHLOROBENZENE, 2,4,6- (PICRYL CHLORIDE)|2,4,6-TRINITROCHLOROBENZENE	28260-61-9	â€œTrinitrochlorobenzene (picryl chloride), wetted, with not less than 10% water by massâ€ is a white to yellow moist mass of crystals or a slurry. An explosive, but wetting lowers the risk of detonation. Dangerously explosive if allowed to dry out. The dry compound melts at 83-85Â°C, is denser than water and is insoluble in water. May be toxic by ingestion. Store tightly sealed (to protect from drying out) in a cool, ventilated place, away from acute fire hazards and easily oxidized materials. May be irritating to skin and mucous membranes.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2117.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Containers may explode when heated. Runoff may pollute waterways. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. Use water spray or fog; do not use straight streams. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4654	TRINITROMETACRESOL	2,4,6-TRINITRO-M-CRESOL|TRINITROMETACRESOL|2,4,6-TRINITROMETACRESOL	602-99-3	A detonating explosive in the form of yellow needles. Readily soluble in alcohol, ether, and acetone. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Under prolonged exposure to fire or heat the containers may explode violently.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2118.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4650	TRIMETHYLOXONIUM HEXACHLORANTIMONATE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	Water soluble.	CAPROLACTAM is hygroscopic. This compound can react with strong oxidizing agents and strong bases. It can also react with chlorinated hydrocarbons and nitro compounds. A potentially explosive reaction occurs with acetic acid + dinitrogen trioxide. (NTP, 1992)	Polymerizable							0		(NTP, 1992)		257		(NTP, 1992)		1.4		%	(NTP, 1992)		8		%	(NTP, 1992)		707		(NTP, 1992)		156	
		Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Highly flammable. Water insoluble.	Peroxides, such as CAPRYLYL PEROXIDE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry	Highly Flammable; Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4651	TRINITROANISOLE																																			
4652	TRINITROBENZOIC ACID, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	Avoid skin contact. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Hygroscopic.	CARBACHOL CHLORIDE is a carbamate ester. Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(EPA, 1998)		392 to 401	
4653	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	No rapid reaction with air No rapid reaction with water	Carbamates are chemically similar to, but more reactive than amides. Like amides they form polymers such as polyurethane resins. Carbamates are incompatible with strong acids and bases, and especially incompatible with strong reducing agents such as hydrides. Flammable gaseous hydrogen is produced by the combination of active metals or nitrides with carbamates. Strongly oxidizing acids, peroxides, and hydroperoxides are incompatible with carbamates.		Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4654	TRINITROMETACRESOL	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. 2,2'-AZODI(2,4-DIMETHYL-4-METHOXYVALERONITRILE) is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4650	TRIMETHYLOXONIUM HEXACHLORANTIMONATE	(NTP, 1992)	; 3 mm Hg at 212Â° F	0.001		68		mm Hg	(NTP, 1992)		3.91				(USCG, 1999)		1.02		170.6		(NTP, 1992)		512.4		760		(NTP, 1992)		113.16						(NTP, 1992)	at 68.9Â° F		greater than or equal to 100	mg/mL	CLS		C6H11NO	Mineral-Based & Clay-Based Absorbents|Dirt/ Earth	0.0	0.0	0.0	0.0	0.0
4651	TRINITROANISOLE																																								Organic Peroxide	C16H30O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4652	TRINITROBENZOIC ACID, [WETTED WITH NOT LESS THAN 10% WATER BY MASS]																										(EPA, 1998)		182.68											Poison	C6H15N2O2.Cl		0.0	0.0	0.0	0.0	0.0
4653	TRINITROCHLOROBENZENE (PICRYL CHLORIDE), [WETTED WITH NOT LESS THAN 10% WATER BY MASS]																																							Poison			0.0	0.0	0.0	0.0	0.0
4654	TRINITROMETACRESOL																																							Flammable Solid	C16H28N4O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4655	TRINITROPHENETOLE	TRINITROPHENETOLE	4732-14-3	A detonating explosive in the form of yellow needles. Readily soluble in alcohol, ether, and acetone. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments. Under prolonged exposure to fire or heat the containers may explode.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2119.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4656	TRIPELENAMINE	BENZOXALE[2-(BENZYL(2-DIMETHYLAMINOETHYL)AMINO)PYRIDINE|2-[BENZYL(2-DIMETHYLAMINOETHYL)AMINO]PYRIDINE|BETA-DIMETHYLAMINOETHYL-2-PYRIDYLAMINOTOLUENE|BETA-DIMETHYLAMINOETHYL-2-PYRIDYLBENZYLAMINE|CIZARON|DEHISTIN|N,N-DIMETHYL-N'-(PHENYLMETHYL)-N'-2-PYRIDINYL-1,2-ETHANEDIAMINE|N,N-DIMETHYL-N'-BENZYL-N'-(ALPHA-PYRIDYL)ETHYLENEDIAMINE|N-BENZYL-N',N'-DIMETHYL-N-2-PYRIDYLETHYLENEDIAMINE|PBZ|PIRIBENZIL|PYRIBENZAMIN|PYRIBENZAMINE|PYRIDINE, 2-[BENZYL[2-(DIMETHYLAMINO)ETHYL]AMINO]-|PYRINAMINE BASE|RESISTAMINE|TONARIL/TRIPELENAMINE|TRIPELE	91-81-6	PHYSICAL DESCRIPTION: Oily liquid with an amine odor. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2120.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. For minor skin contact, avoid spreading material on unaffected skin. Keep victim warm and quiet. Effects of exposure (inhalation, ingestion or skin contact) to substance may be delayed. Ensure that medical personnel are aware of the material(s) involved and take	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Non-combustible, substance itself does not burn but may decompose upon heating to produce corrosive and/or toxic fumes. Some are oxidizers and may ignite combustibles (wood, paper, oil, clothing, etc.). Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. For UN3171, if Lithium ion batteries are involved, also consult GUIDE 147. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: SMALL FIRE: Dry chemical, CO2 or water spray. LARGE FIRE: Dry chemical, CO2, alcohol-resistant foam or water spray. Move containers from fire area if you can do it without risk. Dike fire-control water for later disposal; do not scatter the material. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4657	TRIPROPYLENE	PETROLEUM PROPYLENE TRIMER|PROPENE, TRIMER|PROPYLENE TRIMER|TRIPROPYLENE	13987-01-4	A clear colorless liquid with a sharp odor. Insoluble in water and less dense than water. Hence floats on water. May irritate skin on contact. Vapors heavier than air. Inhalation of vapors may cause irritation. Prolonged inhalation may lead to breathing difficulty. Ingestion causes abdominal discomfort, nausea and diarrhea. Used to make other chemicals and as a lubricating oil additive.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2121.0	224.0	729.0	377.0	222.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, wash the contaminated skin with soap and water. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. Other measures are usually unnecessary. Swallow: If this chemical has been swallowed, get medical attention immediately. (NIOSH, 2003)		
4658	TRI-P-TOLYL PHOSPHATE	P-TOLYL PHOSPHATE (C7H7O)3PO|PHOSPHORIC ACID, TRI-P-TOLYL ESTER|PHOSPHORIC ACID, TRIS(4-METHYLPHENYL) ESTER|TPCP|TRI-P-CRESYL PHOSPHATE|TRI-P-TOLYL-PHOSPHATE|TRIS(4-METHYLPHENYL) PHOSPHATE|TRIS(P-CRESYL) PHOSPHATE|TRIS(P-METHYLPHENYL) PHOSPHATE	78-32-0	PHYSICAL DESCRIPTION: Crystalline solid. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2122.0	224.0	729.0	377.0	222.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of chlorine and fluorine-containing compounds. (Non-Specific -- Chloroacetyl Chloride and Fluoroacetic Acid) Some of these materials may ignite combustibles (i.e., wood, paper, oil, etc.) or react violently with water. (EPA, 1998)	(Non-Specific -- Chloroacetyl Chloride and Fluoroacetic Acid) Spray cooling water on containers that are exposed to flames until well after fire is out. Move container from fire area if you can do so without risk. Do not get water in container, as material may react violently with water. (Non-Specific -- Chloroacetyl Chloride and Fluoroacetic Acid) Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4659	TRIS(2,3-DIBROMOPROPYL) PHOSPHATE	ANFRAM 3PB|APEX 462-5|BROMKAL P 67-6HP|2,3-DIBROMO-1-PROPANOL PHOSPHATE (3:1)|2,3-DIBROMO-1-PROPANOL PHOSPHATE|(2,3-DIBROMOPROPYL) PHOSPHATE|ES 685|ES685|FIREMASTER LV-T 23P|FIREMASTER T 23|FIREMASTER T 23P|FIREMASTER T23P|FIREMASTER T23P-LV|FLACAVON R|FLAMEX T 23P|FLAMMEX AP|FLAMMEX LV-T 23P|FLAMMEX T 23P|FYROL HB 32|FYROL HB32|NCI-C03270|3PBR|PHOSCON FR 150|PHOSCON PE 60|PHOSCON UF-S|PHOSPHORIC ACID, TRIS(2,3-DIBROMOPROPYL) ESTER|1-PROPANOL, 2,3-DIBROMO-, PHOSPHATE (3:1)|T 23P|TDBPP|TRIS|TRIS (FLAME RETARDANT)|TRIS(2,3-DIBROMOPROPYL)	126-72-7	PHYSICAL DESCRIPTION: Clear colorless to pale yellow viscous liquid. (NTP, 1992)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2122.0	224.0	729.0	377.0	222.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4655	TRINITROPHENETOLE	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. 2,2'-AZODI-(2,4-DIMETHYLVALERONITRILE) is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4656	TRIPELENAMINE	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Soluble in water. Reacts with water to form Hydrochloric Acid in dense white fumes [Merck 11th ed. 1989].	Acidic salts, such as STANNIC CHLORIDE, are generally soluble in water. The resulting solutions contain moderate concentrations of hydrogen ions and have pH's of less than 7.0. They react as acids to neutralize bases. These neutralizations generate heat, but less or far less than is generated by neutralization of inorganic acids, inorganic oxoacids, and carboxylic acid. They usually do not react as either oxidizing agents or reducing agents but such behavior is not impossible. Many of these compounds catalyze organic reactions.	Water-Reactive; Air-Reactive	Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4657	TRIPROPYLENE		Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should wash daily at the end of each work shift. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: Workers whose clothing may have become contaminated should change into uncontaminated clothing before leaving the work premise. (NIOSH, 2003)	No rapid reaction with air No rapid reaction with water	STARCH is combustible. Presents a dust explosion hazard if dispersed as a fine dust in air in sufficient concentrations. Granules swell greatly in water and produce a colloidal suspension. Incompatible with oxidizing agents, acids, iodine, bases. Reacts with nitric acid/sulfuric acid mixtures to give nitrostarch, an explosive.						0																						(NIOSH, 2003)	Decomposes		
4658	TRI-P-TOLYL PHOSPHATE	(Non-Specific -- Chloroacetyl Chloride and Fluoroacetic Acid) Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors (may react violently with water). Small spills: absorb with sand or other non-combustible absorbent material and place into containers for later disposal. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	Reacts with water or moisture in air to form hydrochloric acid (hydrogen chloride)	FLUOROACETYL CHLORIDE, an acid halide, when heated to decomposition, emits very toxic fumes of chlorine and fluorine-containing compounds. May react vigorously or explosively if mixed with diisopropyl ether or other ethers in the presence of trace amounts of metal salts [J. Haz. Mat., 1981, 4, 291].	Water-Reactive; Air-Reactive	Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 2810 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																									
4659	TRIS(2,3-DIBROMOPROPYL) PHOSPHATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then dampen the solid spill material with toluene, then transfer the dampened material to a suitable container. Use absorbent paper dampened with toluene to pick up any remaining material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent-wash all contaminated surfaces with toluene followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	STEARYL PALMITATE can react with acids to liberate heat. Reacts with strong oxidizing acids Heat is also generated by the interaction with caustic solutions. Flammable hydrogen generated by mixing with alkali metals or hydrides.						0																						(NTP, 1992)		131.9 to 133.3	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4655	TRINITROPHENETOLE																																								Flammable Solid	C14H24N4		0.0	0.0	0.0	0.0	0.0
4656	TRIPELENAMINE																																								Corrosive	Cl4Sn.5H2O		0.0	0.0	0.0	0.0	0.0
4657	TRIPROPYLENE	(NIOSH, 2003)	(approx)	0				mm Hg							(NIOSH, 2003)		1.45				(NIOSH, 2003)	Decomposes					(NIOSH, 2003)	varies							(NIOSH, 2003)	Insoluble						(C6H10O5)n	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4658	TRI-P-TOLYL PHOSPHATE																										(EPA, 1998)		96.49													Poison	C2H2ClFO	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4659	TRIS(2,3-DIBROMOPROPYL) PHOSPHATE																										(NTP, 1992)		508.92							(NTP, 1992)	at 70Â° F		less than 1	mg/mL			C34H68O2		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4660	TRIS(2-CHLOROETHYL)AMINE	2-CHLORO-N,N-BIS(2-CHLOROETHYL) ETHANAMINE|ETHANAMINE,2-CHLORO-N,N-BIS(2-CHLOROETHYL)-|HN 3|TL 145|TRI-(2-CHLOROETHYL)AMINE|TRI-2-CHLOROETHYLAMINE|TRICHLORMETHINE|2,2',2"-TRICHLOROTRIETHYLAMINE|2,2',2"-TRICHLOROTRIETHYLAMINE|TRIETHYLAMINE, 2,2',2"-TRICHLORO-|TRIETHYLAMINE, 2,2',2"-TRICHLORO-|TRIS(2-CHLOROETHYL)AMINE|TRIS(BETA-CHLOROETHYL)AMINE|TS 160	555-77-1	Liquid with faint odor of fish and soap, no odor when pure. Used as a delayed-action casualty military agent.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2122.0	224.0	729.0	377.0	222.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, promptly wash the contaminated skin with soap and water. If this chemical penetrates the clothing promptly remove the clothing and wash the skin with soap and water. Get medical attention promptly. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible. Swallow: If this chemical has been	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4661	TRIS(2-KETOPROPYL) ISOCYANURATE	TRIS(2-KETOPROPYL) ISOCYANURATE|1,3,5-TRIS[2-OXOPROPYL]-1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE	61050-97-3		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	224.0	729.0	377.0	222.0	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. These materials are particularly sensitive to temperature rises. Above a given "Control Temperature" they decompose violently and catch fire. May be ignited by heat, sparks or flames. Some may decompose explosively when heated or involved in a fire. May burn violently. Decomposition may be self-accelerating and produce large amounts of gases. Vapors or dust may form explosive mixtures with air. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: The temperature of the substance must be maintained at or below the "Control Temperature" at all times. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Flood fire area with water from a distance. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: BEWARE OF POSSIBLE CONTAINER EXPLOSION. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4662	TRIS(3-CHLORO-2-HYDROXYPROPYL)ISOCYANURATE	S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIS(3-CHLORO-2-HYDROXYPROPYL)-|TRIS(3-CHLORO-2-HYDROXYPROPYL) ISOCYANURATE|1,3,5-TRIS(3-CHLORO-2-HYDROXYPROPYL)-1,3,5-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRIS(3-CHLORO-2-HYDROXYPROPYL)-S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE|TRIS(3-CHLORO-2-HYDROXYPROPYL)ISOCYANURATE	7423-53-2		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	224.0	729.0	377.0	222.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4663	TRIS(CARBAMOYLMETHYL) ISOCYANURATE	2,4,6-TRIOXO-S-TRIAZINE-1,3,5(2H,4H,6H)TRIACETAMIDE|TRIS(CARBAMOYLMETHYL) ISOCYANURATE	1843-48-7		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	224.0	729.0	377.0	223.0	(BLOB)	Literature sources indicate that this compound is nonflammable. (NTP, 1992)	Fires involving this compound can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4664	TRIS(TRIPHENYLSTANNYL) ISOCYANURATE	S-TRIAZINE-2,4,6(1H,3H,5H)-TRIONE, TRIS(TRIPHENYLSTANNYL)-|(2,4,6-TRIOXO-S-TRIAZINE-1,3,5(2H,4H,6H)-TRIYL)TRIS[TRIPHENYLTIN]|TRIS(TRIPHENYLSTANNYL) ISOCYANURATE|TRIS(TRIPHENYLSTANNYL)ISOCYANURATE|TRIS(TRIPHENYLSTANNYL)-S-TRIAZINE 2,4,6(1H,3H,5H)-TRIONE	752-74-9		1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	224.0	729.0	377.0	223.0	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: May explode from heat or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4660	TRIS(2-CHLOROETHYL)AMINE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet or significantly contaminated should be removed and replaced. Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Flammable. Insoluble in water.	NAPHTHA: STODDARD SOLVENT is incompatible with the following: Strong oxidizers (NIOSH, 1997).		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		1	2	0	2		(USCG, 1999)		110		(USCG, 1999)		0.8		%	(USCG, 1999)		5		%	(USCG, 1999)		540					
4661	TRIS(2-KETOPROPYL) ISOCYANURATE	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	Dust may form an explosive mixture in air. Insoluble in water.	Self-decomposition or self-ignition may be triggered by heat, chemical reaction, friction or impact. Self-accelerating decomposition may occur if the specific control temperature is not maintained. 2,2'-AZODI-(2-METHYLBUTYRONITRILE) is an azo compound. Azo, diazo, azido compounds can detonate. This applies in particular to organic azides that have been sensitized by the addition of metal salts or strong acids. Toxic gases are formed by mixing materials of this class with acids, aldehydes, amides, carbamates, cyanides, inorganic fluorides, halogenated organics, isocyanates, ketones, metals, nitrides, peroxides, phenols, epoxides, acyl halides, and strong oxidizing or reducing agents. Flammable gases are formed by mixing materials in this group with alkali metals. Explosive combination can occur with strong oxidizing agents, metal salts, peroxides, and sulfides.	Explosive	Excerpt from GUIDE 150 [Substances (Self-Reactive / Temperature Controlled)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4662	TRIS(3-CHLORO-2-HYDROXYPROPYL)ISOCYANURATE	SMALL SPILLS AND LEAKAGE: If a spill of this chemical occurs, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with acetone and transfer the dampened material to a suitable container. Use absorbent paper dampened with acetone to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with acetone followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	An esterl. Esters react with acids to liberate heat along with alcohols and acids. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Heat is also generated by the interaction of esters with caustic solutions. Flammable hydrogen is generated by mixing esters with alkali metals and hydrides.						0																					(NTP, 1992)		207 to 212
4663	TRIS(CARBAMOYLMETHYL) ISOCYANURATE	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Hygroscopic (NTP, 1992). Insoluble in water.	A brominated alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.						0																					(NTP, 1992)		228 to 230
4664	TRIS(TRIPHENYLSTANNYL) ISOCYANURATE	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,2-DI-(4,4-DI-TERT-BUTYLPEROXYCYCLOHEXYL)PROPANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 145 [Organic Peroxides (Heat and Contamination Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4660	TRIS(2-CHLOROETHYL)AMINE	(USCG, 1999)		5.17				mm Hg							(USCG, 1999)		0.78		68		(USCG, 1999)			320 to 390	760										(NIOSH, 2003)	Insoluble				NSS	Flammable Liquid			0.0	0.0	0.0	0.0	0.0
4661	TRIS(2-KETOPROPYL) ISOCYANURATE																																								Flammable Solid	C10H16N4		0.0	0.0	0.0	0.0	0.0
4662	TRIS(3-CHLORO-2-HYDROXYPROPYL)ISOCYANURATE														(NTP, 1992)		1.2801		86								(NTP, 1992)		552.61						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C33H28O8		0.0	0.0	0.0	0.0	0.0
4663	TRIS(CARBAMOYLMETHYL) ISOCYANURATE														(NTP, 1992)		2.2				(NTP, 1992)	(decomposes)	455		760		(NTP, 1992)		261.97						(NTP, 1992)	at 66Â° F		less than 1	mg/mL			C5H10Br2O2	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4664	TRIS(TRIPHENYLSTANNYL) ISOCYANURATE																																								Organic Peroxide	C31H60O8	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4665	TRITONAL	ALUMINUM, MIXT. CONTAINING|TRITONAL|TRITONAL 80/20	54413-15-9	A castable mixture of 20-40% aluminum and 80-60% TNT. Explosive, especially under exposure to heat or fire. Primary hazard is blast of an instantaneous explosion, not flying projectiles or fragments.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	224.0	729.0	377.0	223.0	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. Contaminated clothing may be a fire risk when dry. Remove material from skin immediately. In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames. May burn rapidly with flare-burning effect. Containers may explode when heated. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: SMALL FIRE: Water spray or fog is preferred; if water not available use dry chemical, CO2 or regular foam. LARGE FIRE: Flood fire area with water from a distance. Use water spray or fog; do not use straight streams. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4666	TUNGSTEN CARBIDE	CEMENTED TUNGSTEN CARBIDE|CEMENTED WC|HARD METAL|UNI-C61198|SL 350|SYL-CARB SC 104|SYLCARB SC 45|TUNGSTEN CARBIDE|TUNGSTEN CARBIDE (CEMENTED)|TUNGSTEN CARBIDE (W2C2)|TUNGSTEN MONOCARBIDE|TUNGSTEN MONOCARBIDE (WC)|WC 20|WCIO	11130-73-7	PHYSICAL DESCRIPTION: Gray powder. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2123.0	225.0	729.0	377.0	224.0	(BLOB)	Ignition temperature dangerously low: 212F. Vapors may be ignited by contact with ordinary light bulb, when heated to decomposition, it emits highly toxic fumes of oxides of sulfur. When heated to decomposition, emits highly toxic fumes of sulfur oxides and can react vigorously with oxidizing materials. Avoid air, rust, halogens, metal azides, metals, oxidants; when exposed to heat or flame reacts violently with aluminum, chlorine, azides, hypochlorite, ethylamine diamine, ethylene imine, fluorine, metallic azides of lithium, potassium, cesium, rubidium and sodium, nitrogen oxides, potassium, zinc and (sulfuric acid plus permanganate). Decomposes on standing for a long time. (EPA, 1998)	If the vapor concentration exceeds 2 percent by volume or is unknown, self-contained breathing mask with full face should be used by all persons entering contaminated area. Wear special protective clothing. Isolate for 1/2 mile in all directions if tank car or truck is involved in fire. Use dry chemical, carbon dioxide or other inert gas. Cooling and blanketing with water spray is effective in case of fires in metal containers or tanks to help prevent reignition by hot surfaces. Foam is ineffective. (EPA, 1998)
4667	TURPENTINE SUBSTITUTE	AMSCO 140|COASTAL PALE OIL 105|COATING MATERIALS, VEHICLES, PETROLEUM SPIRITS|LAWS|LAWS (SOLVENT)|MINERAL SPIRITS|NAPHTHA|NAPHTHA, PETROLEUM SPIRITS|PETROLEUM SPIRITS|SHELLSOL 340|SOLTROL|SOLTROL 100|SOLTROL 180|SOLTROL 220|SOLTROL 50|SOLVENT 140|SPIRITS|TERLITOL 16/18|TURPENTINE SUBSTITUTE|TURPENTINE SUBSTITUTES|VARSOL 40|WHITE SPIRITS	64475-85-0	A clear colorless to variably colored liquid. Insoluble in water. Flash point between 100 and 141Â°F.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2123.0	225.0	729.0	377.0	224.0	Call for medical aid. EYES: Rinse with water. SKIN: Wash with water for 15 minutes. INGESTION: Drink water, milk, or activated charcoal; then induce vomiting. (USCG, 1999)	Special Hazards of Combustion Products: Yields toxic gaseous oxides of nitrogen when involved in fire. Behavior in Fire: While not flammable, as a strong oxidizer will increase the intensity of combustion. May explode on shock or exposure to intense heat. (USCG, 1999)	Excerpt from GUIDE 140 [Oxidizers]: SMALL FIRE: Use water. Do not use dry chemicals or foams. CO2 or HalonÂ® may provide limited control. LARGE FIRE: Flood fire area with water from a distance. Do not move cargo or vehicle if cargo has been exposed to heat. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)
4668	URANIUM PEROXIDE	URANIUM OXIDE (UO4)|URANIUM OXIDE PEROXIDE (UO2[O2])|URANIUM PEROXIDE	12036-71-4	Pale yellow crystalline solid. Denser than water. (USCG, 1999)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	225.0	729.0	377.0	224.0	Get medical attention quickly following all exposures to this compound. INHALATION: remove victim to fresh air; if he is unconscious, give artificial respiration. EYES: flush with water until medical help arrives. SKIN: flush with water until medical help arrives; soak burned area in strong Epsom salt solution; pay particular attention to area around fingernails. INGESTION: give large amounts of water. (USCG, 1999)	Special Hazards of Combustion Products: Toxic and irritating fumes of hydrogen fluoride and sulfuric acid may form in fires. Behavior in Fire: Contact with water applied to adjacent fires produces toxic, irritating fumes of hydrogen fluoride. (USCG, 1999)	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: When material is not involved in fire, do not use water on material itself. SMALL FIRE: Dry chemical or CO2. Move containers from fire area if you can do it without risk. LARGE FIRE: Flood fire area with large quantities of water, while knocking down vapors with water fog. If insufficient water supply: knock down vapors only. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4669	VANILLAN BLACK LIQUOR	UF OXYLIGNIN|VANILLAN BLACK LIQUOR	68514-06-7	Brown liquid with a sweet odor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2124.0	225.0	730.0	377.0	224.0	(BLOB)	Behavior in Fire: Vapor is heavier than air and may travel considerable distance to a source of ignition and flash back. At elevated temperatures such as in fire conditions, polymerization may take place which may lead to container explosion. (USCG, 1999)	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: CAUTION: All these products have a very low flash point: Use of water spray when fighting fire may be inefficient. CAUTION: For mixtures containing alcohol or polar solvent, alcohol-resistant foam may be more effective. SMALL FIRE: Dry chemical, CO2, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. (ERG, 2012)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4665	TRITONAL	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep substance wet using water spray. Stop leak if you can do it without risk. SMALL SPILL: Take up with inert, damp, non-combustible material using clean non-sparking tools and place into loosely covered plastic containers for later disposal. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing will only provide limited protection. (ERG, 2012)	No rapid reaction with air. No rapid reaction with water.	Peroxides, such as 2,2-DI-(TERT-BUTYLPEROXY)BUTANE, are good oxidizing agents. Organic compounds can ignite on contact with concentrated peroxides. Strongly reduced material such as sulfides, nitrides, and hydrides may react explosively with peroxides. There are few chemical classes that do not at least produce heat when mixed with peroxides. Many produce explosions or generate gases (toxic and nontoxic). Generally, dilute solutions of peroxides (<70%) are safe, but the presence of a catalyst (often a transition metal such as cobalt, iron, manganese, nickel, or vanadium) as an impurity may even then cause rapid decomposition, a buildup of heat, and even an explosion. Solutions of peroxides often become explosive when evaporated to dryness or near-dryness. Danger of explosion when dry. May explode from heat, shock, friction or contamination. May ignite combustibles (wood, paper, oil, clothing, etc.). May be ignited by heat, sparks or flames.	Explosive; Strong Oxidizing Agent	Excerpt from GUIDE 146 [Organic Peroxides (Heat, Contamination and Friction Sensitive)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial evacuation for at least 250 meters (800 feet) in all directions. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																									
4666	TUNGSTEN CARBIDE	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. SMALL SPILL: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	CARBON BISULFIDE has an extremely low autoignition temperature (125Â°C). May ignite or even explode when heated. The vapor or liquid has been known to ignite on contact with steam pipes, particularly if rusted [Anon., J. Roy. Inst. Chem., 1956, 80, p.664]. Explosion hazard when exposed to flame, heat, sparks or friction. Mixtures with lithium, sodium, potassium or dinitrogen tetraoxide may detonate when shocked. Potentially explosive reaction with nitrogen oxide, chlorine, permanganic acid(strong oxidizing agents). Vapor ignites in contact with aluminum powder or fluorine. Reacts violently with azides, ethylamine ethylenediamine, ethylene imine. Emits highly toxic fumes of oxides of sulfur when heated to decomposition [Bretherick, 5th ed., 1995, p. 663]. Sodium amide forms toxic and flammable H2S gas with CS2. (714)	Highly Flammable	Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		3	4	0	4		(EPA, 1998)		-22		(EPA, 1998)		1		%	(EPA, 1998)		50		%	(USCG, 1999)		212		(EPA, 1998)		-167	
4667	TURPENTINE SUBSTITUTE	Excerpt from GUIDE 140 [Oxidizers]: Keep combustibles (wood, paper, oil, etc.) away from spilled material. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Do not get water inside containers. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. SMALL LIQUID SPILL: Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Following product recovery, flush area with water. (ERG, 2012)	Rubber gloves, goggles, laboratory coat. (USCG, 1999)	Soluble in water.	Mixtures of metal/nonmetal nitrates with alkyl esters may explode, owing to the formation of alkyl nitrates; mixtures of a nitrate with phosphorus, tin (II) chloride, or other reducing agents may react explosively [Bretherick 1979 p. 108-109]. Special Hazards of Combustion Products: Yields toxic gaseous oxides of nitrogen when involved in fire.	Strong Oxidizing Agent	Excerpt from GUIDE 140 [Oxidizers]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(USCG, 1999)		1058	
4668	URANIUM PEROXIDE	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Use water spray to reduce vapors; do not put water directly on leak, spill area or inside container. Keep combustibles (wood, paper, oil, etc.) away from spilled material. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Use clean non-sparking tools to collect material and place it into loosely covered plastic containers for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Rubber gloves, shoes, and clothing; goggles and face shield; acid-type canister mask or air-line mask. (USCG, 1999)	Fumes in air. Reacts violently with water to form hydrogen fluoride and sulfuric acid mist. Based on a scenario where the chemical is spilled into an excess of water (at least 5 fold excess of water), half of the maximum theoretical yield of Hydrogen Fluoride gas will be created in 0.12 minutes. Experimental details are in the following: "Development of the Table of Initial Isolation and Protective Distances for the 2008 Emergency Response Guidebook", ANL/DIS-09-2, D.F. Brown, H.M. Hartmann, W.A. Freeman, and W.D. Haney, Argonne National Laboratory, Argonne, Illinois, June 2009.	FLUOROSULFONIC ACID is very strongly acidic [Merck]. Reacts exothermically with chemical bases (examples: amines, amides, and inorganic hydroxides). These reactions can generate dangerously large amounts of heat in small spaces. Reacts violently with water to generate hydrofluoric acid and sulfuric acid. Reacts with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas. Can initiate the polymerization of certain alkenes. Reacts with cyanide compounds to release gaseous hydrogen cyanide. Generates flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and carbonates. May catalyze (increase the rate of) chemical reactions.	Known Catalytic Activity; Water-Reactive; Air-Reactive	Excerpt from GUIDE 137 [Substances - Water-Reactive - Corrosive]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: See ERG Table 1 - Initial Isolation and Protective Action Distances on the UN/NA 1777 datasheet. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)					0																							(USCG, 1999)		-125.1	
4669	VANILLAN BLACK LIQUOR	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	Skin: Wear appropriate personal protective clothing to prevent skin contact. Eyes: Wear appropriate eye protection to prevent eye contact. Wash skin: The worker should immediately wash the skin when it becomes contaminated. Remove: Work clothing that becomes wet should be immediately removed due to its flammability hazard(i.e. for liquids with flash point < 100Â°F) Change: No recommendation is made specifying the need for the worker to change clothing after the work shift. (NIOSH, 2003)	Highly flammable. Insoluble in water.	(BLOB)	Highly Flammable; Polymerizable; Peroxidizable Compound	Excerpt from GUIDE 128P [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	3	2	5		(NTP, 1992)		88		(NTP, 1992)		1.1		%	(NTP, 1992)		6.1		%	(USCG, 1999)		914		(NTP, 1992)		-24 to -23	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4665	TRITONAL																																								Organic Peroxide	C12H26O4	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4666	TUNGSTEN CARBIDE	(EPA, 1998)		360		77		mm Hg	(EPA, 1998)		2.67				(EPA, 1998)		1.2632		68		(EPA, 1998)		116		760		(EPA, 1998)		76.13		(NIOSH, 2003)		500	ppm	(NTP, 1992)	at 68Â° F		less than 1	mg/mL	CBB	Flammable Liquid|Poison	CS2		0.0	0.0	0.0	0.0	0.0
4667	TURPENTINE SUBSTITUTE														(USCG, 1999)		2.98				(USCG, 1999)		1193		760		(USCG, 1999)		211.63											STN	Oxidizer	HNO3.1I2Sr	Cellulose-Based Absorbents|Expanded Polymeric Absorbents	0.0	0.0	0.0	0.0	0.0
4668	URANIUM PEROXIDE														(USCG, 1999)		1.73		77		(USCG, 1999)		324.9		760		(USCG, 1999)		100.07											FSA	Corrosive	HSO3F	Mineral-Based & Clay-Based Absorbents|Sand|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4669	VANILLAN BLACK LIQUOR	(NTP, 1992)	: 9.5 mm Hg at 86Â° F; 10 mm Hg at 95Â° F	4.3		59		mm Hg							(USCG, 1999)		0.906		68		(NTP, 1992)			293 to 295	760		(NTP, 1992)		104.16		(NIOSH, 2003)		700	ppm	(NTP, 1992)	at 66Â° F		less than 1	mg/mL	STY	Flammable Liquid	C8H8	Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4670	VINYLPYRIDINES, INHIBITED	PYRIDINE, VINYL-[VINYL PYRIDINE, [INHIBITED]|VINYLPYRIDINE|VINYLPYRIDINES, INHIBITED	1337-81-1	Colorless to light yellow liquid that consists of a mixture of isomers. Insoluble in water and less dense than water. Floats on water. Contact irritates skin, eyes, and mucous membranes. Toxic by ingestion.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4671	VITAMIN D3 EMULSIFIABLE	VITAMIN D3 EMULSIFIABLE	1406-16-2	PHYSICAL DESCRIPTION: Cream colored powder. Insoluble in water. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	No treatment required (USCG, 1999)	Special Hazards of Combustion Products: Incomplete combustion forms toxic carbon monoxide. (USCG, 1999)	Excerpt from GUIDE 133 [Flammable Solids]: SMALL FIRE: Dry chemical, CO2, sand, earth, water spray or regular foam. LARGE FIRE: Water spray, fog or regular foam. Move containers from fire area if you can do it without risk. Fire Involving Metal Pigments or Pastes (e.g. "Aluminum Paste") Aluminum Paste fires should be treated as a combustible metal fire. Use DRY sand, graphite powder, dry sodium chloride based extinguishers, G-1Â® or Met-L-XÂ® powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Cool containers with flooding quantities of water until well after fire is out. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. (ERG, 2012)
4672	XYLYL BROMIDE	BROMOXYLENE|MONOBROMOXYLENE|XYLYL BROMIDE	35884-77-6	Colorless crystals or a clear colorless liquid. Vapors extremely irritate the eyes and mucous membranes.	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of oxides of nitrogen and sulfur. (EPA, 1998)	(Non-Specific -- Poisonous Solid, n.o.s.) Wear self-contained (positive pressure if available) breathing apparatus and full protective clothing. (Non-Specific -- Poisonous Solid, n.o.s.) For small fires use dry chemical, carbon dioxide, water spray, or foam. Use water spray, fog, or foam on larger fires. Move container from fire area if you can do so without risk. (EPA, 1998)
4673	XYLYLENE DICHLORIDE	ALPHA,ALPHA'-DICHLOROXYLENE|BENZENE, 1,2-BIS(CHLOROMETHYL)-|BENZENE, 1,3-BIS(CHLOROMETHYL)-|BENZENE, 1,4-BIS(CHLOROMETHYL)-|BENZENE, BIS(CHLOROMETHYL)-|BIS(CHLOROMETHYL)BENZENE|DICHLOROXYLYLENE|M-XYLYLENE CHLORIDE|O-XYLYLENE CHLORIDE|P-XYLYLENE CHLORIDE|XYLENE, ALPHA,ALPHA'-DICHLORO-|XYLENE, ALPHA,ALPHA-DICHLORO-|XYLYLENE CHLORIDE|XYLYLENE DICHLORIDE	28347-13-9	Three isomeric compounds. Crystalline solids. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	When heated to decomposition, it emits very toxic fumes of nitrogen oxides, phosphorus oxides and sulfur oxides. This compound is an organophosphorus insecticide. Some of these materials may burn but none of them ignite readily. Container may explode in heat of fire. Fire and runoff from fire control water may produce irritating or poisonous gases. Avoid alkaline pesticides; hydrolyzed by water especially under alkaline conditions. (EPA, 1998)	This compound is an organophosphorus insecticide. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. This compound is an organophosphorus insecticide. Small fires: dry chemical, carbon dioxide, water spray, or foam. Large fires: water spray, fog, or foam. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter material. (EPA, 1998)
4674	ZINC ARSENITE	ARSENIOUS ACID (HASO2), ZINC SALT|ZINC ARSENITE|ZINC ARSENITE, ZN(ASO2)2|ZINC ARSENITE, [SOLID]|ZINC METAARSENITE|ZMA	10326-24-6	White powder. Insoluble in water. Used as a wood preservative and insecticide.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	Flash point data for this chemical are not available; however, it is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4675	ZINC ASHES	ZINC ASH|ZINC ASHES|ZINC DROSS|ZINC RESIDUE|ZINC SKIMMINGS	7440-66-6	A grayish colored powder. May produce toxic zinc oxide fumes when heated to very high temperatures or when burned. Insoluble in water. Used in paints, bleaches and to make other chemicals.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. Do not use water. (NTP, 1992)
4676	ZINC BISULFITE SOLUTION	ZINC BISULFITE SOLUTION|ZINC BISULPHITE SOLUTION	15457-98-4		2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0			

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation
4670	VINYLPYRIDINES, INHIBITED	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and protect it from moisture and light. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Water solubility increases rapidly with increasing pH [Merck]. Insoluble in water.	SULFAMETHAZINE is sensitive to light and may also be sensitive to heat. The presence of oxygen and moisture may accelerate the effects of heat and light (NTP, 1992).		
4671	VITAMIN D3 EMULSIFIABLE	Excerpt from GUIDE 133 [Flammable Solids]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. SMALL DRY SPILL: With clean shovel place material into clean, dry container and cover loosely; move containers from spill area. LARGE SPILL: Wet down with water and dike for later disposal. Prevent entry into waterways, sewers, basements or confined areas. (ERG, 2012)	Respirator for dust (USCG, 1999)	Flammable. Insoluble in water.	Explosions have occurred when liquid air contacts organic matter. A cracked tube of activated charcoal immersed in liquid air exploded violently [J. Sci. Inst. 5:24 1928]. Zinc chlorate and charcoal (or finely divided organic material) form mixtures that may ignite or explode. Ignition or explosion may be caused by friction, percussion, or shock [U.S. Army Ordnance Safety Manual 1951].		Excerpt from GUIDE 133 [Flammable Solids]: As an immediate precautionary measure, isolate spill or leak area for at least 25 meters (75 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 100 meters (330 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)
4672	XYLYL BROMIDE	(Non-Specific -- Poisonous Solid, n.o.s.) Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas. Do not touch spilled material, stop leak if you can do so without risk. Absorb small spills with sand or other noncombustible material and place into containers for later disposal. For large spills, dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	When heated to decomposition, it emits very toxic fumes of oxides of nitrogen and sulfur. [EPA, 1998]. Organosulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents. Reactions with these materials generate heat and in many cases hydrogen gas. Many of these compounds may liberate hydrogen sulfide upon decomposition or reaction with an acid.		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)
4673	XYLYLENE DICHLORIDE	This compound is an organophosphorus insecticide. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel, place material into clean, dry containers and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	hydrolyzed by water especially under alkaline conditions. [EPA, 1998].	Organophosphates, such as FORMOTHION, are susceptible to formation of highly toxic and flammable phosphine gas in the presence of strong reducing agents such as hydrides. Partial oxidation by oxidizing agents may result in the release of toxic phosphorus oxides.		Excerpt from GUIDE 152 [Substances - Toxic (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)
4674	ZINC ARSENITE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, you should dampen the solid spill material with water, then transfer the dampened material to a suitable container. Use absorbent paper dampened with water to pick up any remaining material. Seal your contaminated clothing and the absorbent paper in a vapor-tight plastic bag for eventual disposal. Wash all contaminated surfaces with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this material from exposure to light, and store it in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CASANTHRANOL is an alcohol. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert them to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides.		
4675	ZINC ASHES	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under ambient temperatures, and protect it from moisture. If possible, it would be prudent to store this compound under inert atmosphere. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	CASTOR OIL can develop heat spontaneously in the air. [Hawley]. Reacts with acids to liberate heat along with alcohols and acids. Heat is also generated by interaction with caustic solutions. Strong oxidizing acids may cause a vigorous reaction that is sufficiently exothermic to ignite the reaction products. Flammable hydrogen is generated by mixing with alkali metals and hydrides.		
4676	ZINC BISULFITE SOLUTION			No rapid reaction with air. No rapid reaction with water.	2,2-DICHLORO-1,1,1-TRIFLUOROETHANE is chemically inert in many situations, but can react violently with strong reducing agents such as the very active metals and the active metals. They suffer oxidation with strong oxidizing agents and under extremes of temperature.		

id	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4670						0																				(NTP, 1992)			387 to 392
4671						0																							
4672						0																				(EPA, 1998)			304 to 324
4673						0																				(EPA, 1998)		77	
4674						0																				(NTP, 1992)	(decomposes)	248	
4675	(NFPA, 2010)		1	1	0	1		(NTP, 1992)		445												(NTP, 1992)		840		(NTP, 1992)		10	
4676						0																							

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4670	VINYLPYRIDINES, INHIBITED																									(NTP, 1992)		278.33						(NTP, 1992)	at 68.9Â° F		less than 1	mg/mL			C12H14N4O2S	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4671	VITAMIN D3 EMULSIFIABLE														(USCG, 1999)		2		68		(USCG, 1999)	Very high					(USCG, 1999)		12											CHC	Spontaneously Combustible	C		0.0	0.0	0.0	0.0	0.0
4672	XYLYL BROMIDE																									(EPA, 1998)		166.26													Poison	C8H10N2S		0.0	0.0	0.0	0.0	0.0
4673	XYLYLENE DICHLORIDE	(EPA, 1998)		8.50E-06		68		mm Hg							(EPA, 1998)		1.361		68								(EPA, 1998)		257.29											Poison	C6H12N4O4PS2	Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4674	ZINC ARSENITE																																			(NTP, 1992)	at 66Â° F		less than 1	mg/mL				Cellulose-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4675	ZINC ASHES														(USCG, 1999)		0.96		77		(NTP, 1992)		595		760										(NTP, 1992)	at 68Â° F		less than 1	mg/mL	OCA			Cellulose-Based Absorbents	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4676	ZINC BISULFITE SOLUTION																																									C2HCl2F3		0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4677	ZINC BROMATE	ZINC BROMATE	14519-07-4	A white to yellow crystalline solid. Irritates skin, eyes, and mucous membranes. May be toxic by ingestion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	377.0	224.0	(BLOB)	When heated to decomposition, it emits toxic fumes of nitrogen oxides. (EPA, 1998)	This compound is a fungicide. Move container from fire area if you can do so without risk. Fight fire from maximum distance. Dike fire control water for later disposal; do not scatter the material. Keep unnecessary people away; isolate hazard area and deny entry. Stay upwind; keep out of low areas. Ventilate closed spaces before entering them. Wear positive pressure breathing apparatus and special protective clothing. Remove and isolate contaminated clothing at the site. Extinguish with dry chemical, carbon dioxide, water spray, fog, or foam. (EPA, 1998)
4678	ZINC CHLORATE	ZINC CHLORATE	10361-95-2	A white crystalline solid. May explode under prolonged exposure to heat or fire.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2124.0	226.0	730.0	379.0	224.0	Eye: If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Get medical attention immediately. Contact lenses should not be worn when working with this chemical. Skin: If this chemical contacts the skin, immediately flush the contaminated skin with soap and water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. If irritation persists after washing, get medical attention. Breathing: If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Get medical attention as soon as possible.	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water. Substance may be transported hot. For UN3166, if Lithium ion batteries are involved, also consult GUIDE 147. If molten aluminum is involved, refer to GUIDE 169. (ERG, 2012)	Fire Extinguishing Agents Not to Be Used: Water may be ineffective Fire Extinguishing Agents: Dry chemical, foam, carbon dioxide (USCG, 1999)
4679	ZINC DITHIONITE	ZINC DITHIONITE|ZINC DITHIONITE (ZNS2O4)|ZINC HYDROSULFITE|ZINC HYDROSULPHITE	7779-86-4	Zinc dithionite is a white powder. It is noncombustible. It is soluble in water. The primary hazard is the threat to the environment. Immediate steps should be taken to limit its spread to the environment. It is used to bleach wood pulp, textiles, and other naturally occurring materials.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Move victim to fresh air. Call 911 or emergency medical service. Give artificial respiration if victim is not breathing. Administer oxygen if breathing is difficult. Remove and isolate contaminated clothing and shoes. In case of contact with substance, wipe from skin immediately; flush skin or eyes with running water for at least 20 minutes. Keep victim warm and quiet. Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Produce flammable gases on contact with water. May ignite on contact with water or moist air. Some react vigorously or explosively on contact with water. May be ignited by heat, sparks or flames. May re-ignite after fire is extinguished. Some are transported in highly flammable liquids. Runoff may create fire or explosion hazard. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: DO NOT USE WATER OR FOAM. SMALL FIRE: Dry chemical, soda ash, lime or sand. LARGE FIRE: DRY sand, dry chemical, soda ash or lime or withdraw from area and let fire burn. Move containers from fire area if you can do it without risk. FIRE INVOLVING METALS OR POWDERS (ALUMINUM, LITHIUM, MAGNESIUM, ETC.): Use dry chemical, DRY sand, sodium chloride powder, graphite powder or Met-L-XÃ® powder; in addition, for Lithium you may use Lith-XÃ® powder or copper powder. Also, see GUIDE 170. FIRE INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of
4680	ZINC PERMANGANATE	ZINC PERMANGANATE	23414-72-4	A purplish colored crystalline solid. Noncombustible but accelerates burning of combustible material. Explosion hazard if the combustible material is finely divided. Contact with liquid combustible materials may result in spontaneous ignition. Contact with sulfuric acid may result in fires or explosions.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	(BLOB)	Flash point data for this chemical are not available. It is probably combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4681	ZINC, DICHLORO(4,4-DIMETHYL-5(((METHYLAMINO)CARBONYL)OXY)IMINO)PENTANENITRILE)-,(T-4)-	AC 85258|ETHIENOCARB|PENTANENITRILE, 4,4-DIMETHYL-5-[[[(METHYLAMINO)CARBONYL]OXY]IMINO]-, ZINC COMPLEX|ZINC, DICHLORO(4,4-DIMETHYL-5(((METHYLAMINO)CARBONYL)OXY)IMINO)PENTANENITRILE)-,(T-4)-|ZINC, DICHLORO(4,4-DIMETHYL-5(((METHYLAMINO)CARBONYL)OXY)IMINO)PENTANENITRILE)-, (T-4)-|ZINC, DICHLORO(4,4-DIMETHYL-5(((METHYLAMINO)CARBONYL)OXY)IMINO)PENTANENITRILE)-, (T-4)-|ZINC, DICHLORO[4,4-DIMETHYL-5-[[[(METHYLAMINO)CARBONYL]OXY]IMINO]PENTANENITRILE]-, (T-4)-	58270-08-9	A solid. (EPA, 1998)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	(BLOB)	Literature sources indicate that this chemical is nonflammable. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide or Halon extinguisher. (NTP, 1992)
4682	ZIRCONIUM ACETATE	ZIRCONIUM ACETATE|ZIRCONIUM ACETATE SOLUTION	14311-93-4	An clear amber aqueous solution. Weak vinegar odor. (USCG, 1999)	2.5	5.0	2.5	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this material can be controlled with a dry chemical, carbon dioxide, or Halon extinguisher. (NTP, 1992)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4677	ZINC BROMATE	This compound is a fungicide. Do not touch spilled material; stop leak if you can do so without risk. Use water spray to reduce vapors. Small spills: absorb with sand or other noncombustible absorbent material and place into containers for later disposal. Small dry spills: with clean shovel place material into clean, dry container and cover; move containers from spill area. Large spills: dike far ahead of spill for later disposal. (EPA, 1998)	For emergency situations, wear a positive pressure, pressure-demand, full facepiece self-contained breathing apparatus (SCBA) or pressure- demand supplied air respirator with escape SCBA and a fully-encapsulating, chemical resistant suit. (EPA, 1998)	No rapid reaction with air. No rapid reaction with water.	FUBERIDAZOLE is a benzimidazole and behaves as an amine. Amines are chemical bases. They neutralize acids to form salts plus water. These acid-base reactions are exothermic. The amount of heat that is evolved per mole of amine in a neutralization is largely independent of the strength of the amine as a base. Amines may be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen is generated by amines in combination with strong reducing agents, such as hydrides		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																			(EPA, 1998)	decomposes		536 to 550
4678	ZINC CHLORATE	Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). All equipment used when handling the product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material. LARGE SPILL: Dike far ahead of liquid spill for later disposal. Water spray may reduce vapor; but may not prevent ignition in closed spaces. (ERG, 2012)	(BLOB)	Flammable. Insoluble in water.	FUEL OIL, [NO. 1] may be incompatible with strong oxidizing agents like nitric acid. Charring may occur followed by ignition of unreacted hydrocarbon and other nearby combustibles. In other settings mostly unreactive. Not affected by aqueous solutions of acids, alkalis, most oxidizing agents, and most reducing agents. When heated sufficiently or when ignited in the presence of air, oxygen or strong oxidizing agents, burns exothermically to produce carbon dioxide and water.		Excerpt from GUIDE 128 [Flammable Liquids (Non-Polar / Water-Immiscible)]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. LARGE SPILL: Consider initial downwind evacuation for at least 300 meters (1000 feet). FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	2	0	2		(USCG, 1999)		100		(USCG, 1999)		0.7		%	(USCG, 1999)		5		%	(USCG, 1999)		444		(USCG, 1999)		-55	
4679	ZINC DITHIONITE	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not touch or walk through spilled material. Stop leak if you can do it without risk. Use water spray to reduce vapors or divert vapor cloud drift. Avoid allowing water runoff to contact spilled material. DO NOT GET WATER on spilled substance or inside containers. SMALL SPILL: Cover with DRY earth, DRY sand or other non-combustible material followed with plastic sheet to minimize spreading or contact with rain. Dike for later disposal; do not apply water unless directed to do so. POWDER SPILL: Cover powder spill with plastic sheet or tarp to minimize spreading and keep powder dry. DO NOT CLEAN-UP OR DISPOSE OF, EXCEPT UNDER SUPERVISION OF A SPECIALIST. (ERG, 2012)	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: Wear positive pressure self-contained breathing apparatus (SCBA). Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection. Structural firefighters' protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations where direct contact with the substance is possible. (ERG, 2012)	Finely divided cerium powder is pyrophoric [Bretherick 1979 p. 170-171]. Can react vigorously if exposed to water or moist air and will generate flammable fumes.	CERIUM is a strong reducing agent. Resembles aluminum in its chemical properties. [Lewis]. Reactivity is enhanced by a state of high physical subdivision, as in TURNINGS OR GRITTY POWDER. Attacked by dilute and concentrated mineral acids and alkalis with the generation of flammable gases. Readily oxidized by moist air at room temperature. Reacts with zinc with explosive violence. Gives very exothermic reactions with antimony or bismuth. Reacts violently with phosphorus at 400-500Â°C [Mellor 8, Supp. 3:347 1971].	Strong Reducing Agent; Water-Reactive; Pyrophoric	Excerpt from GUIDE 138 [Substances - Water-Reactive (Emitting Flammable Gases)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																							
4680	ZINC PERMANGANATE	STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	Isocyanates and thioisocyanates, such as TRIBENZYL ISOCYANURATE, are incompatible with many classes of compounds, reacting exothermically to release toxic gases. Reactions with amines, aldehydes, alcohols, alkali metals, ketones, mercaptans, strong oxidizers, hydrides, phenols, and peroxides can cause vigorous releases of heat. Acids and bases initiate polymerization reactions in these materials. Some isocyanates react with water to form amines and liberate carbon dioxide. Base-catalysed reactions of isocyanates with alcohols should be carried out in inert solvents. Such reactions in the absence of solvents often occur with explosive violence, [Wischmeyer(1969)].							0																							
4681	ZINC, DICHLORO(4,4-DIMETHYL-5(((METHYLAMINO) CARBONYL)OXY)IMINO)PENTANENITRILE)-,(T-4)-	SMALL SPILLS AND LEAKAGE: Should a spill occur while you are handling this chemical, FIRST REMOVE ALL SOURCES OF IGNITION, then you should dampen the solid spill material with 60-70% ethanol and transfer the dampened material to a suitable container. Use absorbent paper dampened with 60-70% ethanol to pick up any remaining material. Seal the absorbent paper, and any of your clothes, which may be contaminated, in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should protect this chemical from exposure to light. Keep the container tightly closed under an inert atmosphere, and store under refrigerated temperatures. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Insoluble in water.	CHLORAMBUCIL is an alkylating agent. Reacts with proteins and a variety of nucleophilic compounds (NTP, 1992).		Excerpt from GUIDE 154 [Substances - Toxic and/or Corrosive (Non-Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																						(NTP, 1992)		147 to 151
4682	ZIRCONIUM ACETATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this chemical under refrigerated temperatures, and keep it away from oxidizing materials. STORE AWAY FROM SOURCES OF IGNITION. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	Insoluble in water.	2,2'-DIETHYLHEXYLAMINE can react with oxidizing materials (NTP, 1992). Neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.		Excerpt from GUIDE 153 [Substances - Toxic and/or Corrosive (Combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)	(NFPA, 2010)		2	1	0	1		(NTP, 1992)		270																	

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4677	ZINC BROMATE																									(EPA, 1998)		184.21														Poison	C11H8N2O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4678	ZINC CHLORATE	(NIOSH, 2003)		5		100		mm Hg							(USCG, 1999)	liquid)		0.81 to 0.85	59		(USCG, 1999)			380 to 560	760		(NIOSH, 2003)	(approx)	170						(NIOSH, 2003)	Insoluble				OON	Flammable Liquid			0.0	0.0	0.0	0.0	0.0
4679	ZINC DITHIONITE																																							Dangerous When Wet	Ce		0.0	0.0	0.0	0.0	0.0
4680	ZINC PERMANGANATE																									(NTP, 1992)		399.46															C24H21N3O3	Cellulose-Based Absorbents|Mineral-Based & Clay-Based Absorbents|Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4681	ZINC, DICHLORO(4,4-DIMETHYL-5(((((METHYLAMINO)CARBONYL)OXY)IMINO)PENTANENITRILE)-,(T-4)-																									(NTP, 1992)		304.23						(NTP, 1992)	at 72Â° F		less than 0.1	mg/mL		Poison	C14H19CI2NO2	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4682	ZIRCONIUM ACETATE	(NTP, 1992)		0.01		68		mm Hg	(NTP, 1992)		8.35				(NTP, 1992)		0.8062		68		(NTP, 1992)		538		760		(NTP, 1992)		241.52						(NTP, 1992)	at 70Â° F		less than 1	mg/mL		Corrosive	C16H35N	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0

id	name	synonyms	cas_id	description	Physical State Score I/O	Physical State Score Contact	Physical State Score Oral	Total Lung Effect Rank Scored	Total Kidney Effects Rank Scored	Total CNS Effects Rank Scored	Total Heart Effects Rank Scored	Total Liver Effects Rank Scored	Total Lung Effects	Total Kidney Effects	Total CNS Effects	Total Heart Effects	Total Liver Effects	first_aid	fire_haz	fire_fight
4683	ZIRCONIUM OXYCHLORIDE HEXAHYDRATE	BASIC ZIRCONIUM CHLORIDE|CHLOROZIRCONYL|DICHLOROOXOZIRCONIUM|ZIRCONIUM CHLORIDE OXIDE|ZIRCONIUM OXYCHLORIDE (ZROCL2), HEXAHYDRATE|ZIRCONIUM OXYCHLORIDE HEXAHYDRATE|ZIRCONIUM OXYDICHLORIDE|ZIRCONIUM, DICHLOROOXO-|ZIRCONYL CHLORIDE	25399-81-9	PHYSICAL DESCRIPTION: White crystals. (NTP, 1992)	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	(BLOB)	This chemical is combustible. (NTP, 1992)	Fires involving this compound may be controlled using a dry chemical, carbon dioxide or Halon extinguisher. A water spray may also be used. (NTP, 1992)
4684	ZIRCONIUM PICRAMATE	ZIRCONIUM PICRAMATE	63868-82-6	A solid or liquid. Primary hazard is fire with either a minor blast or projection hazard or both, but no mass explosion hazard. May explode under prolonged exposure to heat.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	224.0	(BLOB)		This compound is not very flammable but any fire involving this compound may produce dangerous vapors. You should evacuate the area. All firefighters should wear full-body protective clothing and use self-contained breathing apparatuses. You should extinguish any fires involving this chemical with a dry chemical, carbon dioxide, foam, or halon extinguisher. (NTP, 1992)
4685	ZIRCONIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER	PHENOL, 2-AMINO-4,6-DINITRO-, ZIRCONIUM COMPLEX|ZIRCONIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER|ZIRCONIUM PICRAMATE, [WET, WITH >= 20% OF WATER]	63868-82-6	A slurry or sludge of yellow crystals. May take some effort to ignite but once ignited burns with great rapidity. Accelerates the burning of combustible materials. If large quantities are involved in fire or if containers of the material are exposed to fire or heat for prolonged periods, an explosion may result. Produces toxic oxides of nitrogen during combustion.	1.0	2.5	5.0	5398.0	546.0	1833.0	960.0	577.0	2125.0	226.0	730.0	379.0	225.0	(BLOB)	Flammable/combustible material; may be ignited by heat, sparks or flames. Vapors may travel to a source of ignition and flash back. Run-off to sewers may create fire or explosion hazard. Containers may explode in heat of fire. Vapors are toxic indoors and outdoors. Chlordane degrades under natural environmental conditions to photoisomers, such as photo-cis- chlordane, which are more toxic to certain animals than chlordane and also showed higher bioaccumulation. Loses chlorine in presence of alkaline reagents; should not be formulated with any solvent, carrier, diluent or emulsifier which has alkaline reaction. (EPA, 1998)	Isolate hazard area and deny entry. Stay upwind. Wear positive pressure breathing apparatus and special protective clothing. Isolate for 1/2-mile in all directions if tank car or truck is involved in the fire. Small fires: dry chemical, carbon dioxide, water spray, and foam. Large fires: water spray, fog, or foam. Move containers from fire area if it can be done without risk. Cool containers that are exposed to flames with water from the side until well after fire is out. (EPA, 1998)

id	name	non_fire_resp	prot_clothing	air_water_reactions	chemical_profile	special_hazards	isolation	nfpa_source	nfpa_note	nfpa_health	nfpa_flam	nfpa_react		nfpa_special	fp_source	fp_note	fp_value	fp_range	lel_source	lel_note	lel_value	lel_range	lel_unit	uel_source	uel_note	uel_value	uel_range	uel_unit	ai_source	ai_note	ai_value	ai_range	mp_source	mp_note	mp_value	mp_range
4683	ZIRCONIUM OXYCHLORIDE HEXAHYDRATE	SMALL SPILLS AND LEAKAGE: If you spill this chemical, FIRST REMOVE ALL SOURCES OF IGNITION. Then, use absorbent paper to pick up all liquid spill material. Your contaminated clothing and absorbent paper should be sealed in a vapor-tight plastic bag for eventual disposal. Solvent wash all contaminated surfaces with 60-70% ethanol followed by washing with a soap and water solution. Do not reenter the contaminated area until the Safety Officer (or other responsible person) has verified that the area has been properly cleaned. STORAGE PRECAUTIONS: You should store this material in a refrigerator. (NTP, 1992)	MINIMUM PROTECTIVE CLOTHING: If Tyvek-type disposable protective clothing is not worn during handling of this chemical, wear disposable Tyvek-type sleeves taped to your gloves. RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with a combination filter cartridge, i.e. organic vapor/acid gas/HEPA (specific for organic vapors, HCl, acid gas, SO2 and a high efficiency particulate filter). (NTP, 1992)	Slightly water soluble.	CHLORDANE, a mixture of related chlorinated cyclodienes, is decomposed by alkalis. Corrodes iron and zinc. Can react with strong oxidizing agents. Attacks some forms of plastics, rubber and coatings (NTP, 1992)		Excerpt from GUIDE 131 [Flammable Liquids - Toxic]: As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150 feet) in all directions. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0																								
4684	ZIRCONIUM PICRAMATE	STORAGE PRECAUTIONS: You should keep this material in a tightly-closed container under an inert atmosphere, and store it in a freezer. (NTP, 1992)	RECOMMENDED RESPIRATOR: Where the neat test chemical is weighed and diluted, wear a NIOSH-approved half face respirator equipped with an organic vapor/acid gas cartridge (specific for organic vapors, HCl, acid gas and SO2) with a dust/mist filter. (NTP, 1992)	No rapid reaction with air. No rapid reaction with water.	THONZYLAMINE neutralizes acids in exothermic reactions to form salts plus water. May be incompatible with isocyanates, halogenated organics, peroxides, phenols (acidic), epoxides, anhydrides, and acid halides. Flammable gaseous hydrogen may be generated in combination with strong reducing agents, such as hydrides.						0																								
4685	ZIRCONIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. Cover with plastic sheet to prevent spreading. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. DO NOT GET WATER INSIDE CONTAINERS. (ERG, 2012)	(BLOB)	Highly flammable. Insoluble in water.	CHLORDANE is a chlorinated cyclodiene (unsaturated hydrocarbon). Decomposes in base. Corrosive to iron and zinc. Can react with strong oxidizing agents. Attack some plastics, rubbers and coatings (NTP, 1992).	Highly Flammable	Excerpt from GUIDE 151 [Substances - Toxic (Non-combustible)]: As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids. SPILL: Increase, in the downwind direction, as necessary, the isolation distance shown above. FIRE: If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions. (ERG, 2012)						0				(EPA, 1998)	Flammable/combustible.				(EPA, 1998)	Flammable/combustible.				(USCG, 1999)		410		(NTP, 1992)	223-225Â° F (cis); 219-221Â° F (trans)		

id	name	vp_source	vp_note	vp_value	vp_range	vp_value_tempDegF	vp_range_tempDegF	vp_unit	vd_source	vd_note	vd_value	vd_range	vd_value_tempDegF	vd_range_tempDegF	sg_source	sg_note	sg_value	sg_range	sg_value_tempDegF	sg_range_tempDegF	bp_source	bp_note	bp_value	bp_range	bp_value_presMMHG	bp_range_presMMHG	molwgt_source	molwgt_note	molwgt_value	molwgt_range	idlh_source	idlh_note	idlh_value	idlh_unit	solblty_source	solblty_note	solblty_value	solblty_range	solblty_unit	chris_codes	dot_labels	formulas	incompatible_absorbents	# of Nations Producing	Production Score	# of Distributions Sites	Distribution Score	Prob Score
4683	ZIRCONIUM OXYCHLORIDE HEXAHYDRATE								(NTP, 1992)		14.3				(NTP, 1992)		1.68				(NTP, 1992)		347		2		(NTP, 1992)		409.76		(NIOSH, 2003)	As Chlordane; A potential human carcinogen.	100	mg/m3							Poison|Flammable Liquid	C10H6Cl8	Dirt/Earth	0.0	0.0	0.0	0.0	0.0
4684	ZIRCONIUM PICRAMATE																										(NTP, 1992)		286.42													C16H22N4O	Mineral-Based & Clay-Based Absorbents	0.0	0.0	0.0	0.0	0.0
4685	ZIRCONIUM PICRAMATE, WETTED WITH NOT LESS THAN 20% WATER	(EPA, 1998)		1.00E-05		77		mm Hg	(NTP, 1992)		14				(EPA, 1998)		1.56 to 1.57		77		(EPA, 1998)		347		2		(EPA, 1998)		409.8		(NIOSH, 2003)	As Chlordane; A potential human carcinogen.	100	mg/m3	(NIOSH, 2003)		0.0001		%	CDN	Poison	C10H6Cl8	Dirt/Earth	0.0	0.0	0.0	0.0	0.0